West Dorset District Council

West Dorset Urban Extensions Study Volume 1 - Study Report FINAL ISSUE December 2008

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West Dorset District Council

West Dorset Urban Extensions Study Volume 1 - Study Report

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1 Introduction

1.1 Introduction

- 1.1.1 Halcrow Group Ltd was commissioned by West Dorset District Council and the South West Regional Assembly to study the deliverability of significant urban extensions in the West Dorset District, which are proposed by the Panel Report on the draft Regional Spatial Strategy for the South West (RSS) and subsequently in the Proposed Changes to the RSS.
- 1.1.2 Halcrow Group Ltd has undertaken the study in partnership with the Council, and under the guidance of a steering group comprising representatives of:
 - West Dorset District Council Planning Policy Team
 - South West Regional Assembly
 - Dorset County Council Strategic Planning Team

1.2 South West Regional Spatial Strategy

- 1.2.1 The South West RSS will set the regional context for planning until 2026 and will replace Regional Planning Guidance for the South West (RPG10). The draft RSS (dRSS) was published in 2006 by the South West Regional Assembly (SWRA). It stated that the primary focus of development would be in a set of 21 named Strategically Significant Cities and Towns (SSCTs). These were chosen not on the basis of their present size but on their ability to contribute to sustainable patterns of growth. These included Dorchester (the smallest population of the 21¹) and Weymouth.
- 1.2.2 The dRSS noted that Dorchester and Weymouth form a single travel-to-work area (TTWA) and function in a complementary manner with significant commuting flows between them. It added that 'most pressing strategic planning issue is to achieve a better balance of housing and jobs between the two towns, with more housing at Dorchester, to help redress commuting into the town' [ibid:86-7] and that 'future development should aim to improve Weymouth's self containment' [ibid:87]. As a consequence Policy SR31 stated that inter alia:

'provision should be made for job growth in the Dorchester & Weymouth TTWA of between 7,300 and 9,500 jobs and an average housing provision of about 200 dwellings per annum at Dorchester and about 250 dwellings per annum at Weymouth over the plan period. LDD [Local Development Document] policies should stimulate economic opportunities, reduce in-commuting and reflect the high-value environmental assets surrounding Dorchester.' [ibid: 86]

¹ Penryn in Cornwall has a smaller population but is one in a set of core towns which compose the Cornwall SSCT



1.3 Panel Report on the dRSS

- 1.3.1 The Panel Report on the draft RSS was issued in January 2008 [SWRA 2008] and proposed very significant increases in total housing numbers in West Dorset, including recommendations for new large urban extensions. In relation to housing requirements and projections for West Dorset District which had become available since the draft RSS, the Panel stated: '...We are of the opinion that housing growth should be concentrated in an urban extension at Dorchester to reduce the need to travel' ... [SWRA 2007: 175].
- 1.3.2 The Panel noted the environmental constraints (such as the Area of Outstanding Natural Beauty (AONB) and water catchment areas) surrounding the town but felt that these needed reviewing. An accelerated scale of development is viewed as being necessary to 'avoid exacerbating the housing affordability problem' and the Panel proposed an additional 3,000 dwellings at Dorchester. [ibid:175].
- 1.3.3 In relation to Weymouth & Portland Borough, the Panel stated that: 'Weymouth is highly constrained and cannot accommodate the identified demand. We recommend, therefore, that additional provision should be made within an urban extension in West Dorset, adjoining the Weymouth area. While there is capacity within the adjacent area of West Dorset, the physical and environmental constraints in the area do not allow the full deficiency to be met. An additional 700 dwellings is proposed' [ibid:175].

1.4 Proposed changes to the draft RSS

- 1.4.1 The Proposed Changes to the draft RSS were published by Secretary of State on 22nd July 2008. This adopted the Panel Report's proposed numbers of new dwellings for the Weymouth & Dorchester HMA, and also clarified that a '360-degree area of search' around Dorchester reflected the 'need for further work to determine the most appropriate direction(s) for growth' [DCLG 2008:69]. The Areas of Search for urban extensions were referred to as 12A (Dorchester) and 12B (land in West Dorset adjacent to Weymouth).
- 1.4.2 In common with the rest of the RSS, references to specific new infrastructure were removed. In their place, policy text stated that 'action should be taken to improve movement and accessibility for all and tackle congestion on the corridor between Dorchester and Weymouth' comprising demand management, sustainable travel measures and, if necessary 'targeted new infrastructure to unlock pinch points' [ibid: 122].
- 1.4.3 The publication of the Proposed Changes marked the commencement of a 12-week public consultation period on the RSS. This study forms part of the evidence base which will assist West Dorset District Council and its partner planning authorities to make a sound and reasoned response to the Secretary of State.

1.5 Proposed number of dwellings

1.5.1 The spatial composition of numbers of new dwellings proposed by the dRSS and the Panel Report/Proposed Changes is shown in Table 1.1 and 1.2.



Table 1.1: Proposed Numbers of Dwellings: Figures or West Dorset District & Weymouth & Portland Borough in dRSS, Panel Report and Proposed Changes to RSS

			Pr	oposed num	bers of dwell	ings
District	Broa	d location	Draft F	RSS		l Report ed Changes
			Total 2006 - 2026	Per annum	Total 2006 - 2026	Per annum (inferred)
	Dist	rict-wide	8,200	410	12,500	625
		Dorchester	4,000	200	7,000	350
West Dorset	of which	Elsewhere in District	4,200	210	4,800	240
	Willen	Weymouth Urban Extension			700	35
	Boro	ough-wide	5,600	280	5,600	280
Weymouth		Weymouth	5,000	250	5,000	250
& Portland	of which	Elsewhere in Borough [Portland]	600	30	600	30

Table 1.2: RSS Panel Report's Proposed Numbers of Dwellings: Spatial composition in West Dorset

				numbers of llings
НМА	SSCT	Broad location	Total 2006 - 2026	Per annum (inferred)
	Dorchester	Dorchester Urban Area	4,000	200
Weymouth	Dorchester	Dorchester Urban Extension	3,000	150
& Dorchester	Weymouth	Weymouth Urban Extension	700	35
	-	'Remainder of the District' [excluding Dorchester and areas adjoining Weymouth]	4,800	240



1.6 Purpose of study

- 1.6.1 Little investigation of the opportunities for housing development at this scale has previously taken place. The purpose of the West Dorset Urban Extensions Study is to:
 - Assess objectively the deliverability of proposed significant urban extensions;
 - Identify any deliverability constraints or thresholds that would affect what can be delivered (or the timing of delivery);
 - Identify the physical and community infrastructure required to deliver the urban extensions; and
 - Confirm that development can meet the likely infrastructure requirements and remain financially viable.
- 1.6.2 The recently reissued Planning Policy Statement 12 (PPS12) notes that the Core Strategy should, inter alia,

'set out how much development is intended to happen where, when and by what means it will be delivered. Locations for strategic development should be indicated on a key diagram' [DCLG 2008: 7]

In preparing a Core Strategy, local planning authorities must ensure the document is:

- founded on a robust and credible evidence base;
- the most appropriate strategy in all the circumstances, having considered the reasonable alternatives;
- deliverable:
- flexible; and
- able to be monitored. [DCLG 2008:15,17].
- 1.6.3 PPS12 notes in para 4.10 the requirement for infrastructure to support housing growth and emphasises that planning for infrastructure should inform the core strategy and be part of the robust evidence base. It considers that local authorities should undertake 'timely, effective and conclusive discussion with key infrastructure providers when preparing a core strategy' [ibid:9]. It notes that there may be a less than ideal amount of information available at the time of preparation, and that the core strategy should not 'place undue reliance on critical elements of infrastructure whose funding is unknown. The test should be whether there is a reasonable prospect of provision' [ibid].



1.7 Study methodology

1.7.1 The study methodology progressed through the following key stages:

Key	stage:	Report ref:
1	Identify the Areas of Search (AoS) around the SSCTs.	Section 1.7
2	Collect data on the existing conditions in the AoS.	Section 2.4
3	Screen out land within the AoS where development is not possible due to 'absolute constraints'.	Section 3.2
4	Assess the potential constraints and opportunities for development against a set of assessment criteria.	Section 3.3
5	Screen out areas of land assessed as having one or more 'critical' development constraints.	Section 3.4
6	Select development options and identify the strategic physical and community infrastructure required.	Section 3.6 & 4.4
7	Assess the extent and phasing of infrastructure and test the financial viability of each development option.	Section 4.5 & 4.6

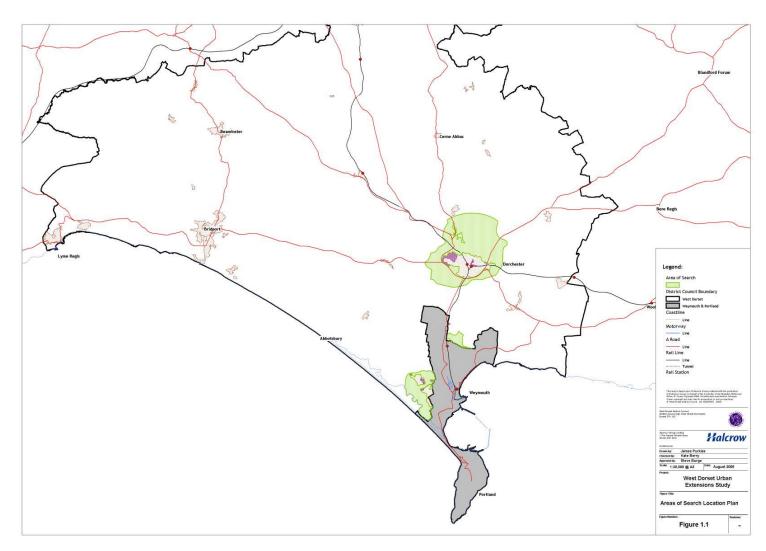
1.8 Study areas

- 1.8.1 Broad Areas of Search (AoS) for identifying potential urban extension sites were drawn for Dorchester and Weymouth at the following three locations:
 - Dorchester
 - Littlemoor (Weymouth)
 - Chickerell (Weymouth)

The location of the AoS are shown in Figure 1.1 below.









