



Centre for Sustainability at TRL Ltd



Halcrow Group Ltd

**Dacorum Borough Council
&
St Albans City and District Council**

**Core Strategies Supplementary Issues and Options
Paper
Growth at Hemel Hempstead**

**Sustainability Appraisal & Strategic Environmental
Assessment Working Note**

APPENDIX

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This technical appendix and the main report can be accessed online at www.dacorum.gov.uk.

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APPENDIX A: Assessment of Potential Urban Extension Sites

A1: Methodology

Seventeen sites have been proposed by Dacorum Borough Council, in conjunction with St Albans District Council, for consideration for urban expansion at Hemel Hempstead. Geographical Information Systems (GIS) have been used to assess the sites in terms of potential constraints and opportunities. The GIS layers used to compare environmental designations, accessibility and key services and land use attributes are shown in Table A1. In the majority of cases, it was identified whether an attribute conflicted with the proposed site area (yes or no). Alternatively, distance buffers were used to the edge of the proposed site. This enabled the assessment to determine access to key facilities within a certain distance from the proposed site, for example, primary schools within 600m (in some cases, both the presence of a key service or attribute within the site, and within a distance from a site were assessed – both criteria are listed in Table A1).

Table A1: GIS Layers Used in Site Assessment

GIS Layer	Query Criteria
Environmental Designations	
Site of Archaeological Interest	Yes/No
Area of Outstanding Natural Beauty	Yes/No
Area subject to local preservation (archaeology)*	Yes/No
Area subject to recording condition (archaeology)*	Yes/No
Conservation area	Yes/No
Flood zone 2	Yes/No
Flood zone 3	Yes/No
Regionally Important Geological/Geomorphological Site	Yes/No
Historic Parks and Gardens	Yes/No
Scheduled Ancient Monuments	Yes/No
Wildlife sites	Yes/No
Sites of Special Scientific Interest / Local Nature Reserves	Yes/No
Listed Buildings	Yes/No
Accessibility / Key Services	
Employment Area	Yes/No
	Within 2000m
Primary School	Yes/No
	Within 600m
Local Centre	Within 800m
	Within 5000m
Town Centre	Within 2000m
Railway Station	Within 1000m
Doctor's Surgery	Yes/No
	Within 800m
Land Uses	
Public open space	Yes/No
Common Land	Yes/No
Agricultural Land (Grade 2)	Yes/No
Reservoirs	Yes/No
Rivers	Yes/No
BPA Lines	Yes/No
	Within 100m
Buncefield Oil Depot	Yes/No
	Within 190m, 250m, 350m
Hazardous Substances	Yes/No

* Layers relate to areas of land where conditions would be imposed on development planning proposals concerning the disturbance of the ground (local preservation) and the presence of an archaeologist (recording conditions)

The results of the GIS assessment are shown in the following tables. Each table provides an overview of the constraints and opportunities, and additional information regarding the proposed site as provided in the *Core Strategies Supplementary Issues and Options Paper* (DBC & SADC, 2006), followed by an indication of whether the site should be considered further to accommodate growth at Hemel Hempstead.

A2 Constraints to Urban Expansion at Hemel Hempstead

The *Core Strategies Supplementary Issues and Options* paper (DBC & SADC, 2006) discusses a number of potential constraints related to the consideration of proposed sites. These are summarised as follows:

- The purpose of the Green Belt should not be undermined by:
 - Merging settlements;
 - Substantial intrusion into open countryside and development (which is poorly related to the town).
- There should be no building on the floodplain. Development is recommended to be directed to Flood Zone 1, not Zones 2 and 3, in Government Guidance Draft PPS 25: Development and Flood Risk.
- Public open space of town-wide importance should be retained;
- There should be no building over historic, environmental and conservation designations (e.g. SSSIs, NNR, and SAMs)
- There should be no extensive building along prominent open countryside in the Gade Valley and Bulbourne Valley. Popular characteristics of the town would be destroyed, although less extensive developments may be considered.
- Development should be a safe distance from hazardous installations. Critical installations currently include the Buncefield Oil Terminal, and pipelines to and from the terminal (advice is outstanding regarding the recommended proximity of new development to the oil terminal and proximity to oil pipelines, which currently present a layout constraint).
- Mineral resources should not be sterilised, as outlined in the Hertfordshire Minerals Local Plan. Therefore the existence of the sand and gravel belt suggests postponement of development.
- The extensive use of top quality agricultural land should be avoided (Grades 1 and 2).

