

5 Summary and Guidance

- 5.1 **Table 5.1** presents a summary of the findings of sensitivity across the LCTs within Newark and Sherwood. Sensitivity levels are defined in **Table 2.4**. This information is mapped on **Figures 5.1 to 5.5**.

Table 5.1 Sensitivity of Landscape Character Types

Map Ref.	LCT	Small	Small-medium	Medium	Large	Very Large
A1	Sherwood: Village Farmlands	L	ML	M	HM	HM
A2	Sherwood: Meadowlands	ML	M	HM	H	H
A3	Sherwood: Wooded Estatelands	M	M	HM	H	H
A4	Sherwood: Wooded Farmlands	ML	M	M	HM	HM
A5	Sherwood: Meadowlands with Plantations	M	M	HM	H	H
A6	Sherwood: Estate Farmland	ML	M	HM	H	H
B1n	Mid Nottinghamshire Farmlands: Village Farmlands with Ancient Woodland: Northern area	L	ML	M	HM	H
B1s	Mid Nottinghamshire Farmlands: Village Farmlands with Ancient Woodland: Southern area	M	M	HM	H	H
B2	Mid Nottinghamshire Farmlands: Meadowlands	ML	M	HM	H	H
B3	Mid Nottinghamshire Farmlands: Estate Farmlands with Plantations	L	ML	M	HM	H
B4	Mid Nottinghamshire Farmlands: Village Farmlands	L	ML	M	HM	HM
C1	Trent Washlands: Village Farmlands	L	ML	ML	M	HM
C2	Trent Washlands: River Meadowlands	L	ML	ML	M	HM
D1	East Nottinghamshire Sandlands: Village Farmlands	L	ML	M	HM	HM
D2	East Nottinghamshire Sandlands: Village Farmlands with Plantations	L	ML	M	HM	HM
E1	South Nottinghamshire Farmlands: Meadowlands	L	L	ML	M	HM
E2	South Nottinghamshire Farmlands: Village Farmlands	L	ML	ML	M	HM

Sensitivity of landscape character types

- 5.2 The summary table and maps clearly show that sensitivity to wind turbine development decreases across the district from west to east. The areas of the highest sensitivity are the narrow valley landscapes, the estate woodlands of the Sherwood area, and the dumble valleys of Mid Nottinghamshire, while lower sensitivity is attached to the Trent Valley and the landscapes to the south of Newark.
- 5.3 Within the Sherwood character area, the highest sensitivity attaches to the Wooded Estatelands and Meadowlands with Plantations LCTs. These are areas of distinct character and diverse landform, with extensive broadleaf woodland cover. In places these areas are overlaid with heritage designations and several important recreational areas. The level of woodland in both these LCTs gives the area a relatively small scale which could be sensitive to wind turbine development. The Estate Farmlands and Meadowlands LCTs share many of these characteristics, and are assigned similar levels of sensitivity. Of relatively lower sensitivity within Sherwood are the Wooded Farmlands and Village Farmlands LCTs. These are generally more open, intensively farmed landscapes with a less distinctive character, though with high visual sensitivity.
- 5.4 Mid Nottinghamshire also includes a Meadowlands LCT which is of high sensitivity for similar reasons to the Sherwood Meadowlands; that is, its smaller scale and presence of woodland. The southern part of the Village Farmlands with Ancient Woodland LCT is assigned higher sensitivity, since it contains some distinctive topography, particularly the dumble valleys in the south. The northern area of the Village Farmlands with Ancient Woodland is of somewhat lower sensitivity than the southern area. Although a larger scale landscape, it is often widely visible, and contains the historic field system around Laxton, the distinct character of which must be recognised. The smaller area of Estate Farmland with Plantations LCT is of similar sensitivity, sharing some of these characteristics along with distinctive estate woodlands. The Village Farmlands LCT is assigned slightly lower sensitivity than the neighbouring areas, due to its more open landform in places.
- 5.5 The Mid Nottinghamshire area includes the setting of Southwell, which is recognised in the LDF as one of the most important locations in the district due to the assemblage of historic buildings within the landscape. The area around Southwell is considered to be of higher sensitivity to wind energy development, which could alter the skylines around the town, or adversely affect the appreciation of views of, from or across the conservation area and its landmark buildings. This heightened sensitivity affects a localised area within the Village Farmlands and Meadowlands LCTs in particular.
- 5.6 The two LCTs which make up the Trent Washlands are closely interrelated and have been assigned similar levels of sensitivity. The flat topography and intensively farmed landscapes within the Trent valley are of lower sensitivity, but there are pockets of higher sensitivity landscape represented by the small-scale village pastures and riparian meadows, including historically significant grazing land. The level of existing development on the skyline, including multiple pylons and industrial buildings, is a key consideration in this area.
- 5.7 The two LCTs which make up the East Nottinghamshire Sandlands are similar in character to one another and have similar levels of sensitivity. Again a predominantly flat landscape, there are distinctive low rounded hills within this area, as well as characteristic woodlands within the Village Farmlands with Plantations LCT. There are long views out into Lincolnshire from this area.
- 5.8 South Nottinghamshire covers the area south of Newark which includes areas of vacant land as well as present and former mineral workings. Along with the almost flat topography, this has influenced the findings of relatively lower sensitivity in this area. There are areas of higher sensitivity within both LCTs, including within the Village Farmlands where the land rises up towards the Trent Hills. Intervisibility with the wider landscapes to the south and east, including the Vale of Belvoir are also of importance.