- 1.8.2 In general terms, the AoS were drawn to include all land adjacent to the towns outside the defined development boundaries and excluding land allocated for development, both of which are delineated in the West Dorset Local Plan (WDLP) adopted in 2006.
- 1.8.3 The extent of the Dorchester AoS was established in accordance with the RSS definition of an urban extension and the RSS objective to focus development at the SSCT with good access to the associated employment and social and community facilities. Research has indicated that few people will cycle more than 5km; it has been assumed that the undulating downland surrounding Dorchester will reduce acceptable cycling distances to approximately 4km. In addition, it was deemed that land within the Dorchester AoS should have a visual link to the town, inferring that for the main part, the AoS boundary will follow ridgetops in order that a strong visual connection with the town can be maintained. Where ridgetops are more distant than this the AoS boundary has been set at 4km, though this limit will be applied flexibly.
- 1.8.4 While the AoS around Dorchester is primarily 'greenfield' land, undeveloped in nature, it does include land within the A35 southern bypass which has not been allocated for residential or employment development in the adopted WDLP. Sites in that area include both "brownfield" land where redevelopment might be possible, and presently unbuilt land, though that is limited in scale and includes some open space important to the character and amenity of the town.
- In some places the district council boundary with Weymouth & Portland Borough Council (W&PBC) is not coterminous with the edge of Weymouth's urban area. Consequently parts of the Weymouth's urban area falls within West Dorset district, including residential estates north of Littlemoor Road (in Bincombe parish), Granby Industrial Estate and residential estates west of B3156 Lanehouse Rocks Road (in Chickerell parish). In other places the Weymouth urban area ends at or just short of the district council boundary. In these locations there may be some small areas of land within W&PBC authority that could be incorporated into an urban extension development.
- 1.8.6 The Littlemoor and Chickerell AoS include all land adjacent to Weymouth's urban areas within West Dorset. The Chickerell area includes land between B3157 and The Fleet, though it is recognised that development there could have impacts upon the multiple nature conservation and cultural designations. It also includes land north of Littlemoor Road in Bincombe parish, despite its position within the Dorset Area of Outstanding Natural Beauty (AONB), because of the imperative to examine all land and the reasons for its designation, or opportunities to achieve a balance of environmental enhancement in that area.

1.9 Land parcels

1.9.1 In order to practically assess the suitability of land for development, each AoS is sub-divided into land parcels based upon linear features such as roads and field boundaries. The land parcels are referenced alphabetically and are shown on the maps in Figures 1.2, 1.3 & 1.4 overleaf. Several land parcels are subdivided into two parts, in order to reflect a distinct variation in the significance of a particular characteristic within that land parcel - e.g. landscape.



Figure 1.2: Dorchester Area of Search (AoS) showing land parcels





Figure 1.3: Littlemoor Area of Search (AoS) showing land parcels

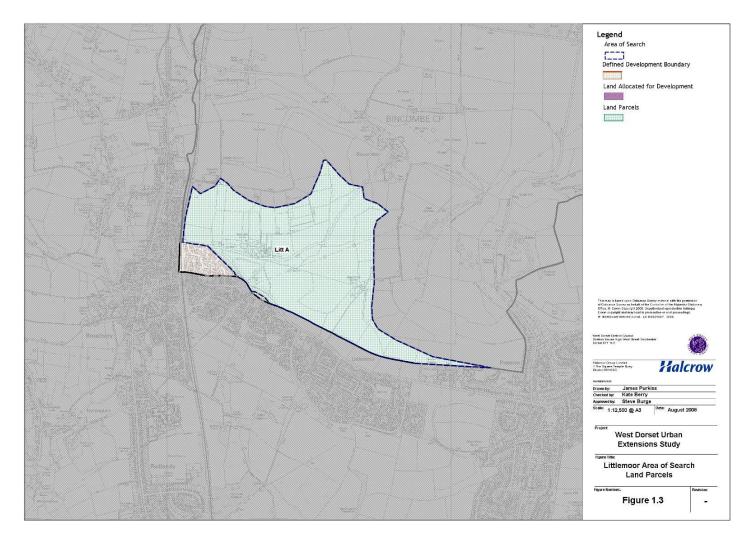
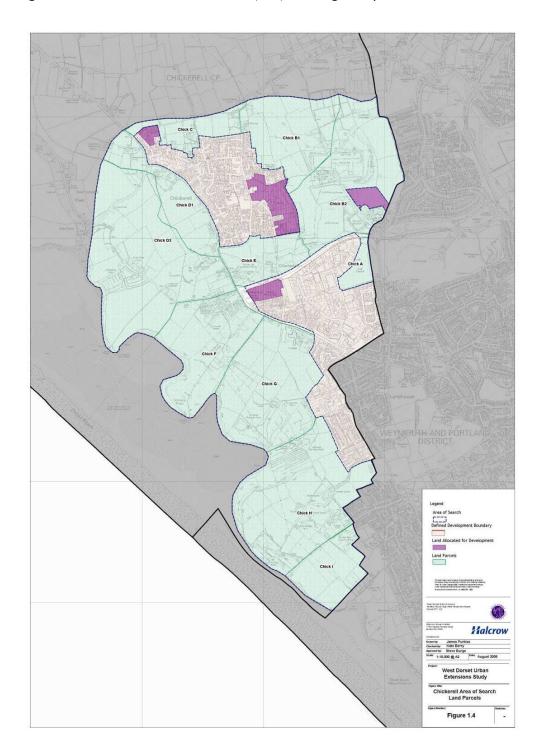




Figure 1.4: Chickerell Area of Search (AoS) showing land parcels





2 Baseline information

2.1 Spatial setting

2.1.1 West Dorset is one of the larger districts in England, comprising a series of small market and coastal towns with a backdrop of countryside, 74% of which is designated as an Area of Outstanding Natural Beauty (AONB). The Council was awarded beacon status for protecting and enhancing the quality of the built environment and is home to innovative urban extensions and sensitively designed village developments.

Dorchester

- 2.1.2 Dorchester remains one of the smallest county towns in England with a population of approximately 16,310² [DCC 2007]. The town abuts the Dorset AONB to the west and the Frome Watermeadows (a substantial floodplain) to the north. Approximately 15,100 people work in Dorchester, many of whom are based in the major public sector employers of the County Council, District Council and County Hospital. The town's unemployment levels are low at 1.1% [ibid] and it acts as a service centre for a wide rural hinterland.
- 2.1.3 Dorchester has a strategic location on the A35 Trunk Road, A37 primary route and Weymouth to Waterloo and Bristol railway lines. Traffic congestion is an issue both within the town and on the bypass and there are capacity constraints on the rail lines.
- 2.1.4 The town has a history of planned expansion, from the Roman layout within the town walls and through the involvement of the Duchy of Cornwall as major landowner, overseeing the development of land during the late 19th and through the 20th century.
- 2.1.5 Poundbury, the urban extension to the west of the town, has accommodated the bulk of the area's development needs since construction began in 1993. By 2005, approximately 900 dwellings had either been constructed or had planning permission; the 2006 adopted Local Plan envisages a similar number again until 2011 and allocates land for development after this date.

Littlemoor

- 2.1.6 Littlemoor is a collection of mostly post-war residential estates situated between the older settlements of Broadwey (to the west) and Preston (to the east). Most of the development has been both within Weymouth & Portland borough and south of Littlemoor Road. Some limited development has taken place in West Dorset, in (the otherwise rural) parish of Bincombe.
- 2.1.7 Land has been reserved for the construction of a new road to relieve the congestion on the current A354 Dorchester Road; this now has planning

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² 2005 Mid Year Estimate



- permission and will pass through the area. All of the land in Bincombe parish forms part of the Dorset AONB.
- 2.1.8 Its position between Weymouth town centre and Dorchester, close to the A354 and Upwey rail station, makes it a convenient place to commute from. This better accessibility may not, however, be in line with the RSS approach to foster greater self-containment within the two towns. Littlemoor has a range of local facilities, including primary school, supermarket, GP surgery and dental practice.

Chickerell

- 2.1.9 Chickerell has a population of 5,370³ and, whilst administratively part of West Dorset, it is connected to Weymouth, both functionally and through development along the B3157. Weymouth's major industrial estate, its football ground, the divisional police headquarters and one of its secondary schools all lie within Chickerell. The urban parts of the parish are proximate to important protected marine habitats, including The Fleet (part of the Dorset & East Devon Coast World Heritage Site) and Radipole and Chafey's Lakes.
- 2.1.10 Whilst retaining a village core, and with a position adjacent to the Dorset AONB, Chickerell is mainly composed of late 20th century suburban development and looks to Weymouth for the provision of services not contained within the village.

2.2 Existing conditions

2.2.1 Thorough data collection has been undertaken including literature reviews, GIS mapping, desk studies, site visits and stakeholder consultation. The information gathered has been used to establish the existing conditions within the three AoS. The baseline information and data collected is presented in detail in Volume 2 - Evidence Base. The key stakeholders that were consulted during the course of the study are summarised in Table 2.1.