Principles that the councils consider to be important that could be used to shape a new neighbourhood or the enlargement of an existing neighbourhood include:

- Sensitive recognition of natural and historic features and landform in new layouts;
- Avoiding or overcoming features which would be damaging to the occupiers (e.g. through noise or air pollution);
- Ensuring that the local neighbourhood's needs are met; and
- Providing good access to services (which are not part of the neighbourhood) (DBC, 2006).

These constraints and important principles have been taken into account in the assessment of potential sites. A key to the assessment tables is provided below.

A3: Assessment of Potential Sites – Appraisal Tables

This section includes the appraisal tables for each of the potential Hemel Hempstead Urban Extension sites.

Key to Potential Urban Extension Sites Appraisal Tables	
P	Present at the proposed site (or within distance stated)
A	Absent at the proposed site (or within distance stated)
	Positive attribute of proposed site (no constraint to urban expansion)
	Negative Attribute of proposed site (constraint to urban expansion)

An example of the site assessment and interpretation of tables is provided below:

P	E.g. a primary school is located within 600m of a proposed site – it is therefore easily accessible to the proposed site and is not a constraint for urban expansion.
A	E.g. there are no primary schools located within 600m of a proposed site – it is therefore not easily accessible to the proposed site and poses a constraint for urban expansion.
P	E.g. a Site of Special Scientific Interest is located within/partly within a proposed site – it therefore poses a constraint for urban expansion.
A	E.g. a Site of Special Scientific Interest is not located within or partly within a proposed site – therefore no constraints for urban expansion are present.

The review of constraints recognised that for many of the potential sites there is a lack of appropriate services within easy reach. However for those sites large enough to accommodate a new neighbourhood, many of these facilities would be provided as part of the development (“The Neighbourhood Concept”).

Site 1: Bunker's Park (New neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	P	P	P	A	A	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
P	A	P	A	P	A	A	A	A	A	A	A	P
Overview												
<p>Environment: In terms of the environmental designations and constraints examined, the Bunker's Park site does not present any conflict.</p> <p>Key Services and Accessibility: Bunker's Park is located to the south east of the Hemel Hempstead town area and is reasonably well located in terms of access to employment areas (within 2000m), local primary schools (within 600m) and local town centres for key services (within 800m). However, there is currently no access to a doctor's surgery (within 800m), and the nearest railway station is in excess of 1000m, which may pose accessibility or sustainable transport problems.</p> <p>Land Uses: Bunker's Park is almost entirely an area of public open space, which, if developed upon, would be a loss for local communities. The land has been classed as Grade 2 agricultural land (very good) which would usually be protected for agricultural uses. The site lies within the sand and gravel belt. Any development on the site will lead to the sterilisation of minerals, limiting their extraction potential in the future. The site is within the Bedmond Plateau and Upper Glade Valley character areas</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): The area is large enough to accommodate a new neighbourhood. Road infrastructure is poor, and providing new roads, and/or widening lanes would have a local impact. Public transport infrastructure would also have to be planned. The site is fully located within the greenbelt.</p> <p>The Bunker's Park site presents a number of constraints, including an area of public open space, Grade 2 agricultural land and has is part of the sand and gravel belt (potential for future mineral extraction)</p>												