Sensitivity to turbine typologies

- 5.9 The sensitivity mapping (**Figures 5.1 to 5.5**) illustrates the sensitivity of the LCTs to turbines of different heights. The figures show the findings of the sensitivity assessment, which are summarised in **Table 5.1**.

- 5.10 In recognition of the importance of the views around Southwell, the extent of the protected views (Policy So/PV) and surroundings of the Workhouse (Policy So/Wh) are overlaid on to each map. This serves to highlight the locally elevated sensitivity to wind turbines around Southwell, though it is noted that development beyond the areas defined in planning policy may still affect the setting of the town.
- 5.11 The maps show clearly the relatively lower sensitivity of the landscape to small and small-medium turbines. **Only two LCTs, both in Sherwood, are assigned more than 'low to medium' sensitivity to turbines of 15 to 30 m (Figure 5.1).** For small-medium turbines (31 to 50 m), most of Sherwood and Mid Nottinghamshire are assigned 'medium' sensitivity, while only the South Nottinghamshire Farmlands: Meadowlands LCT is of 'low' sensitivity (**Figure 5.2**).
- 5.12 **When considering medium turbines (51 to 80 m), there are several areas of 'medium to high' sensitivity, mostly within Sherwood but also in Mid Nottinghamshire. The Trent Washlands and South Nottinghamshire areas are assigned 'low to medium' sensitivity to this typology (Figure 5.3).**
- 5.13 The landscape is generally of higher sensitivity to larger turbine typologies. **Figure 5.4 shows that only the Trent Washlands and South Nottinghamshire areas are of 'medium' sensitivity to turbines of between 81 and 110 m.** Most parts of Sherwood, and the Meadowlands in Mid Nottinghamshire, are assigned 'high' sensitivity, with sensitivity of other areas considered to be 'medium to high'. **Most of Sherwood and Mid Nottinghamshire are assigned 'high' sensitivity to very large turbines (111 to 140 m), with the exception of the Village Farmlands and Wooded Farmlands LCTs. All other areas are of 'medium to high' sensitivity to this typology (Figure 5.5).**

Capacity: change in the landscape

- 5.14 The study has found that there is some capacity in the landscapes of Newark and Sherwood to accommodate wind energy development. The sensitivity of the landscape, its heritage values, and the level of wind energy development already present, together determine the level of change in the landscape which is likely to be accommodated within each LCT. These levels of change are defined in **Table 2.5**.
- 5.15 The majority of the LCTs can accommodate limited development, defined with reference to **Table 2.5** as 'a landscape with occasional wind energy'. In these areas, individual developments may locally influence the perception of the landscape, but they do not have a defining influence on the overall character of the area. There are a range of factors which influence this conclusion, and these vary across the district. In Sherwood, for example, it is considered that turbines could locally affect small parts of the landscape, particularly if these are former mineral workings, but should not be permitted to adversely affect the distinctive characteristics of the wooded landscape. Within the Trent Valley, on the other hand, the landscape is considered to be less sensitive overall, though there are other factors which may limit capacity for change, such as the proliferation of pylons and other industrial features.
- 5.16 There are small areas of the district in which the study concludes that wind energy development should be restricted, defined with reference to **Table 2.5** as 'a landscape without wind energy'. These are the Meadowlands LCT in Mid Nottinghamshire and the Meadowlands with Plantations LCT within Sherwood. In these areas turbines should not influence landscape character, except at the most local scale. Development could only be accommodated within these areas if particular care is given to siting and design, and any acceptable development is likely to be small in height.
- 5.17 The study concludes that some LCTs may be capable of absorbing additional development, defined with reference to **Table 2.5** as 'a landscape with wind energy'. In these areas, turbines may influence landscape character, but do not define it, and the underlying character of the landscape may still be appreciated. This conclusion has been drawn in relation to the Wooded Farmlands and Village Farmlands LCTs in Sherwood, and the Village Farmlands and Meadowlands LCTs in South Nottinghamshire. Factors which influence these conclusions vary across the district. In the Sherwood Wooded Farmlands, the presence of a five-turbine wind farm within the small area of this type indicates that it is already a landscape with wind energy. In South Nottinghamshire, the generally lower landscape sensitivity has led to this conclusion.
- 5.18 Again it must be noted that there are variations within all LCTs which may lead to locally higher sensitivity, and accordingly reduced capacity for development. This is particularly the case in

relation to historic landscape designations which indicate highly valued landscapes at a local scale. Within areas subject to such designation, the level of change which can be accommodated is likely to be lower than for the surrounding LCTs.

Cumulative development

- 5.19 There are a number of proposed wind energy developments within Newark and Sherwood and adjacent to the district boundary, as described in **Section 2** and **Section 3**. The operational and consented developments are considered in the findings of capacity, outlined above. The proposed developments have been considered as an indicator of future development, though there is no certainty that these schemes will be built. Where proposed development is likely to limit further capacity for wind energy development, this has been noted in the LCT findings. However, due to the constantly changing pattern of proposed development, it is not possible to draw firm conclusions as to where this occurs. This element of the study is the most fluid, and future development proposals should be informed by the cumulative picture which is current at the time.