Table 2.1: Key stakeholders

Topic	Key Stakeholders/ Organisations
Biodiversity	Natural England DCC Natural Environment Team Dorset Wildlife Trust
Built & Cultural Heritage	DCC Built Environment team WDDC Conservation Officer
Flood risk, drainage and water resources	Environment Agency Wessex Water Services Ltd
Landscape	Dorset AONB DCC WDDC

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³ 2005 Mid Year Estimate: Dorset Data Book 2007



Utilities	National Grid Wales and West Utilities Scottish and Southern Energy Wessex Water British Telecom
Transport and highways	Local Highway Authority - DCC Trunk Road Authority - Highways Agency (HA)
Community infrastructure	Planning Obligations Manager (DCC) Dorset NHS Primary Care Trust Local Education Authority (DCC)

2.3 House building projections

- 2.3.1 The dRSS observed that a region-wide house building rate of 20,000 dwellings per annum (dpa) was currently being achieved and proposed 23,000 dpa for the plan period distributed across the region. The Panel Report recommended raising this to 28,000 dpa (and recommended that some of these dwelling requirements be met in West Dorset through the identification and development of urban extensions). The Proposed Changes raised the region-wide house building to 29,623 dpa.
- 2.3.2 Recently issued advice from the National Housing and Planning Advice Unit (NHPAU) [2008] suggested that, with a view to stabilising the affordability of houses through additional supply, elevated housing supply ranges should be tested by relevant regional partner organisations as early as possible. In terms of the South West region, the NHPAU recommended that an average of between 29,800 and 34,800 dpa⁴ should be examined and that a target of 37,400 dpa should be the aim for 2016 [NHPAU 2008:8].

⁴ Average annual net additions to 2026



3 Assessment of development constraints

3.1 Introduction

3.1.1 This section summarises the methodology and results of the assessment of development constraints within the Dorchester, Littlemoor and Chickerell Areas of Search (AoS). Further detailed supporting information is provided in Section 2 of Volume 2, which presents the evidence base and reasoning for the assessment methodology and results.

3.2 Screening

- 3.2.1 The following types of land have been screened from the AoS due to their inability to be used for the development of housing:
 - Land protected for the construction of the A354 Weymouth Relief Road (Ridgeway to Mount Pleasant section);
 - Land falling into Flood Risk Zones 2 and 3;
 - Land within internationally designated sites Dorset & East Devon Coast World Heritage Site, Ramsar Sites, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs); and
 - Land with established existing landuses unlikely to change within the RSS plan period including electrical substations and military firing ranges.

3.3 Assessment criteria

- 3.3.1 The framework for assessing the suitability of land for urban extensions was developed based upon an appraisal of planning policy and the need to satisfy two major objectives and a series of 11 themes, as follows:
 - A) Avoiding land with risks or constraints and preserving assets
 - Agriculture and land use;
 - Biodiversity;
 - Built and cultural heritage;
 - Flood risk and drainage;
 - Landscape;
 - Road networks;
 - Water resources; and
 - Utility supply
 - B) Prioritising areas of suitability and/or opportunity
 - Access to employment and services;
 - Availability of community facilities; and
 - Social cohesion
- 3.3.2 The following issues have not been assessed:
 - Noise and air pollution
 - Mineral reserves



- Contaminated land
- 3.3.3 The planning policy appraisal is presented in detail in Volume 2 of this study. The appraisal was used to generate the guiding criteria set out in Table 3.1 below.
- 3.3.4 The guiding criteria was then used as the basis for an assessment scoring system a Criteria Matrix as shown in Table 3.2. The matrix sets out the summary criteria against which each land parcel within the AoS has been assessed. The matrix uses a colour-coded, five-point classification to indicate the significance of the development constraint associated with each assessment theme.



Table 3.1: Criteria used to guide assessment

Theme	Criteria for assessment
Objective A: Avo	iding land with risks or constraints / protecting assets
Agriculture and land use	The extent to which development: - would lead to the loss of higher quality agricultural land - would impact detrimentally on the overall viability of farm enterprises
Biodiversity ⁵	The extent to which development would have an adverse impact on: internationally important sites (SPAs/SACs/cSACs/RAMSARs) nationally important sites (SSSIs/NNRs) regionally and locally important sites (SNCIs/RIGS/LNRs) ancient woodland or veteran trees the habitat of nationally protected species The opportunities for creating significant areas of new or enhanced habitat and/or provide habitat for protected species.
Built and cultural heritage	The extent to which development would have adverse impacts on: - protection of the WHS for future generations - parks or gardens of special historic interest - the character or appearance of Conservation Areas - the setting of Listed Buildings or any features of special architectural or historic interest which they possess - nationally important archaeological remains and their settings - sites of regional or county archaeological importance The opportunities which development of a site would provide for the enhanced interpretation of such features or artefacts.
Flood risk and drainage	The extent to which development would be at risk from flooding. The opportunities for significant mitigation of flood risk through design.

⁵ The Biodiversity criterion includes consideration of geodiversity and the impact of development on protected and important geological sites.



	The extent to which development would have significant and irreparable impacts on:
	- the conservation of the natural beauty of landscape and countryside
	- conserving and enhancing the character and natural beauty of the AONB and the Heritage Coast
Landscape	- the special qualities of Land of Local Landscape Importance
	- the distinctive character or integrity of green corridors
	- important views and the character, setting and identify of existing settlements
	The opportunity to enhance the overall character of existing settlements by the creation of more attractive development.
	The extent to which the development would have adverse impacts on:
Road networks	- the ability of the highway network to accommodate car-borne trips
	- the protection and enhancement of public rights of way environmental capacity of highway
	The extent to which development would have adverse impacts on:
Water resources	- groundwater source protection zones
	The extent to which development would conflict with:
	- consultation zones due to emissions from existing sewage handling facilities
Utility supply	- hazardous installations and pipeline consultation zones
	The ease with which development could satisfactorily be supplied with electricity, water, gas, telecommunications, sewerage infrastructure
Objective B: Prio	ritising areas of suitability or opportunity
Access to jobs	The extent to which development:
and services	- has good accessibility to, or could be provided with access to, jobs and services on foot and by bicycle, or by good public transport
Community infrastructure	The extent to which development would require the provision of expanded or new community facilities to service the needs of new residents
	The extent to which development could:
Social cohesion	- be satisfactorily integrated with the existing urban area
222.4. 0002.011	- facilitate the creation of communities of sufficient size and mix to justify the development of sustainable community infrastructure



Table 3.2: Criteria matrix

			Significance - Definition		
Theme	Decisive/critical	Significant	Notable	Neutral	Positive
Agriculture and land use	Not applicable.	Not applicable.	Area having improved agricultural grade land in comparison to that prevailing in the area.	Agricultural land grade equivalent to that prevailing in the area.	Land parcel incorporating brownfield land with potential for development.
Biodiversity	Unacceptable impact that cannot be mitigated.	Major impact requiring extensive (cost/time) mitigation measures.	Minor impacts that can be readily mitigated.	No significant impacts.	Opportunity to create or protect habitat.
Built and cultural heritage	Very high frequency of archaeological and built heritage designations, including Scheduled Ancient Monuments, that form an integral part of the wider archaeological/ historic landscape.	High frequency of built heritage, archaeological and landscape designations, including listed buildings, Conservation Areas and parkland.	Isolated built heritage and archaeological designations which have a wider landscape significance.	Little or no archaeological, built heritage or landscape designations with few barriers to integration with wider landscape and townscape.	Identification that urban extension could benefit/mend urban fringe.
Flood risk and drainage	Unacceptable flood risk impact that cannot be mitigated. Unfeasible to provide sustainable drainage.	Major impact on flood risk requiring extensive (cost/time) mitigation measures. Low feasibility of sustainable drainage provision.	Minor impacts that can be readily mitigated. Provision of sustainable drainage feasible.	No significant impacts.	Opportunity to reduce flood risk through improved drainage/land management.
Landscape	Unacceptable impact that cannot be mitigated.	Major impact requiring extensive (cost/time) mitigation measures. Area is wholly or partly within AONB.	Minor impacts that can be readily mitigated.	No significant impacts.	Major positive benefits.
Road networks	Impact of traffic from new development would render existing network severely inadequate and/or mitigation/improvements would have unacceptable impact on protected areas.	Impact of traffic from new development would render existing network significantly inadequate and/or improvements would have detrimental impact on protected areas.	Impact of traffic from new development would render existing network inadequate but suitable improvements are feasible/viable.	Impact of traffic would be within capacity of current network or planned improvements.	Good potential for making use of existing and planned highway network. Opportunity to help deliver wider infrastructure benefits.



			Significance - Definition		
Theme	Decisive/critical	Significant	Notable	Neutral	Positive
Water resources	Majority of land parcel is in the Inner Source Protection Zone (SPZ1) and drainage is dependent upon discharge to ground (discharge to watercourse not feasible).	Part of land parcel is in the Inner Source Protection Zone (SPZ1). Low feasibility of drainage to ground outside of the SPZ1 and/or to watercourse.	Land parcel partly or entirely within Outer or Catchment Protection Zones (SPZ2 or 3). Drainage by discharge to ground feasible provided that adequate protection measures included.	Land parcel unaffected by Source Protection Zones. Drainage by discharge to ground feasible provided that adequate protection measures included.	Land parcel unaffected by Source Protection Zones plus good potential for groundwater recharge through drainage discharge to ground.
Utility supply	Not applicable.	Existing utility infrastructure remote from site and/or of inadequate capacity. Significant issues (cost/time) identified with providing one or more utility supplies.	Existing networks remote from site and/or of inadequate capacity. Minor issues (cost/time) identified with providing one or more utility supplies.	Existing networks near land parcel and of adequate capacity. Infrastructure requirements limited to new local networks within land parcel.	Good potential for making use of existing and planned utility infrastructure. Opportunity to help deliver wider infrastructure benefits.
Access to jobs and services	Not applicable.	Site is distant from facilities/ non-car accessibility to facilities will be poor/difficult/expensive.	Site is poorly related to facilities, but improvements to non-car modes are feasible.	Existing pedestrian, cycle or public transport accessibility is adequate in terms of links and distances.	Site capitalises on superior accessibility to facilities. Opportunity to help deliver wider access benefits.
Community infrastructure	Not applicable.	Existing community facilities insufficient to accommodate demands of population growth, but significant investment can accommodate these needs.	Existing community facilities insufficient to accommodate demands of population growth, but modest changes can accommodate these needs.	Existing community facilities broadly adequate to accommodate demands of population growth.	Opportunity to deliver wider community infrastructure benefits.
Social cohesion	Not applicable.	Development is unrelated to/remote from existing urban area and/or there is low feasibility of providing integrated and sustainable community.	Development is poorly related to/ disconnected from existing urban area(s) and/or provision of integrated and sustainable community feasible.	Development is well- related/connected to existing urban area(s) and/or integration can be easily achieved.	Development provides the opportunity to improve the integration and connection between parts of the urban community.