Site 2: Nash Mills (Expansion of Residential Area)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	P	P	A	A	A	A	A	P
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
P	P	A	P	P	P	A	P	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	A	A	P	A	P	A	P	A	A	A	P
Overview												
<p>Environment: The Nash Mills site conflicts with flood zones in categories 2 and 3 (running through the centre of the site). As the majority is the high-risk category 3, development of residential areas should not be permitted. The Red Lion Public House (London Road, King's Langley) is a listed building located to the north west of the site. However, it is unlikely that this building would be affected by any development.</p> <p>Key Services and Accessibility: The north area of the site contains part of the Nash Mills employment area, and therefore provides potential employment opportunities. The site is also located close to key services, including local primary schools (within 600m), local shopping centres (within 800m) and is within close proximity to a railway station (within 1000m). However, the nearest Doctor's surgery is in excess of 800m, which may pose problems when trying to access health care from any future development.</p> <p>Land Use: Nash Mills is located within the sand and gravel belt. Any development on the site will lead to the sterilisation of minerals, limiting their extraction potential in the future. It is also within close proximity of the British Pipeline Agency (BPA) pipelines, which may lead to restrictions on location of development. The site is within the Upper Glade Valley character area</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): As the Green Belt is narrow at this location, development would lead to coalescence with the settlement of Rucklers Lane and/or housing in Lower Road to the south, effectively merging Hemel Hempstead with Kings Langley. There are existing road networks, but an increase in traffic on these routes may increase difficulties (DBC, 2006). The area adjoins bus routes between Kings Langley and Hemel Hempstead. The site is fully located within the greenbelt.</p> <p>A large proportion of the Nash Mills site contains high-risk flood zone (zones 2 and 3). As the site is situated in the sand and gravel belt, there is potential for future mineral extraction and it is also in the Bulbourne Valley character area, all constraints to development for residential purposes.</p>												

Site 3: Shendish (New Neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
P	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	P	P	P	A	P	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	A	A	P	A	A	A	A	A	A	A	P
Overview												
<p>Environment: A site of archaeological interest slightly overlaps the Shendish site to the west. However, damage or disruption to this site could easily be avoided. There are no other conflicts with environmental designations or constraints examined.</p> <p>Key Services and Accessibility: Shendish is located to the south of the Hemel Hempstead area and is well located in terms of access to employment sites (within 2000m), local primary schools (within 800m), local shopping centres (within 800m) and a railway station (within 1000m). However, the nearest Doctor's surgery is in excess of 800m, which may pose problems when trying to access health care from any future development.</p> <p>Land Uses: Shendish is located in the sand and gravel belt. Any development on the site will lead to the sterilisation of minerals, limiting their extraction potential in the future. The site is within the Upper Glade Valley character area</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): New road infrastructure and a railway bridge are considered necessary. However, the local highway authority does not consider that new access at junctions to London Road can be satisfactorily achieved. Development at the Shendish site would effectively merge Hemel Hempstead with the settlement at Rucklers Lane. The site is fully located within the greenbelt.</p> <p>The main constraints for this site include its positioning within the sand and gravel belt, posing a threat for future mineral extraction (sterilisation of resources), potential visual intrusion, its location within the Bulbourne Valley, and merging of settlements. There is potentially a problem relating to lack of access to healthcare (doctor's surgery) facilities, but as a new neighbourhood is proposed, this would likely to be overcome through the 'Neighbourhood Concept.'</p>												

Site 4: Felden (Expansion of Residential Area)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	P	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	A	P	P	A	P	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	A	A	A	A	A	A	A	A	A	A	P
Overview												
<p>Environment: The north west area of the Felden site coincides with a wildlife site, grassland south of Roughdown common.</p> <p>Key Services and Accessibility: In terms of access to key services, the site is well located for access to employment zones (within 2000m), local centres (800m) and a railway station (within 1000m). However, basic services, including local primary schools and doctor's surgeries are in excess of 600m and 800m respectively. The site is within the Lower Bulbourne Valley and Bovingdon and Chipperfield Plateau character areas.</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): Access to the area is limited as major transport routes surround it, including primary roads and the railway. The site is fully located within the greenbelt.</p> <p>The Felden site is poor in terms of accessibility to key services (notably primary school and doctors surgery). The site also conflicts with a wildlife site, which may be disturbed or destroyed by residential extension.</p>												