Summary

- 5.20 The assessment of landscape sensitivity has identified that the areas in the west of Newark and Sherwood are generally more sensitive to wind energy development, while those in the south-east are of lower sensitivity. Overlaid on to this general pattern are areas of high heritage value, represented by a range of historic landscape designations which could be adversely affected by wind energy development.
- 5.21 The study identifies sensitivity levels for each of the LCTs described in the Newark and Sherwood Landscape Character Assessment. However, it also identifies that there are variations in sensitivity, often significant, within LCTs. The study provides a strategic overview of the district, but the assessment of lower sensitivity does not imply that any wind energy development could be accommodated. Similarly, an assessment of higher sensitivity should not be taken to mean that no development could be acceptable. For each LCT, relevant siting and design guidelines are presented to ensure any development proposals address the aspects of the landscape which determine its sensitivity.
- 5.22 The evaluation of capacity draws together the sensitivity assessment, the historic landscapes, and the patterns of operational and consented development to determine the level of change which could be accommodated in each LCT. The study concludes that there is some capacity for change across most of the district, though this is limited by a range of factors. Small areas of lower sensitivity have been identified with the potential to absorb a greater level of development, though still without wind turbines becoming a defining feature.
- 5.23 The findings of this study are intended to influence the siting and design of future wind energy proposals, which should reflect the guidelines presented for the relevant LCT, and the generic guidance included in this Section. The findings of the study relate to broad conclusions about the landscapes of the district, and cannot include every local variable of the landscape. On this basis, while the study provides a strategic overview, there is no substitute for site-specific evaluation and assessment of individual proposals. All proposals for wind energy development will continue to be judged on their own merits.

Generic guidelines

- 5.24 The following provides some generic guidance on siting wind energy development in Newark and Sherwood, focussing on minimising landscape and visual effects. It is recognised that technologies need to be sited and designed to ensure a reasonable output. In all cases the findings of the sensitivity assessment for the relevant LCT should be considered when considering potential sites for wind energy development. This is not an exhaustive list of factors for consideration, but focuses on the points of most relevance to Newark and Sherwood.
- 5.25 The following guidance in relation to landscape should be followed for siting any wind energy development, whether it comprises one small turbine or multiple large turbines.

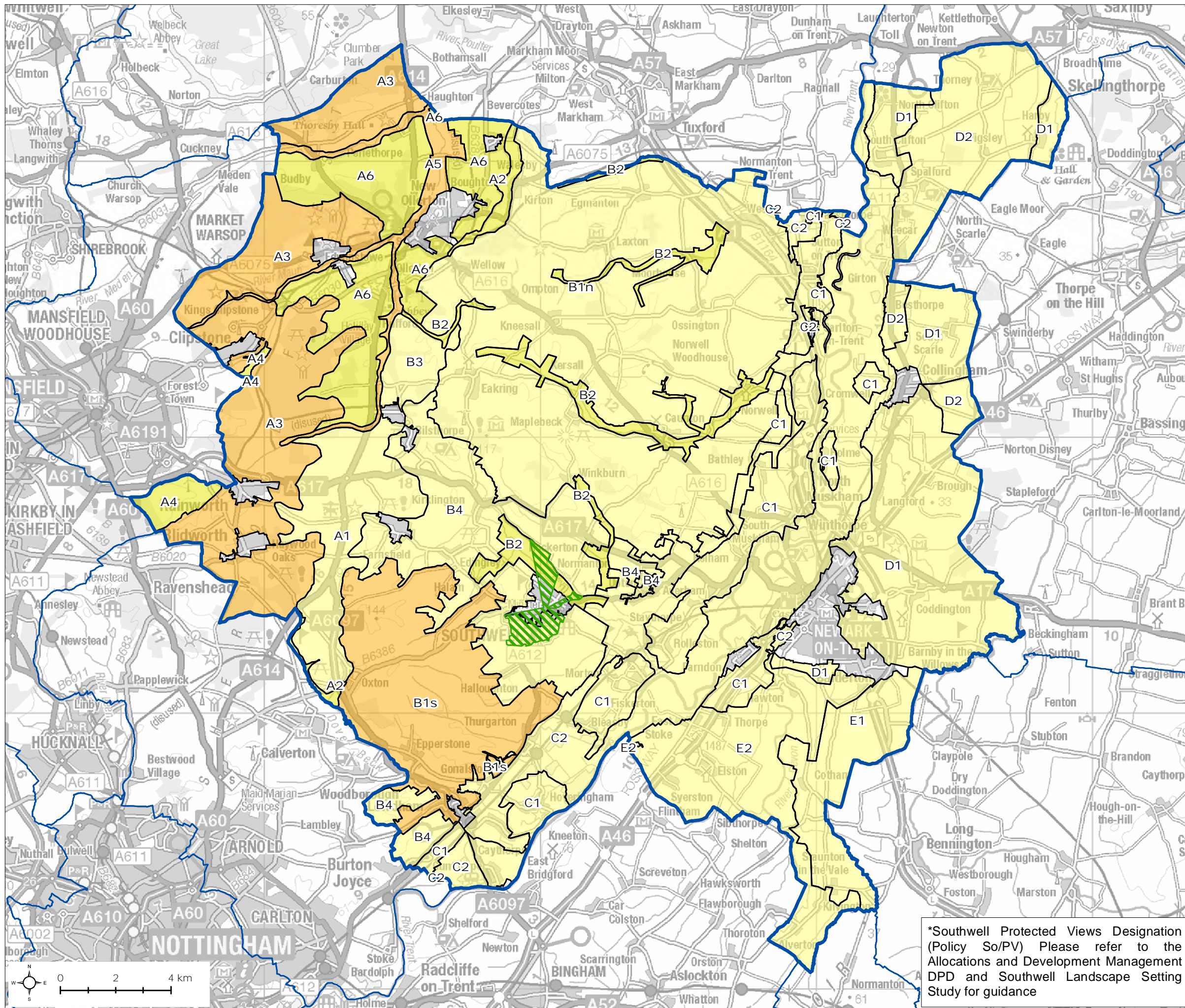
- Ensure siting of turbines does not adversely affect the distinctive characteristics and special qualities of areas which are designated for their historical landscape significance, including Sherwood Forest Heritage Area, Southwell protected views, the historic landscape around Laxton, conservation areas, registered battlefields, and registered historic gardens, as set out in the Newark and Sherwood LDF, Policy DM9.
- Ensure that wind energy development does not override or subsume the key characteristics of the landscape as recorded in the Newark and Sherwood Landscape Character Assessment.
- Site wind energy developments away from dramatic landforms or valued distinct landform features (including prominent steep slopes).
- Seek to avoid siting wind turbines where they would detract from the character of undeveloped areas of semi-natural land cover, which in this district are primarily represented by broadleaf woodland and remnant heathland, particularly in the Sherwood area but also in pockets elsewhere.
- Seek to avoid impacts on areas which are free from overt human influence and modern development, and which are valued for their perceived rural tranquillity. These may be of particular value in a generally settled area such as Newark and Sherwood.
- When siting medium or larger-scale wind energy development (i.e. those with multiple turbines over 50 m tip height), prefer sites in simple, regular landscapes with extensive areas of consistent ground cover over landscapes with more complex or irregular land cover patterns, smaller field sizes and landscapes with frequent human scale features (subject to satisfying other sensitivities).
- Consider locating turbines on reclaimed, industrial and man-made landscapes, particularly where this can be linked to landscape restoration, or in association with business parks or industrial estates, where other landscape sensitivities are not compromised.