Notes:

- Wessex Water's Southern Region has a surplus water yield hence security of water supply not included in the assessment of the Water Resources theme.

 Land within internationally designated sites has been screened from the Areas of Search Dorset & East Devon Coast World Heritage Site, Ramsar Sites, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).
- 3) Flood Risk Zones 2 and 3 has been screened from the Areas of Search.



3.4 Assessment results

3.4.1 The results of the assessment of development constraints are presented in the Assessment Matrix in Appendix A. Summary text - against each assessment theme, for each land parcel - describes the characteristics of the land parcels and the consequent constraints to the development of urban extensions on that land. The comments boxes are coloured to reflect the significance score that has been applied in each case:

critical

- 3.4.2 The colour scheme enables the reader to gain an overall impression of the relative suitability of each land parcel at a glance; the land parcels that possess greater constraints to development are those with a predominantly orange hue across the row. Similarly, the colouration of the matrix enables the identification of development themes that pose a common constraint across the Areas of Search shown as columns that have a predominantly orange hue.
- 3.4.3 It is recommended that the Assessment Matrix and summary information below is read in conjunction with the assessment data in Section 2 of Volume 2, which presents the evidence base and reasoning for the assessment methodology and results, on a theme by theme basis.

Dorchester

- 3.4.4 The predominantly agricultural land within the Dorchester AoS is generally of a moderate grade and with generally few nature conservation constraints. The most significant biodiversity constraints identified are the existing farmland bird populations in the south west and north/north eastern areas. Parts of the southern and eastern areas are also within the 5km buffer zone of the internationally protected Dorset Heathlands, which could suffer adverse impacts as a consequence of the increased recreational pressures associated with significant urban extension. It would be important for development proposals to consider the need to provide mitigation by creating alternative recreational space.
- 3.4.5 The majority of land is classified as having a low risk of flooding, although land parcels adjacent to the higher risk flood zones of the Frome and Cerne rivers may require additional buffer zones to allow for future increases in flood risk due to climate change. Land immediately south of Dorchester may have an elevated flood risk given the historical records of surface water flooding in the Castle Park area.
- 3.4.6 Although the majority of the land parcels appear to have suitable conditions for the provision of sustainable drainage, some areas of land to the north of the Frome plain and to the south west of the town are within the inner protection zones of groundwater sources. Sustainable drainage is likely to be more difficult to provide in these areas given the restrictions imposed on infiltration drainage.
- 3.4.7 The surroundings of Dorchester feature a rich archaeological record including several Scheduled Ancient Monuments and Conservation Areas, which must be protected and thus could constrain the extent of development in some areas.



Maiden Castle in the south west and Mount Pleasant in the south east are considered to present critical constraints to development in the adjacent land parcels.

- 3.4.8 In association with the sensitive built and cultural heritage, the landscape assessment identified several locations where the impact of development upon the existing landscape was considered critical, notably at Maiden Castle, the South Winterbourne Valley and the Frome floodplain.
- 3.4.9 The most significant constraint to an urban extension to Dorchester is the critical capacity of the existing strategic road network. The assessment has identified the need for significant investment in the network in order to accommodate even modest levels of development. Other infrastructure constraints include the limited capacity of the existing electrical distribution network and the sewage treatment works and

Littlemoor

- 3.4.10 In comparison to the Dorchester and Chickerell areas, the Littlemoor Area of Search has presented limited development constraints, with no critical or significant issues identified.
- 3.4.11 The land is generally of common agricultural grade and appears to have few nature conservation constraints. There are no notable sources of flood risk and sustainable drainage appears feasible, particularly given the absence of any groundwater source protection zones.
- 3.4.12 Although the Littlemoor AoS is located within Dorset AONB, the landscape assessment judged that development could be provided without major impact on the existing landscape character.
- 3.4.13 Development at Littlemoor could indirectly impact on the strategic road network to the north, which is already operating at or very close to capacity. It would be essential for development proposals to include sustainable transport measures to manage demand for car journeys.
- 3.4.14 Fortunately the Littlemoor AoS is located in easy walking and cycling distance of the community facilities and services at the existing Littlemoor settlement. In addition, there is potential to provide good access via rail and bus services to Weymouth, Dorchester and further afield. The development could form a coherent urban area with Littlemoor to the south and Upwey and Broadwey to the west. Its position between Weymouth town centre and Dorchester, close to the A354 and Upwey rail station, could make it a convenient place to commute from. This better accessibility may not, however, be in line with the RSS approach to foster greater self-containment within the two towns.

Chickerell

- 3.4.15 The Chickerell AoS is consistently of a common agricultural land grade and absent of groundwater source protection zones.
- 3.4.16 Critical and significant constraints to development within the AoS are presented by the proximity of the internationally important Fleet and Chesil Beach designated sites. The landscape assessment judged that development of the southern and western land parcels would have an unacceptable impact on



- the landscape setting of Chesil Beach, which the elevated land parcels overlook. Development in such close proximity to the Fleet and Chesil Beach sites is also of significant concern due to the potential negative impacts of increased recreational use and the water quality of drainage discharges.
- 3.4.17 The biodiversity assessment noted critical development constraints presented by the existence of protected great-crested newt populations at and surrounding Crookhill SSSI/SAC site to the west of Chickerell. The area is also generally known to support good populations of barn owls and bats.
- 3.4.18 Similar to Littlemoor, significant development at Chickerell could indirectly impact on the strategic road network to the north, which is already operating at or very close to capacity. It would be essential for development proposals to include sustainable transport measures to manage demand for car journeys.
- 3.4.19 Although the AoS is located approximately 4km from Weymouth town centre, the majority of the area is within reasonable walking and cycling distances of Chickerell village centre, and supported by some existing bus services. Development within the AoS could form a coherent urban area with Chickerell Village and/or Weymouth's existing urban area.

3.5 Suitability of land

- 3.5.1 The land parcels in the Dorchester and Chickerell AoS that have one or more criteria assessed as a decisive/critical issue are shown shaded red in Figures 3.1 and 3.3 overleaf. These 'red' land parcels are considered to be unsuitable for the development of urban extensions and are not considered any further in this study.
- 3.5.2 The 'residual' land parcels, i.e. those that do not have any decisive/critical criteria, are shown shaded in green in Figures 3.1, 3.2 and 3.3 overleaf. These residual land parcels are assessed as potentially suitable for the development of urban extensions.