Site 5: Boxmoor (Expansion of Residential Area)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	P	P	P	P	A	A	P	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	P	P	P	P	P	A	P			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	P	A	A	A	A	P	A	A	A	A	A	P
Overview												
<p>Environment: A river runs through the Boxmoor site from west to east, which has resulted in flood zones in categories 2 and 3 covering the central area of the site. The majority of the area is in the high-risk category, and therefore development of residential areas should not be permitted within this zone. There is a conservation area that overlaps with the western end of the site, and two wildlife sites (Harrison's Moor and Boxmoor Common cover a considerable proportion of Boxmoor. There is also a regionally important geological site covering the south of the site. It would prove difficult to avoid these important environmental assets when considering future residential development of the site.</p> <p>Key Services and Accessibility: In contrast, the site is well located in terms of access to key services, including employment sites (within 2000m), local primary schools (within 600m), local centres (within 800m) and Hemel Hempstead town centre (within 2000m), a railway station (within 1000m) and a doctor's surgery (within 800m).</p> <p>Land Uses: The southern area of the site is currently common land, which, if developed upon, would be a loss for local communities. The site is within the Lower Bulbourne Valley character area. The site is fully located within the greenbelt.</p> <p>Despite the accessibility benefits, there are a number of environmental (flood zone 2 and 3, conservation area, RIGS, Wildlife Area) and land use (common land and location within the Bulbourne Valley) constraints present at the Boxmoor site.</p>												

Site 6: Pouchen End (New Neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	A	A	P	P	P	A	A	A	P			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	A	A	A	A	A	A	A	A	A	A	P
Overview												
<p>Environment: The Pouchen End site is located to the west of the Hemel Hempstead area. In terms of the environmental designations and constraints examined, the Pouchen End site does not present any conflict</p> <p>Key Services and Accessibility: Although the Pouchen End site has good access to local primary schools (within 600m), local centres (within 800m) and doctor's surgeries (within 800m), it is not within close proximity to employment areas or a railway station.</p> <p>Land Uses: The site is within the Lower Bulbourne Valley and Little Health Uplands character areas</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): The neighbourhood would not lead to the merging of settlements, but it would be close (Winkwell and Bourne End). The site is fully located within the greenbelt.</p> <p>As Pouchen End is being considered for a new neighbourhood, accessibility to key service constraints could be overcome through the provision of new services. Although Pouchen End does not present any conflict with the environmental constraints examined, half of the site lies within the Bulbourne Valley character area.</p>												

Site 7: Gadebridge North (New Neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	P	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	A	A	P	P	P	P	A	A	P			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	A	A	A	A	A	A	A	A	A	A	P
Overview												
<p>Environment: The Gadebridge North site conflicts to the north east with the Dell Wood wildlife (also site of ancient semi-natural woodland). However, careful planning could ensure that the site is not disturbed or destroyed.</p> <p>Key Services and Accessibility: Gadebridge North is located to the north west of the Hemel Hempstead centre and benefits from access to local primary schools (within 600m), local centres and Hemel Hempstead town centre (within 800m and 2000m respectively) and doctor's surgeries (within 800m). However, employment sites and railways stations are not within close proximity of the site.</p> <p>Land Uses: The site is within the High Glade Valley and Little Heath Uplands character areas. The site is fully located within the greenbelt.</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): Road access is difficult to the site, and existing roads are unable to accommodate significant levels of additional traffic. Development would not be very well rated to the town and Hemel Hempstead would come close to merging with Potten End.</p> <p>Constraints at Gadebridge North include conflicts with a wildlife site and area of ancient semi-natural woodland, and accessibility to key services/opportunities (employment, medical facilities). It is also in a dry valley area.</p>												