5.26 The following points relate to siting and design of all scales of wind energy development in relation to views and visual amenity.

- Significant effects on views from important viewpoints should be avoided where possible or minimised through careful siting. This will include views which are integral to the character of conservation areas, designed views in registered historic parks, and views from popular tourist locations, scenic routes, and settlements.
- Particular importance is attached to the setting of Southwell, not only in terms of the protected views identified in planning policy, but also in terms of the wider landscape of the town within its valley setting, and the views of and across the settlement which are available.
- It is generally less distracting to see a substantial part of a turbine rather than blade tips only – this may be a particular consideration for views from sensitive viewpoints or those frequented by a larger number of viewers.
- It is preferable to site turbines where they do not distract from views of, or prevent the appreciation of, historic landmarks features such as church towers.
- It is preferable to site turbines in locations where they do not conflict with other man-made skyline features, such as pylons and industrial chimneys. This is particularly relevant where converging power lines and other features are present on skylines, and where the addition of turbines could create visual confusion.
- Consider sites where areas of existing vegetation could screen ground-level features of wind energy developments (such as fencing, tracks and transformers).
- With particular reference to medium or large-scale turbines (i.e. those over 50 m tip height), avoid selecting sites on important undeveloped or distinctive skylines, or skylines with important cultural or historic landmark features.

5.27 As well as the wind turbines themselves, it will be necessary to consider the landscape and visual effects of transmission infrastructure, which can be substantial for larger developments, when siting development. Favour locations that will minimise the need for above-ground transmission infrastructure, particularly where this could affect landscapes of higher sensitivity or heritage value. Undergrounding cables may mitigate effects in sensitive locations.

- 5.28 When siting single turbines the following guidance may be of particular relevance.
- Consider siting turbines so they are perceived as part of other built development, or are seen in association with a building group where effects on amenity allow. For example, there may be some opportunity to site smaller single turbines in relation to farm buildings or community buildings, with larger scale single turbines sited in relation to larger businesses or industrial sites. Development should be commensurate with (or reflect) the scale of the associated buildings.
- 5.29 When siting multiple turbines the following guidance should be considered.
- Locate turbines on the most level part of a site or following contours to avoid a discordant variation of apparent turbine heights.
 - Ensure the size and grouping of turbines responds to landscape character, reinforcing the difference between distinct landscape character types.
 - Seek to keep a turbine group within one landscape character type (particularly as perceived in sensitive views) so that turbines do not span across marked changes in character on the ground, such as changes in topography.
- 5.30 When considering small and small-medium turbines (i.e. turbines of 50 m or less in overall height), the following guidelines may be relevant.
- Aim to site smaller turbines in locations where existing woodland can screen views.
 - Site turbines in proximity to existing development where possible, to ensure the association between generation and consumption, for example on farms.
 - Avoid siting smaller turbines in close proximity to existing large turbines where contrasts of scale could occur. This may also affect longer views where smaller turbines appear in the foreground, and may lead to a confusing visual image.
 - Avoid siting smaller turbines of different design in close proximity, which could lead to unattractive visual contrasts. Design elements including height, rotor diameter, number of blades, tower construction and nacelle shape should all be considered.
 - Colour smaller turbines appropriately: pale grey may be less suitable for turbines which will be primarily viewed against a background of trees, as opposed to the sky.
- 5.31 In all cases, the key aims should be to ensure compatibility between the proposed development and the receiving landscape, and to minimise the extent and likely significance of effects on views and landscape character.