Figure 3.1: Dorchester Area of Search (AoS) showing assessment results

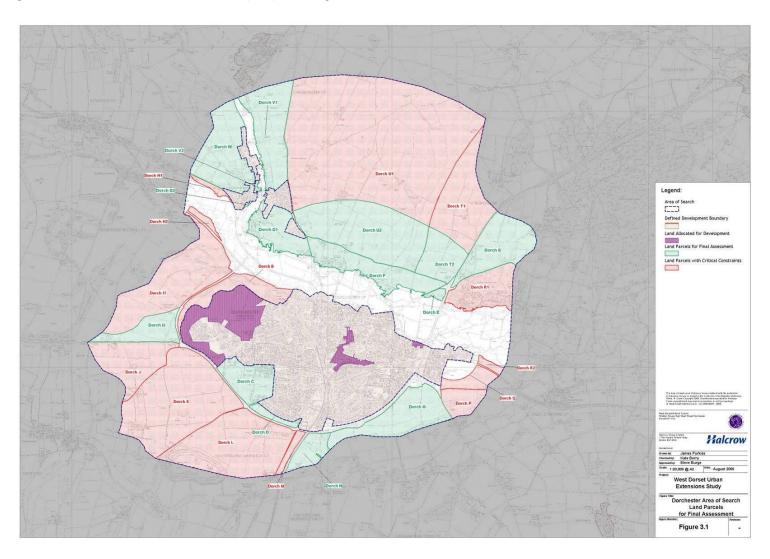




Figure 3.2: Littlemoor Area of Search (AoS) showing assessment results

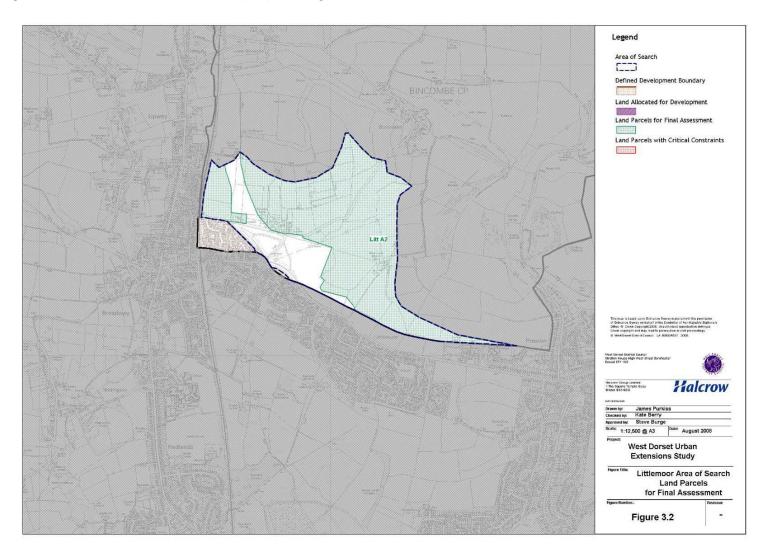
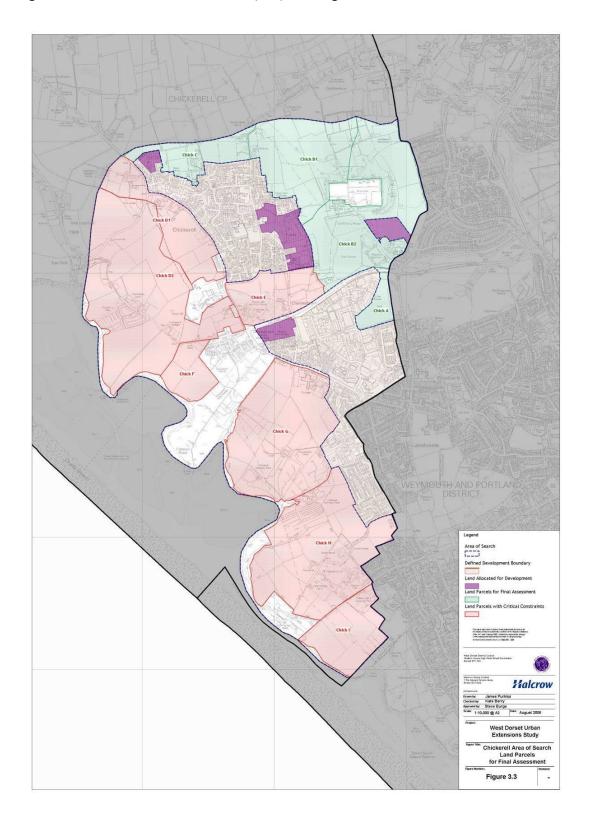




Figure 3.3: Chickerell Area of Search (AoS) showing assessment results





3.6 Development options

- 3.6.1 The assessment results were reviewed in consultation with the Steering Group for the Study (see Section 1.1.2), giving consideration to the key and common constraints to development discussed above. Several groupings of the residual land parcels stood out as being closely related spatially and in addition some groupings clearly had shared highway infrastructure requirements.
- 3.6.2 On this basis the following eight urban extension development options were identified for further assessment:
 - a) Dorchester: Development to north
 Development of land parcels E, F, T2 and U2.
 - b) Dorchester: Development to south east Development of land parcels N and O.
 - c) Dorchester: Combination of options a) and b)

 Development of land parcels E, F, N, O, T2 and U2.
 - d) Dorchester: Development at Charminster
 Development of land parcels G1, G2, V1, V2 and W.
 - e) Dorchester: Development to west

 Development of land parcel 12.
 - f) Weymouth: Development at Littlemoor
 Development of land parcels A and B.
 - g) Weymouth: Development at Chickerell Development of land parcels A, B1, B2 and C.
 - h) Weymouth: Development of 700 dwellings at Chickerell Development of either land parcels A and B2 or B1 and C.
- 3.6.3 Each development option is represented graphically in Figures 3.4 to 3.11 overleaf. The key strategic infrastructure required to deliver each of the development options is presented in Section 4.5.



Figure 3.4: Development option a) Dorchester: Development to north

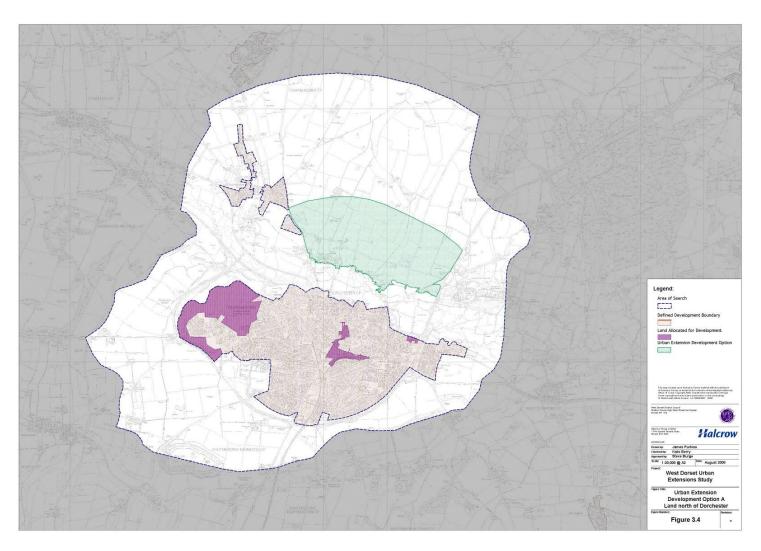




Figure 3.5: Development option b) Dorchester: Development to south east

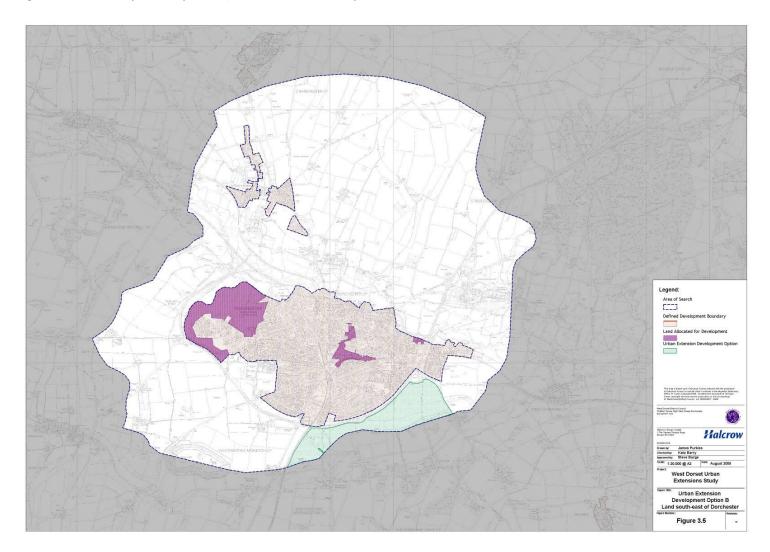




Figure 3.6: Development option c) Dorchester: Combination of options a) and b)