Site 8: Old Town (Small Residential Development)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	P	A	A	A	A	A	P	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	P	P	P	P	A	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	A	A	A	A	A	A	A	A	A	A	P
Overview												
<p>Environment: The Old Town site is located to the north of Hemel Hempstead. A conservation area and wildlife site (How Grove) overlaps with the site to the north and south, however, development could easily avoid these areas.</p> <p>Key Services and Accessibility: It is reasonably well located in terms of access to employment areas (within 2000m), local primary schools (within 600m) and local town centres and Hemel Hempstead for key services (within 800m and 2000m respectively). However, there is currently no access to a doctor's surgery (within 800m), and the nearest railway station is in excess of 1000m, which may pose accessibility or sustainable transport problems.</p> <p>Land uses: The site is within the High Glade Valley character area. The site is fully located within the greenbelt.</p> <p>Old Town is constrained by the presence of a conservation area and wildlife site that encroach the site, and that it is located within the Gade Valley character area. Access to healthcare (doctor's surgery) may also prove to be problematic.</p>												

Site 9: Marchmont Farm (Expansion of Residential Area)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	P	P	P	P	A	A	P			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	A	A	A	A	A	A	A	A	A	A	P
Overview												
<p>Environment: The Marchmont farm site does not have any conflicts with environmental designations or areas examined.</p> <p>Key Services and Accessibility: It is well located in terms of access to employment sites (within 2000m), local primary schools (within 600m), local centres and Hemel Hempstead town centre (800m and 2000m respectively) and doctor's surgeries (within 800m). Access to a railway station is restricted as it is in excess of 1000m from the site.</p> <p>Land Uses: The site is within the High Glade Valley character area. The site is fully located within the greenbelt.</p> <p>Marchmont Farm is constrained by its location in the wider Gade Valley character area.</p>												

Site 10: Grovehill and Woodhall Farm (New Neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	P
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	P	P	P	A	A	A	P			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	A	A	A	A	A	A	A	A	A	A	P
Overview												
<p>Environment: The Grovehill and Woodhall Farm conflicts slightly with a Grade II listed building (Barn at Little Lovett's End Farm, Dodd's Land), which is located to the north of the site. The site does not have any other conflicts with environmental designations or areas examined.</p> <p>Key Services and Accessibility: It is well located in terms of access to employment sites (within 2000m), local primary schools (within 600m), local centres and Hemel Hempstead town centre (800m and 2000m respectively) and doctor's surgeries (within 800m). Access to a railway station is restricted as it is in excess of 1000m from the site.</p> <p>Land Uses: The site is within the Revel End Plateau and Gaddesdon Row character areas. The site is fully located within the greenbelt.</p> <p>Additional Information: The site is in a dry vally which wraps around existing development. It is considered that development at the site would not fit in with the form of the town and would result in the loss of valuable recreation opportunities.</p> <p>The main constraint at Grovehill and Woodhall Farm is the listed building to the north of the site, although careful planning could avoid conflict. It is also situated in a dry valley, where development would present a conflict in terms of going against the form of the town. Development may also lead to loss of recreational opportunities.</p>												

Site 11: Holtsmere End

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	P	P	P	A	A	A	P			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	A	A	A	A	A	P	P	A	A	A	P
Overview												
<p>Environment: In terms of the environmental designations and constraints examined, the Holtsmere End site does not present any conflict.</p> <p>Key Services and Accessibility: It is well located in terms of access to employment sites (within 2000m), local primary schools (within 600m), local centres and Hemel Hempstead town centre (800m and 2000m respectively) and doctor's surgeries (within 800m). Access to a railway station is restricted as it is in excess of 1000m from the site.</p> <p>Land Uses: The British Pipeline Agency (BPA) line also runs through the site. The site is within the Upper Veia Valley and Revel End Plateau character areas. The site is fully located within the greenbelt.</p> <p>The main constraint at Holtsmere End is the presence of the oil pipeline which runs through the site, although this is only expected to affect the layout of any future development.</p>												