Newark and Sherwood Landscape Capacity for Wind Turbines

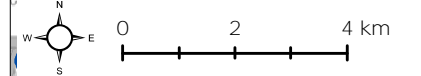
Figure 5.1

Landscape Sensitivity to Small Turbines (15 to 30 m)

- Study area
 - Local authority boundaries
 - Landscape character types
 - Southwell protected views*
- Sensitivity**
- Low
 - Low to medium
 - Medium

- Regional character areas**
- Sherwood
 - A1 - Village farmlands
 - A2 - Meadowlands
 - A3 - Wooded estate lands
 - A4 - Wooded farmlands
 - A5 - Meadowlands with plantations
 - A6 - Estate farmland
 - Mid Nottinghamshire Farmlands
 - B1n - Village farmlands with ancient woodland: Northern area
 - B1s - Village farmlands with ancient woodland: Southern area
 - B2 - Meadowlands
 - B3 - Estate farmlands with plantations
 - B4 - Village farmlands
 - Trent Washlands
 - C1 - Village farmlands
 - C2 - River meadowlands
 - East Nottinghamshire Sandlands
 - D1 - Village farmlands
 - D2 - Village farmlands with plantations
 - South Nottinghamshire Farmlands
 - E1 - Meadowlands
 - E2 - Village farmlands

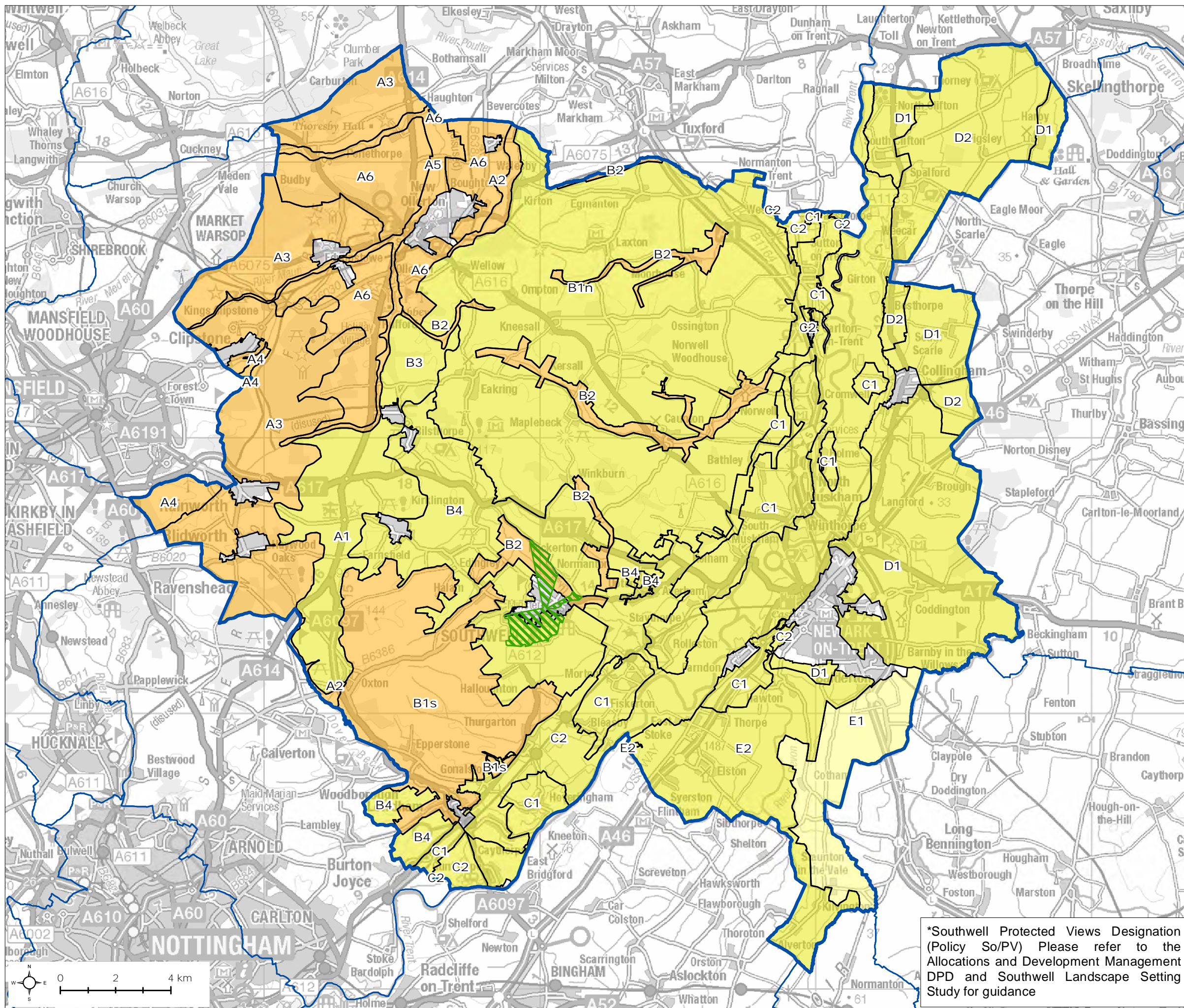
*Southwell Protected Views Designation (Policy So/PV) Please refer to the Allocations and Development Management DPD and Southwell Landscape Setting Study for guidance



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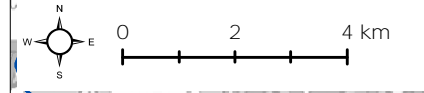
Newark and Sherwood Landscape Capacity for Wind Turbines

Figure 5.2
Landscape Sensitivity to Small-Medium Turbines (31 to 50 m)