Figure 3.7: Development option d) Dorchester: Development at Charminster

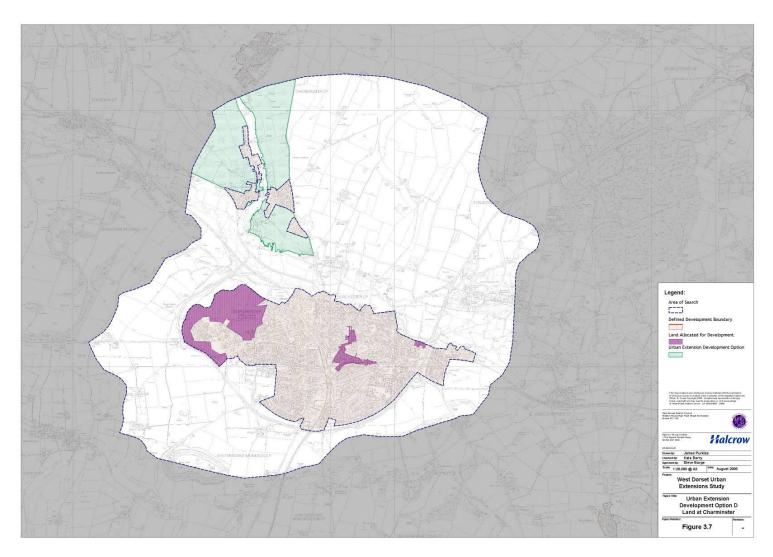




Figure 3.8: Development option e) Dorchester: Development to west

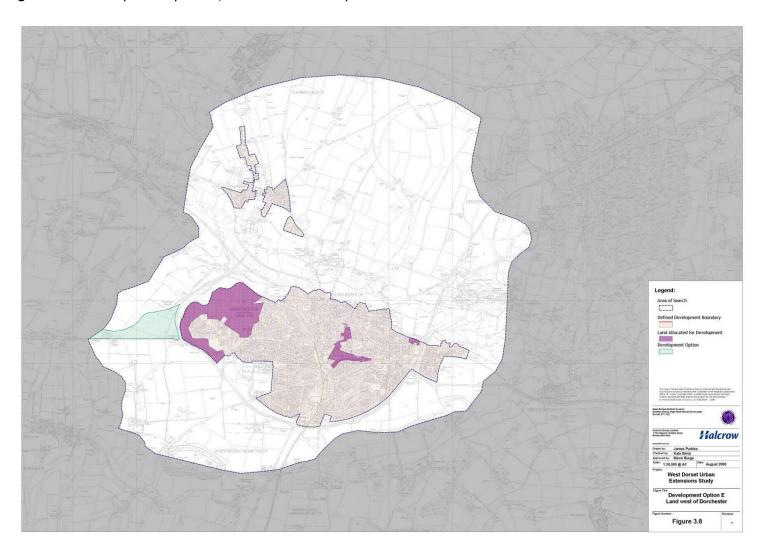




Figure 3.9: Development option f) Weymouth: Development at Littlemoor

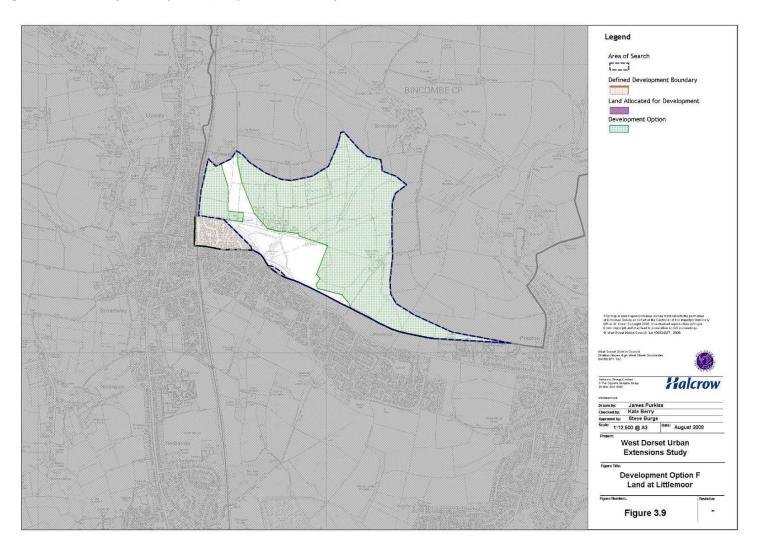




Figure 3.10: Development option g) Weymouth: Development at Chickerell

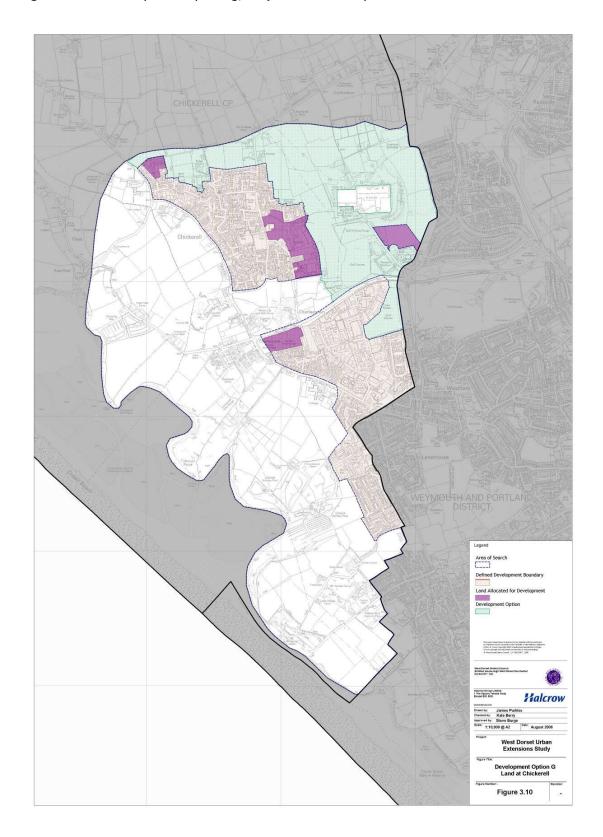
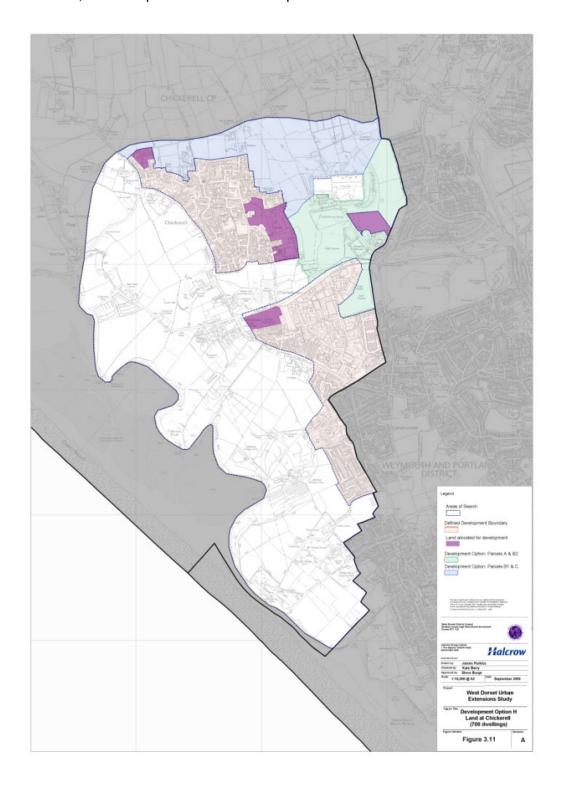




Figure 3.11: Development option h) Weymouth: Development of 700 dwelllings at Chickerell, either at parcels A and B2 or at parcels B1 and C.







4 Economic appraisal

4.1 Introduction

4.1.1 This chapter tests whether the development options for the West Dorset urban extensions - identified by the constraints assessment in Section 3 - are likely to be deliverable and viable within the timeframe of the Regional Spatial Strategy (RSS). The deliverability assessment (Section 4.5) examines the relationship between the key strategic infrastructure thresholds and the resultant housing capacity of development, over the period of the RSS timescale. The viability assessment (Section 4.6) progresses the threshold analysis data, using a simplified net present value (npv) model to give an indication of the viability of the development options.

4.2 Housing requirements

- 4.2.1 The following assumptions have been made in order to assess the housing capacity (number of dwellings) of the selected land parcels and the urban extension development options:
 - Two-thirds (66%) of the total land parcel area is developable for housing
 - Average housing density of 40 dwellings per hectare
- 4.2.2 Information on the predicted types of dwellings required for the area have been taken from the draft Strategic Housing Market (SHM) Assessment for the Dorchester & Weymouth Housing Market Area (HMA)[Dorset Housing Market Area Partnership 2008]. This indicated a need for:
 - family housing in towns where job creation will be highest, particularly in Dorchester;
 - small dwellings in all areas; and
 - adaptable/lifetime dwellings to cater for the ageing population across the area.
- 4.2.3 The SHM Assessment indicated the following distribution of housing sizes would be required for the HMA as a whole:
 - 17.9% 1 bedroom dwellings;
 - 58.2% 2 bedroom dwellings; and
 - 23.9% 3 or more bedroom dwellings [ibid.]
- 4.2.4 Table 4.1 shows the estimated development capacity calculated for each of the selected land parcels and each development option based upon the assumptions and predicted types of dwelling described above.



Table 4.1: Dwelling capacity of selected land parcels and development options

			Estimated capaci	ty (No. of dwellin	gs)
Parcel Reference	Size (ha)	Takal		of which:	
		Total	1 bedroom	2 bedrooms	≥ 3 bedrooms
Dorchester					
E	4	100	18	58	24
F	66	1745	312	1016	417
G1	43	1146	205	667	274
G2	0.5	13	2	8	3
12	37	969	173	564	232
N	24	628	112	366	150
0	74	1956	350	1139	468
T2	43	1122	201	653	268
U2	147	3891	714	2321	953
V1	80	2133	382	1241	510
V2	1	32	6	18	8
W	83	2183	391	1271	522
Littlemoor					
Α	7	187	34	109	45
В	80	2123	380	1235	507
Chickerell					
Α	7	172	31	100	41
B1	43	1122	201	653	268
B2	60	1595	285	928	381
С	17	449	80	261	107
Developmen	t options				
Α	260	6858	1245	4048	1662
В	98	2585	463	1504	618
С	358	9443	1708	5553	2280
D	208	5507	986	3205	1316
Е	37	969	173	564	232
F	87	2310	413	1344	552
G	127	3337	597	1942	798
Н	65	700	125	407	167

4.3 Rate of house building

- 4.3.1 A review of house building rates in Dorchester between 2003 and 2008 indicated an annual average of 161 dwellings per year, within which the Poundbury development averaged 114 dwellings per year. The total number of dwellings completed in Dorchester in 2007/08 was 111 dwellings against a target of 230 completions. The 7000 dwellings proposed at Dorchester by the Panel Report would require a house building rate of 350 completions per year, a very significant increase on current completion rates.
- 4.3.2 The average rate of house building likely to be achieved for a West Dorset urban extension development is estimated to be 150 dwellings per year, based



upon the historical building rates in Dorchester and consultation with the study's Steering Group. The rate of house building is assumed to have a reduced rate of completions in the first three years and last three years of construction, for example:

Year	1	2	3	4	5	6	7	8	9	10	11	12
No. of dwellings	40	80	120	150	150	150	150	150	150	120	80	40

4.4 Strategic infrastructure requirements

4.4.1 The strategic infrastructure required to deliver each of the development options has been estimated from the assessment of development constraints and from consultation with stakeholders. The key strategic infrastructure items are listed in Tables 4A to 4H in Section 4.5 below.

4.5 Deliverability assessment - threshold analysis

- 4.5.1 The relationship between the cost and phasing of strategic infrastructure and the resultant housing capacity released is represented graphically by plotting the two values over the timescale of the Regional Spatial Strategy. The graph produced demonstrates:
 - The scale of capital investment in key infrastructure that is required.
 - The housing capacity likely to be achieved as a consequence of the investment.
 - The likely phasing constraints associated with key infrastructure.
 - The constraints to housing capacity as a consequence of infrastructure phasing.
- 4.5.2 A development threshold graph for each of the development options is presented in Figures 4A to 4H below.
- 4.5.3 The following assumptions have been made in order to assess the development thresholds in terms of the phasing and dwelling capacity of the development options:
 - Strategic road network and access infrastructure must be operational prior to commencement of housing development (this requirement was identified through consultation with the Highways Agency).
 - Strategic utility network infrastructure is developed in-phase with housing construction.
 - Strategic community infrastructure is developed in-phase with housing construction.
 - The capital cost of an item of strategic infrastructure is distributed uniformly across the implementation period for that item.