Site 12a: Woodend Farm (New Neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	P	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	L Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
P	P	A	P	P	P	A	A	A	P			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	P	A	A	A	A	P	P	A	A	A	P
Overview												
<p>Environment: The first site at Woodend Farm conflicts with the disused railway (Hemel Hempstead) Wildlife site to the north. However, with careful planning, development causing disruption or destruction to the wildlife site could be avoided if the proposed site boundaries were tightened.</p> <p>Key Services and Accessibility: Woodend Farm is located to the north east of the Hemel Hempstead town area and is reasonably well located for access to employment sites (the Swallowdale/North East Hemel Hempstead employment area covers the west of the site), local primary schools (within 600m), local centres (within 800m) and doctor's surgeries (within 800m). Access to a railway station is in excess of 1000m.</p> <p>Land Uses: Half of the site is classed as grade 2 (very good) agricultural land, and should normally be protected for agricultural use due to it being best quality and versatile land. The British Pipeline Agency (BPA) line also runs through the site. The site is within the Upper Veal Valley and Buncefield Plateau character areas. The site is partially located within the greenbelt; the west half is located on Greenfield land.</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): new development could include a park and ride facilities, cycle and pedestrian links. New road infrastructure would have to be planned. Electricity transmission lines also cross the site – health concerns would entail rerouting and/or a buffer left to any new residential development.</p> <p>The northern area of the site containing part of a wildlife site, and the southern half of the site is Grade 2 Agricultural Land. The oil pipeline also runs through the site, although this is only expected to affect the layout of any future development.</p>												

Site 12b: Woodend Farm (New Neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	A	A	P	A	A	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	P	A	A	A	A	A	A	A	A	A	P
Overview												
<p>Environment: The second Woodend farm site is to the east of the first. There are no conflicts with the environmental constraints or designations examined.</p> <p>Key Services and Accessibility: Due to its easterly location, the site is not within close proximity to primary schools, railway station or doctor's surgery, and local centres are in excess of 2000m (not including Hemel Hempstead).</p> <p>Land Uses: Half of the site is classed as grade 2 (very good) agricultural land, and should normally be protected for agricultural use due to it being best quality and versatile land. The site is within the Upper Veal Valley and Buncefield Plateau character areas. The site is fully located within the greenbelt.</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): new development could include a park and ride facilities, cycle and pedestrian links. New road infrastructure would have to be planned. Electricity transmission lines also cross the site – health concerns would entail rerouting and/or a buffer left to any new residential development.</p> <p>Woodend Farm (12b) site is currently constrained by the lack of, or access to, key services and opportunities (schools, healthcare, public transport, local shops), although the 'Neighbourhood Concept' is likely to aid provision of such services.</p>												

Site 13: Breakspear Way (Economic Development Potential, Employment Expansion)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	A	A	P	A	A	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	P	A	A	A	A	A	P	A	P	A	P
Overview												
<p>Environment: In terms of the environmental designations and constraints examined, the Breakspear Way site does not present any conflict.</p> <p>Key Services and Accessibility: The site is located within 2000m of employment sites, but a large distance from local centres (5000m) and is not within close proximity of primary schools, doctor's surgeries or a railway station.</p> <p>Land Uses: The entire site is classed as grade 2 agricultural land, and therefore should normally be protected for agricultural use. The BPA pipelines are within close proximity of the site. It is also with 150m of the Buncefield oil depot. The site is within the Buncefield Plateau character area. The site is fully located within the greenbelt.</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): The area lies between the M1 and Buncefield Oil Depot.</p> <p>The Breakspear Way site is situated on Grade 2 agricultural land, and is also constrained by the oil pipelines that run through the site, although this is only expected to affect the layout of any future development.</p>												