- Study area
 - Local authority boundaries
 - Landscape character types
 - Southwell protected views*
- Sensitivity**
- Low
 - Low to medium
 - Medium

- Regional character areas**
- Sherwood
 - A1 - Village farmlands
 - A2 - Meadowlands
 - A3 - Wooded estatelands
 - A4 - Wooded farmlands
 - A5 - Meadowlands with plantations
 - A6 - Estate farmland
 - Mid Nottinghamshire Farmlands
 - B1n - Village farmlands with ancient woodland: Northern area
 - B1s - Village farmlands with ancient woodland: Southern area
 - B2 - Meadowlands
 - B3 - Estate farmlands with plantations
 - B4 - Village farmlands
 - Trent Washlands
 - C1 - Village farmlands
 - C2 - River meadowlands
 - East Nottinghamshire Sandlands
 - D1 - Village farmlands
 - D2 - Village farmlands with plantations
 - South Nottinghamshire Farmlands
 - E1 - Meadowlands
 - E2 - Village farmlands

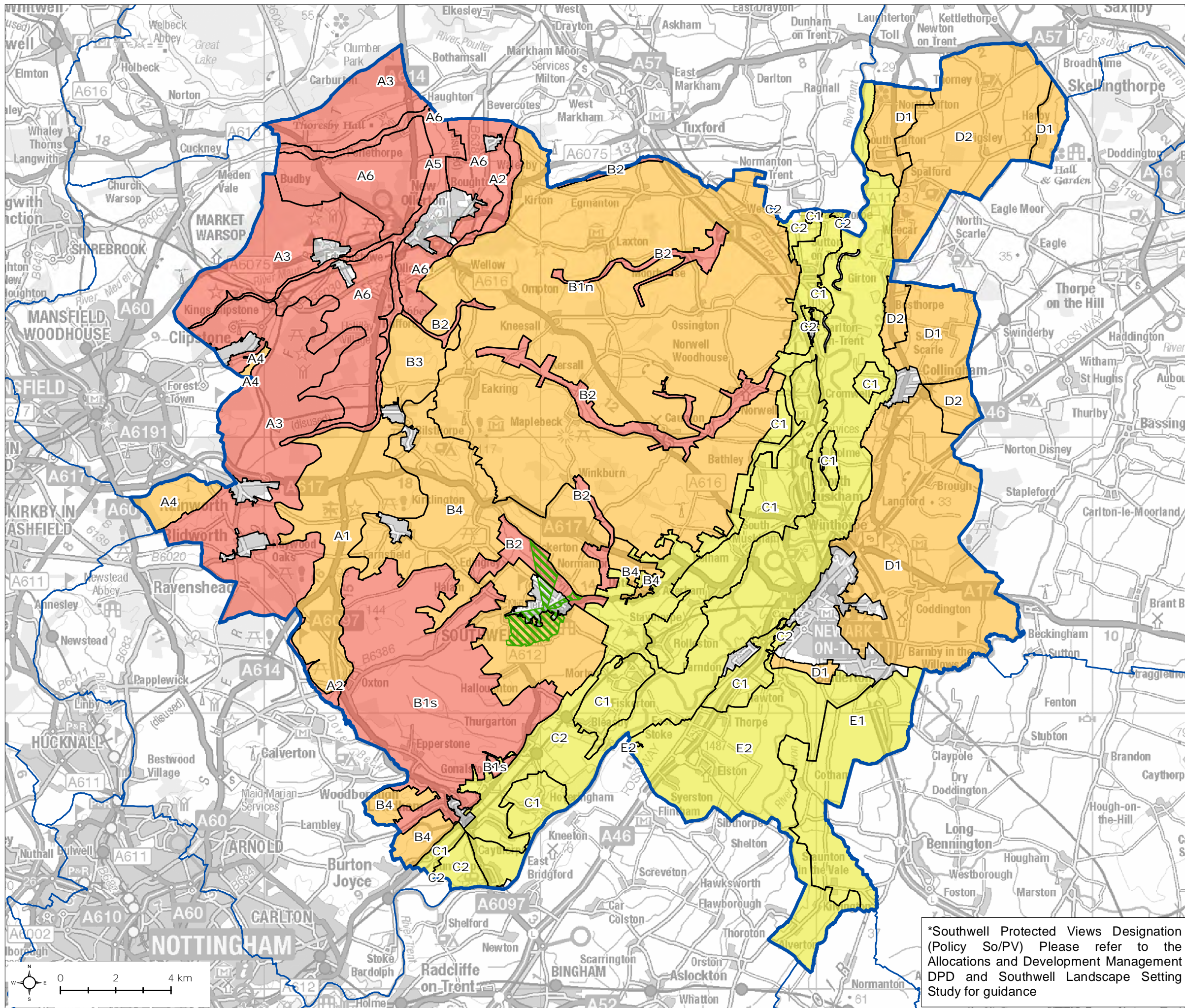
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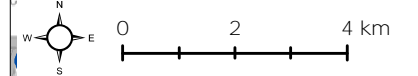
Newark and Sherwood Landscape Capacity for Wind Turbines

Figure 5.3
Landscape Sensitivity to Medium Turbines (51 to 80 m)

- Study area
 - Local authority boundaries
 - Landscape character types
 - Southwell protected views*
- Sensitivity
- Low to medium
 - Medium
 - Medium to high