- House-building will progress at an average rate of 150 dwellings per year, with a reduced rate of completions in the first three years and last three years of construction (see Section 4.3.2).
- Where there are no other programme constraints, construction will start in 2013, allowing a period of 4 years between the publication of the Regional Spatial Strategy (assumed end 2008) and the commencement of urban extension housing construction.
- 4.5.4 In the following pages, the key infrastructure requirements for each development option are listed in tabular format and are each accompanied by a development threshold graph.
- 4.5.5 Development Options A, C & D have potential ultimate capacities that exceed the Dorchester urban extension proposed target of 3000 dwellings, whilst Development Options E & F exceed the Weymouth urban extension proposed target of 700 dwellings. For each of these five Development Options, the tables below include estimated infrastructure costs for both:
 - development limited to the urban extension target; and
 - development up to the ultimate potential dwelling capacity.
- 4.5.6 The development threshold graphs present the costs and phasing associated with the ultimate capacities of the development options.
- 4.5.7 The capital costs indicated in the tables are indicative only and do not include an uplift adjustment for Optimism Bias. The purpose of the cost information is to give an indication of the *scale* of strategic investment required, and is not to provide detailed and final cost estimates upon which investment decisions could be made. Optimism bias uplift has not been applied to the cost data in order to retain clear baseline information to which optimism bias and contingency can be applied as required.
- 4.5.8 To give an indicator of the likely impact of Optimism bias, reference is made to the Supplementary Green Book Guidance published by HM Treasury. The guidance recommends upper bound adjustment percentages at the outline appraisal stage for generic project categories as follows:
 - Standard buildings 24%
 - Non-standard buildings 51%
 - Standard civil engineering 44%
 - Non-standard civil engineering 66%
 - Equipment/development 200%
- 4.5.9 Thus it can be seen that a variable rate of percentage uplift should be applied dependent on the type and complexity of each infrastructure item concerned. It is important to note that this study is at an earlier stage of appraisal than the outline appraisal guidance above, hence it is likely that even higher optimism bias percentage adjustments would be appropriate.
- 4.5.10 A summary of the development threshold analysis results is presented in Table 4.2 overleaf.



Table 4.2: Summary of Development Threshold Analysis Results

	Total investment in	Nun	nber of dwellin	ngs	RSS Taregt met? (Y/N)	Completion rate required to meet	Key programme constraint
Option	key strategic infrastructure ^{1&2}	RSS Target	Capacity of option	Completed by 2026	If so, when? (Year)	RSS Target (dwellings/year)	
Α	£229m	3000	6858	990	N	465	Road network infrastructure
В	£121m	3000	2585	1740	N	n/a	Road network infrastructure
С	£353m	3000	9443	990	N	465	Road network infrastructure
D	£217m	3000	5507	990	N	465	Road network infrastructure
E	£99m	3000	969	969	N	n/a	Road network infrastructure
F	£22m	700	2310	1890	Y (2019)	-	Planning policy and permission
G	£31m	700	3337	1740	Y (2020)	-	Road network infrastructure
Н	£12m	700	700	700	Y (2020)	-	Road network infrastructure

Infrastructure costs associated with delivering the ultimate dwelling capacity of the option, which in some cases is a greater number of dwellings than the RSS target. Estimated costs are indicative and do not include an uplift adjustment for Optimism Bias.



Table 4A: Development Option A - Key strategic infrastructure required to deliver development

Development Option A	Dorchester Urban Extension: Northern Area Land parcels: E, F, T2, U2	Potential de	evelopment ca	pacity = 6858 dwellings		
Strategic			ost		Implementa-	
infrastructure	Requirement for development	3000 dwellings	6858 dwellings	Phasing requirements	tion time (years)	
Road network	New northern bypass road - single carriageway with junctions at each end (grade separated at eastern end). 2No. roundabout junctions to provide access to development Major upgrade to Monkeys Jump roundabout Dual the A35 between junction with new bypass and Yellowham Hill.	£90m £10m £6m £30m	£90m £10m £6m £30m	Operational prior to housing development	10	
Water	Extensive upgrading of trunk main network with provision of storage reservoir to satisfy increased demand - WW unable to scope without detailed appraisal and network modelling.	£4.5m ¹	£10.3m	Phased with development	5	
Wastewater	Approx. 1500metres of new connecting sewer to Dorchester STW, potentially with over-sizing to accommodate further phased development westwards towards Charminster. Moderate investment in process improvements at existing STW.		£1.2m³ £2.5m³	Phased with housing development Trigger of 1500 dwellings ²	3 5	
Electricity	Significant upgrade of supply network - likely to include extension and reinforcement of 33kV network and provision of new major substation.		£9.6m ⁴	Phased with development	3	
Gas	None specified - requirements subject to economic appraisal by network operator. Assume as a minimum a new 1200m connection to existing supply mains.	£0.4m ⁵	£0.4m ⁵	Phased with development	3	
Health services	1 No. GP surgery & 1 No. Dental surgery Community hospital facilities ⁶ 2 No. GP surgeries & 2 No. Dental surgeries Community hospital facilities ⁶	£3m £0.9m	£6m £2m	Phased with development	3	
Education	2 No. First Schools, 1 No. Middle School & extension to Upper School 4 No. First Schools, 2 No. Middle School & Extend/Re-organise Upper School provision	£17.2m ⁸	£39.3m ⁸	Phased with development	3	
Waste and recycling	New Household Recycling Centre	£2.5m	£2.5m	Phased with development	3	
Leisure and recreation	New Leisure Centre plus contribution to arts and culture (including library facilities)	£15m	£15m	Phased with development	3	
Access/ connectivity	Multiple good quality pedestrian and cycle links to existing urban area Substantial public transport provision - bus services ⁷	£3m £1.3m	£3m £1.3m	Operational prior to housing development	2	
	Total	£191.4m	£229.1m			

- 1) Wessex Water guidance indicates water supply infrastructure costs of between £1000 and £2000 per dwelling given the scale of infrastructure required assume £1500 per dwelling.

 2) Dorchester STW could accommodate circa 3000 additional dwellings (Dorchester-wide) within existing capacity. A moderate level of investment could accommodate a further 5000 dwellings. Development beyond 8000 dwellings would require major investment programme. Investment costs not provided by Wessex Water at this stage.
- Waste water costs estimated as £2.5m for moderate investment in STW. New connection = £400/metre. New pumping station = £0.3m.
- 4) Electricity upgrade costs estimated as £1400 per dwelling, derived from an estimate of £7m strategic upgrade to serve an additional 5000 dwellings.
 5) Gas costs connections less than 1km assume cost covered by supplier. Connections greater than 1km assume cost of £250 per metre.
- Contribution to Community Hospital Facilities assumed as £300/dwelling.
- Bus provision: frequent shuttle service throughout the day, 6 days per week for 5 years at £250k/year.
- 8) Cost of Education facilities estimated as £5736 per dwelling by Dorset County Council.



Figure 4.A: Development Option A - Development Threshold Graph

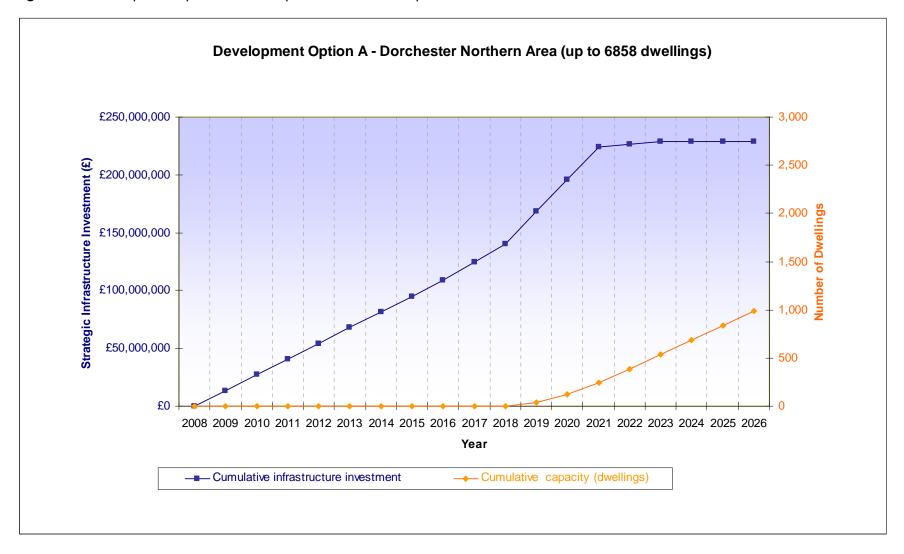




Table 4B: Development Option B - Key strategic infrastructure required to deliver development

Development Option B	Dorchester Urban Extension: South east area Land parcels: N, O	Potential de	evelopment capacity = 2585	dwellings
Strategic infrastructure	Requirement for development	Estimated cost	Phasing requirements	Implementa- tion time (years)
Road network	Distributor road between A354 and A352 (including railway crossing east of A354) Dual the A35 between Stinsford and Yellowham Hill Major junction improvement at Max Gate	£12m £50m £10m	Operational prior to housing development	5
Water	Local connections to and upgrading of existing trunk main network - WW unable to scope without detailed appraisal and network modelling.	£1.9m ¹	Phased with development	2
Wastewater	Approx. 700metres of new connecting sewer direct to Dorchester STW. Moderate investment in process improvements at existing STW.	£0.6m³ £2.5m³	Phased with development Trigger of 1500 dwellings ²	3 5
Electricity	Significant upgrade of supply network - likely to include extension and reinforcement of 33kV network and provision of new major substation.		Phased with development	3
Gas	None specified - requirements subject to economic appraisal by network operator. Assume new connection less than 1km therefore costs covered by network operator.	-	-	-
Health services	1 No. GP surgery 1 No. Dental surgery Community hospital facilities ⁵	£1.5m £1.5m £0.8m ⁵	Phased with development	3
Education	2 No. First Schools, 1 No. Middle School & Extend Upper School	£14.8m ⁷	Phased with development	3
Waste and recycling	New Household Recycling Centre	£2.5m	Phased with development	3
Leisure and recreation	New Leisure Centre plus contribution to arts and culture (including library facilities)	£15m	Phased with development	3
Access/ connectivity	Good quality pedestrian and cycle links to existing Dorchester urban area Enhancement of public transport ⁶	£3m £1.3m ⁶	Operational prior to housing development	2
	Total	£121m		

- 1. Wessex Water guidance indicates water supply infrastructure costs of between £500 and £1000 per dwelling, given the scale of infrastructure required assume £750 per dwelling.