Site 14a: Leverstock Green – Westwick (New Neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	P	P	P	A	A	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	P	A	A	A	A	A	P	A	A	A	P
Overview												
<p>Environment: There are no conflicts with environmental designations or constraints examined for the Westwick site at Leverstock Green.</p> <p>Key Services and Accessibility: It is located to the west of the Hemel Hempstead area and is reasonably well placed in terms of access to employment areas (within 2000m), primary schools (within 600m), and local centres (within 800m). Railway stations are in excess of 1000m and doctor's surgeries 800m.</p> <p>Land Uses: A very small section to the south of the site has been classed as grade 2 agricultural land and the east of the site is within the BPA pipeline region. The site is within the St Stephens Plateau and Buncefield Plateau character areas. The site is fully located within the greenbelt.</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): There is an area of Ancient semi-natural woodland (Blackwater Wood) which lies south of Blackwater Lane, and areas of woodland, which are inhabited by badgers.</p> <p>The Westwick site at Leverstock Green does not present any constraints in terms of the environmental designations or constraints examined, but it does conflict with ancient semi-natural woodland, and access to key services and opportunities (doctor's surgery, public transport) may be problematic, although the 'Neighbourhood Concept' may help to overcome these constraints through provision of such services. It is also situated on Grade 2 agricultural land. The oil pipelines also run close to the boundary of the site, although this is only expected to affect the layout of any future development.</p>												

Site 14b: Leverstock Green – Blackwater (New Neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	A	P	P	A	A	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	P	A	P	A	A	A	P	A	A	A	P
Overview												
<p>Environment: There are no conflicts with environmental designations or constraints examined for the Blackwater site at Leverstock Green.</p> <p>Key Services and Accessibility: The site is located close to employment areas (within 2000m) and local centres (within 800m), but other key services, including primary schools, doctor's surgeries and railway station are more difficult to access (in excess of 600m, and 800m respectively).</p> <p>Land Uses: Most of the site is classed as grade 2 agricultural land (very good), and therefore would normally be protected for agricultural use. A large proportion lies within the sand/gravel belt, which may lead to the sterilisation of minerals, and place pressure of resources if development is to be undertaken. The BPA pipeline is also within close proximity of the site. The site is within the St Stephens Plateau and Buncefield Plateau character areas. The site is fully located within the greenbelt.</p> <p>Additional Information from Issues and Options Paper (DBC, 2006): There is an area of Ancient semi-natural woodland (Blackwater Wood) which lies south of Blackwater Lane, and areas of woodland, which are inhabited by badgers.</p> <p>The Blackwater site at Leverstock Green does not present any constraints in terms of the environmental designations or constraints examined, but it does conflict with ancient semi-natural woodland, and access to key services and opportunities (doctor's surgery, primary schools and public transport) may be problematic, although the 'Neighbourhood Concept' may help to overcome these constraints through provision of such services. It is also situated on Grade 2 agricultural land and within the sand and gravel belt. The oil pipelines also run close to the boundary of the site, although this is only expected to affect the layout of any future development.</p>												

Site 14c: Leverstock Green – Corner Farm (New Neighbourhood)

Constraints and Opportunities – Environmental Designations												
Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	SSSIs/ LNR	Listed Buildings
A	A	A	A	A	A	A	A	A	A	A	A	A
Constraints and Opportunities – Key Services and Accessibility												
Employment Area	Within 2000m of Employment Area	Primary School	Within 600m of Primary School	Within 800m Local Centre	Within 5000m of local centre	Within 2000m of Town Centre	Within 1000m of Railway Stations	Doctor surgery	Within 800m of Doctor's Surgery			
A	P	A	A	A	P	A	A	A	A			
Constraints and Opportunities - Land Uses												
Public Open Space	Common Land	Agricultural Land grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines poly	BPA Lines Region	Buncefield Oil Depot	Buncefield Buffers	Hazardous Substances	Greenbelt
A	A	P	A	P	A	A	P	P	A	A	A	P
Overview												
<p>Environment: There are no conflicts with environmental designations or constraints examined for the Corner Farm site at Leverstock Farm.</p> <p>Key Services and Accessibility: The site is located within 2000m of employment sites, but a large distance from local centres (5000m) and is not within close proximity of primary schools, doctor's surgeries or a railway station.</p> <p>Land Uses: Most of the site is classed as grade 2 agricultural land (very good), and therefore would normally be protected for agricultural use. A large proportion lies within the sand/gravel belt, which may lead to the sterilisation of minerals, and place pressure of resources if development is to be undertaken. The BPA pipeline is also within close proximity of the site. The site is within the St Stephens Plateau and Buncefield Plateau character areas. The site is fully located within the greenbelt.</p> <p>The Corners Farm site at Leverstock Green does not present any constraints in terms of the environmental designations or constraints examined. However, access to key services and opportunities (doctor's surgery, primary schools, local shopping areas and public transport) may be problematic, although the 'Neighbourhood Concept' may help to overcome these constraints through provision of such services. It is also situated on Grade 2 agricultural land and within the sand and gravel belt. The oil pipelines also run through the site, although this is only expected to affect the layout of any future development.</p>												