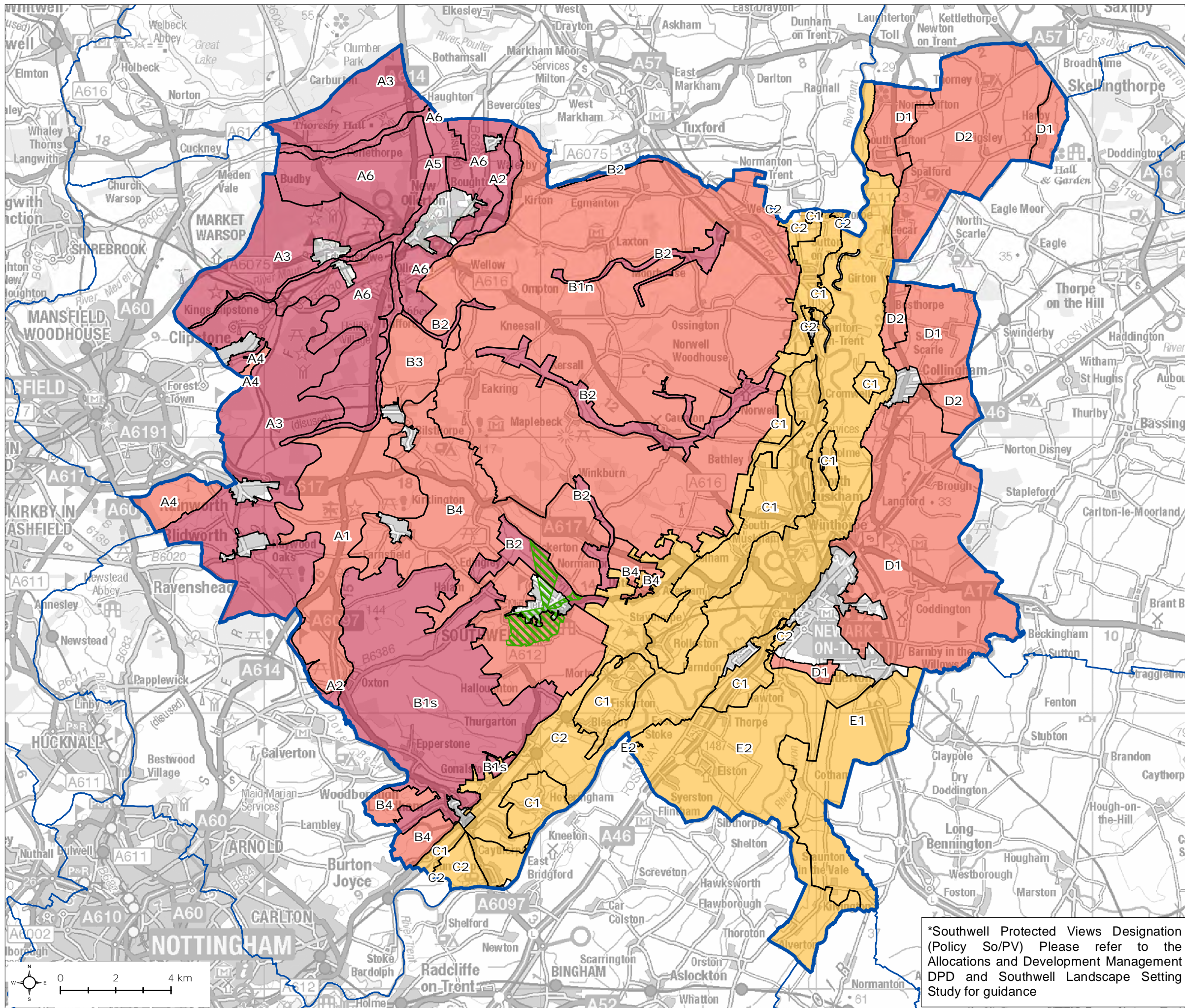
- Regional character areas
- Sherwood
 - A1 - Village farmlands
 - A2 - Meadowlands
 - A3 - Wooded estate lands
 - A4 - Wooded farmlands
 - A5 - Meadowlands with plantations
 - A6 - Estate farmland
 - Mid Nottinghamshire Farmlands
 - B1n - Village farmlands with ancient woodland: Northern area
 - B1s - Village farmlands with ancient woodland: Southern area
 - B2 - Meadowlands
 - B3 - Estate farmlands with plantations
 - B4 - Village farmlands
 - Trent Washlands
 - C1 - Village farmlands
 - C2 - River meadowlands
 - East Nottinghamshire Sandlands
 - D1 - Village farmlands
 - D2 - Village farmlands with plantations
 - South Nottinghamshire Farmlands
 - E1 - Meadowlands
 - E2 - Village farmlands

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Newark and Sherwood Landscape Capacity for Wind Turbines

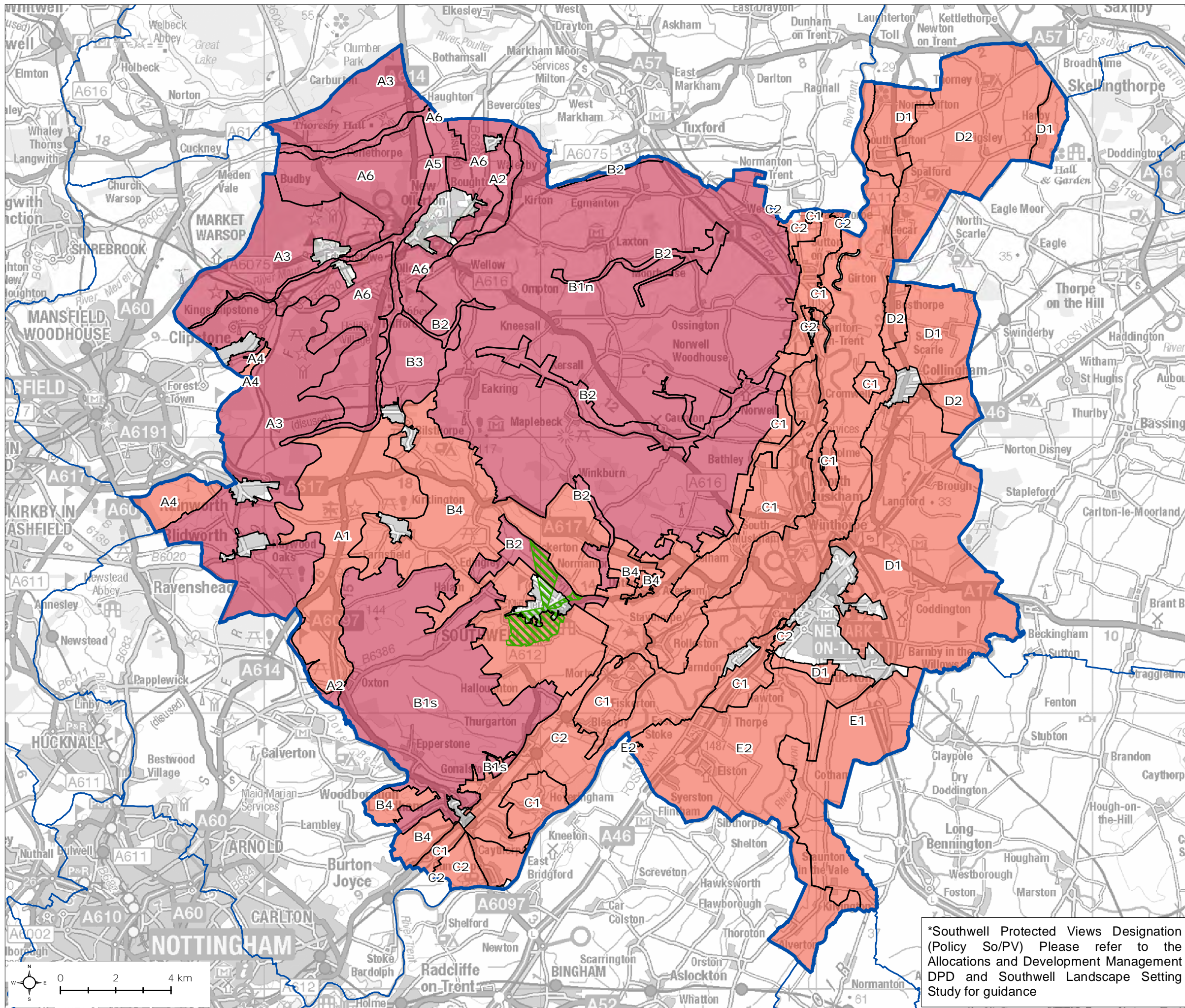
Figure 5.4
Landscape Sensitivity to Large Turbines (81 to 110 m)

- Study area
 - Local authority boundaries
 - Landscape character types
 - Southwell protected views*
- Sensitivity**
- Medium
 - Medium to high
 - High

- Regional character areas**
- Sherwood
 - A1 - Village farmlands
 - A2 - Meadowlands
 - A3 - Wooded estate lands
 - A4 - Wooded farmlands
 - A5 - Meadowlands with plantations
 - A6 - Estate farmland
 - Mid Nottinghamshire Farmlands
 - B1n - Village farmlands with ancient woodland: Northern area
 - B1s - Village farmlands with ancient woodland: Southern area
 - B2 - Meadowlands
 - B3 - Estate farmlands with plantations
 - B4 - Village farmlands
 - Trent Washlands
 - C1 - Village farmlands
 - C2 - River meadowlands
 - East Nottinghamshire Sandlands
 - D1 - Village farmlands
 - D2 - Village farmlands with plantations
 - South Nottinghamshire Farmlands
 - E1 - Meadowlands
 - E2 - Village farmlands

Map Scale @ A3: 1:135,000

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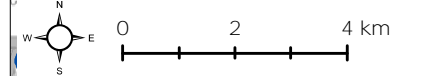
Newark and Sherwood Landscape Capacity for Wind Turbines

Figure 5.5
Landscape Sensitivity to Very Large Turbines (111 to 140 m)

- Study area
 - Local authority boundaries
 - Landscape character types
 - Southwell protected views*
- Sensitivity**
- Medium to high
 - High

- Regional character areas**
- Sherwood
 - A1 - Village farmlands
 - A2 - Meadowlands
 - A3 - Wooded estatelands
 - A4 - Wooded farmlands
 - A5 - Meadowlands with plantations
 - A6 - Estate farmland
 - Mid Nottinghamshire Farmlands
 - B1n - Village farmlands with ancient woodland: Northern area
 - B1s - Village farmlands with ancient woodland: Southern area
 - B2 - Meadowlands
 - B3 - Estate farmlands with plantations
 - B4 - Village farmlands
 - Trent Washlands
 - C1 - Village farmlands
 - C2 - River meadows
 - East Nottinghamshire Sandlands
 - D1 - Village farmlands
 - D2 - Village farmlands with plantations
 - South Nottinghamshire Farmlands
 - E1 - Meadowlands
 - E2 - Village farmlands

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