Table A2: Overview of Constraints and Opportunities – Proposed Sites for Urban Extension

Site ID	Constraints and Opportunities: Environmental Designations												Constraints and Opportunities: Key Services and Accessibility										Land Uses																
	Site of Archaeological Interest	Area of Outstanding Natural Beauty	Subject to Local Preservation	Subject to Recording condition	Conservation Area	Flood zone 2	Flood zone 3	RIGGS	Historic Parks or Gardens	Scheduled Ancient Monument	Wildlife site	Site of Special Scientific Interest / LNR	Listed Buildings	Employment Area	Within 2000m of Employment Area	Primary school	Within 600m of Primary School	Within 800m of a Local Centre	Within 5000m of a Local Centre	Within 200m of Town Centre	Within 1000m of Railway Station	Doctors Surgery	Within 800m of Doctor's Surgery	Public Open Space	Common Land	Agricultural Land Grade 2	Railway Line	Sand/Gravel Belt	Reservoirs	Rivers	BPA Lines Poly	BPA Lines region	Buncefield Oil Depot	Buncefield Buffer (190m, 250m, 350m)	Hazardous Substances	Greenbelt			
1	A	A	A	A	A	A	A	A	A	A	A	A	A	P	A	P	P	P	A	A	A	A	P	A	P	A	P	A	A	A	A	A	A	A	A	A	A	P	
2	A	A	A	A	A	P	P	A	A	A	A	P	P	P	A	P	P	P	A	P	A	A	A	A	A	A	P	A	P	A	P	A	A	A	A	A	A	P	
3	P	A	A	A	A	A	A	A	A	A	A	A	A	P	A	P	P	P	A	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	
4	A	A	A	A	A	A	A	A	A	A	P	A	A	A	P	A	P	P	P	A	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	
5	A	A	A	A	P	P	P	P	A	A	P	A	A	A	P	A	P	P	P	P	P	A	P	A	P	A	P	A	A	A	P	A	A	A	A	A	A	P	
6	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	P	P	P	A	A	A	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P
7	A	A	A	A	A	A	A	A	A	A	P	A	A	A	A	P	P	P	P	P	A	A	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P
8	A	A	A	A	P	A	A	A	A	A	P	A	A	A	P	A	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P
9	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	A	P	P	P	P	A	A	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P
10	A	A	A	A	A	A	A	A	A	A	A	P	A	P	A	P	P	P	A	A	A	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	
11	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	A	P	P	P	A	A	A	P	A	A	A	A	A	A	A	P	P	A	A	A	A	A	P	
12a	A	A	A	A	A	A	A	A	A	P	A	A	P	P	A	P	P	P	A	A	A	P	A	A	P	A	A	P	A	A	A	P	P	A	A	A	A	P	
12b	A	A	A	A	A	A	A	A	A	A	A	A	A	P	A	A	A	P	A	A	A	A	A	A	A	P	A	A	A	A	A	A	A	A	A	A	A	P	
13	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	A	A	P	A	A	A	A	A	A	A	P	A	A	A	A	A	A	A	P	A	P	A	P	
14a	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	A	P	P	P	A	A	A	A	A	A	A	P	A	A	A	A	A	P	A	A	A	A	P	
14b	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	A	A	P	P	A	A	A	A	A	A	A	P	A	P	A	A	A	A	P	A	A	A	P	
14c	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	A	A	A	P	A	A	A	A	A	A	P	A	P	A	A	P	P	A	A	A	A	A	P	

*Where sites are listed as recommended for further consideration (Y), the site comments/constraints should be referred to.