 2. Dorchester STW could accommodate circa 3000 additional dwellings (Dorchester-wide) within existing capacity. A moderate level of investment could accommodate a further 5000 dwellings. Development beyond 8000 dwellings would require major investment programme. Investment costs not provided by Wessex Water at this stage.

 3. Waste water costs estimated as £2.5m for moderate investment in STW. New connection = £400/metre. New pumping station = £0.3m.

 4. Electricity upgrade costs estimated as £1400 per dwelling, derived from an estimate of £7m strategic upgrade to serve an additional 5000 dwellings.

- Contribution to Community Hospital Facilities assumed as £300/dwelling.
- Bus provision: frequent shuttle service throughout the day, 6 days per week for 5 years at £250k/year. Cost of Education facilities estimated as £5736 per dwelling by Dorset County Council.



Figure 4.B: Development Option B - Development Threshold Graph

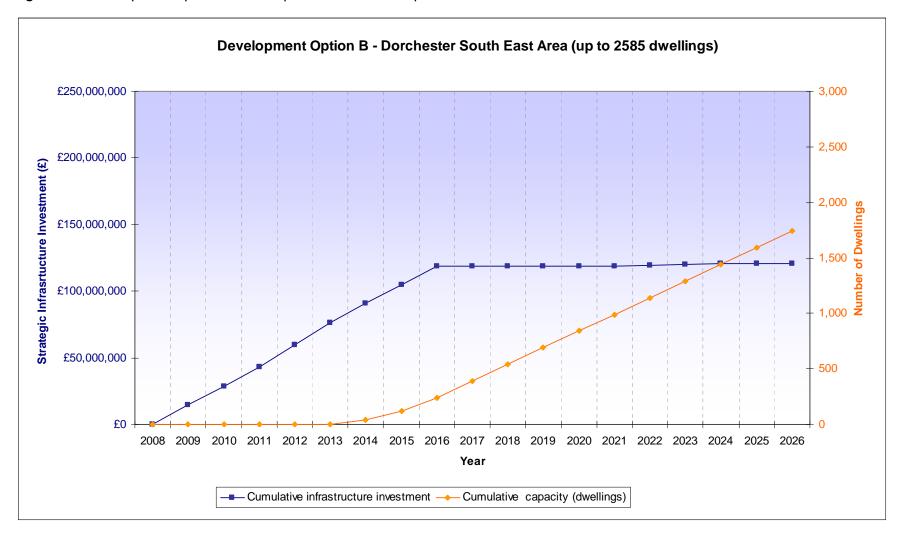




Table 4C: Development Option C - Key strategic infrastructure required to deliver development

Development Option C	Dorchester Urban Extension: Options A Land parcels: E, F, N, O, T2, U2	& B combined	Potential de	evelopment ca	pacity = 9443 dwellings	
·			Estimated c	ost		Implemen
Strategic infrastructure	Requirement for development		3000 dwellings	9443 dwellings	Phasing requirements	ta- tion time (years)
Road network	New northern bypass trunk road (Dual carriage 2No. roundabout junctions to provide access to Major upgrade to Monkeys Jump junction De-trunk existing A35 southern bypass Trunk the A37 between Weirs Roundabout and Dual the A35 between junction with new bypas	development Monkey's Jump	£150m £10m £6m £5m £20m £30m	£150m £10m £6m £5m £20m £30m	Operational prior to housing development	10
Water		h provision of storage reservoir to satisfy increased f existing trunk main network - WW unable to scope without	£4.5m ¹	£14.2m ¹	Phased with development	5
Wastewater	accommodate further phased development we	Approx. 2200metres of new connecting sewer to Dorchester STW, potentially with over-sizing to accommodate further phased development westwards towards Charminster. Moderate to major investment in process improvements at existing STW.		£1.8m £10m³	Phased with development Triggers of 1500 and 8000 dwellings ²	3 5
Electricity	Significant upgrade of supply network - likely t provision of new major substation.	Significant upgrade of supply network - likely to include extension and reinforcement of 33kV network and provision of new major substation.		£13.2m ⁴	Phased with development	3
Gas	None specified - requirements subject to econo a new 1200m connection to existing supply mai	omic appraisal by network operator. Assume as a minimum ins.	£0.4m	£0.4m	Phased with development	3
Health services	1 No. GP surgery & 1 No. Dental surgery Community hospital facilities ⁶	3 No. GP surgeries & 3 No. Dental surgeries Community hospital facilities ⁶	£3m £0.9m ⁶	£9m £2.8m ⁶	Phased with development	3
Education	2 No. First Schools, 1 No. Middle School & Extend Upper School	6 No. First Schools, 3 No. Middle Schools & Extend/Reorganise Upper School provision	£17.2m ⁸	£54.2m ⁸	Phased with development	3
Waste and recycling	New Household Recycling Centre		£2.5m	£2.5m	Phased with development	3
Leisure and recreation	New Leisure Centre plus contribution to arts ar	nd culture (including library facilities)	£15m	£15m	Phased with development	3
Access/ connectivity	Multiple good quality pedestrian and cycle link Substantial public transport provision - bus sen		£6m £2.6m	£6m £2.6m	Operational prior to housing development	2
		Total	£281.3m	£352.7m		

- Wessex Water guidance indicates water supply infrastructure costs of between £1000 and £2000 per dwelling, given the scale of infrastructure required assume £1500 per dwelling.
- Dorchester STW could accommodate circa 3000 additional dwellings (Dorchester-wide) within existing capacity. A moderate level of investment could accommodate a further 5000 dwellings. Development beyond 8000 dwellings would require major investment programme. Investment costs not provided by Wessex Water at this stage.
- Waste water costs estimated as £2.5m for moderate investment in STW. New connection = £400/metre. New pumping station = £0.3m. Electricity upgrade costs estimated as £1400 per dwelling, derived from an estimate of £7m strategic upgrade to serve an additional 5000 dwellings.
- Gas costs connections less than 1km assume cost covered by supplier. Connections greater than 1km assume cost of £250 per metre.
- Contribution to Community Hospital Facilities assumed as £300/dwelling.
- Bus provision: frequent shuttle service throughout the day, 6 days per week for 5 years at £250k/year.
- Cost of Education facilities estimated as £5736 per dwelling by Dorset County Council.



Figure 4.C: Development Option C - Development Threshold Graph

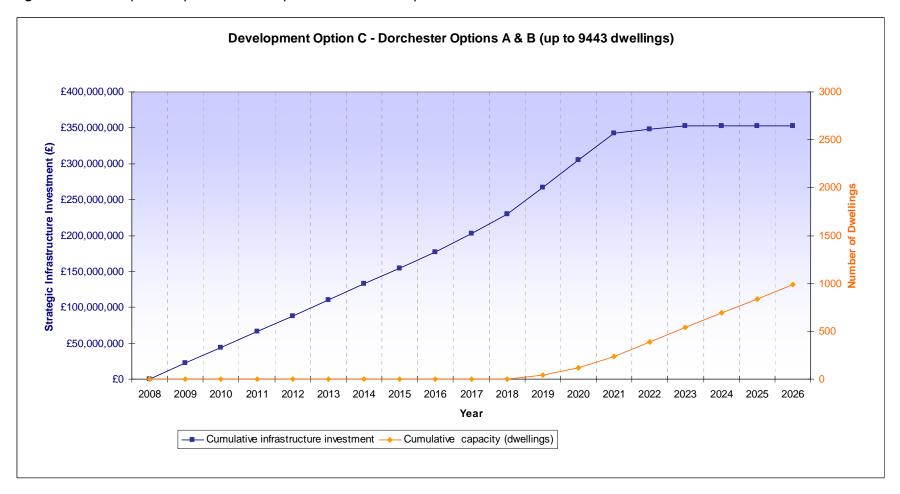




Table 4D: Development Option D - Key strategic infrastructure required to deliver development

Development Option D	Dorchester Urban Extension: Charminsto Land parcels: G1, G2, V1, V2, W	er	Potential de	evelopment ca	pacity = 5507 dwellings	
			Estimated cost			Implemen
Strategic infrastructure	Requirement for development		3000 dwellings	5507 dwellings	Phasing requirements	tation time (years)
Road network	New northern bypass road - single carriag at eastern end). 2No. roundabout junctions to provide acc Major upgrade to Monkeys Jump roundabo Dual the A35 between junction with new	out .	£90m £10m £6m £30m	£90m £10m £6m £30m	Operational prior to housing development	10
Water	Extend and upgrade trunk main - WW unable to scope without detailed appraisal and network modelling.		£3m ¹	£5.5m ¹	Phased with development	3
Wastewater	Approx. 2500metres of new connecting sewer to Dorchester STW. Moderate investment in process improvements at existing STW.		£1.6m³ £2.5m³	£1.6m³ £2.5m³	Phased with development Trigger of 1500 dwellings ²	3 5
Electricity	Significant upgrade of supply network - likely to include extension and reinforcement of 33kV network and provision of new major substation.		£4.2m ⁴	£7.7m ⁴	Phased with development	3
Gas	None specified - requirements subject to new connection less than 1km therefore c	economic appraisal by network operator. Assume costs covered by network operator ⁵ .	-	-	-	-
Health services	1 No. GP surgery & 1 No. Dental surgery Community hospital facilities ⁶	2 No. GP surgeries & 2 No. Dental surgeries Community hospital facilities ⁶	£3m £0.9m	£6m £1.7m	Phased with development	3
Education	2 No. First Schools, 1 No. Middle School & Extend Upper School	4 No. First Schools, 2 No. Middle Schools & Extend/Re-organise Upper School provision	£17.2m ⁸	£31.6m ⁸	Phased with development	3
Waste and recycling	New Household Recycling Centre		£2.5m	£2.5m	Phased with development	3
Leisure and recreation	New Leisure Centre plus contribution to a	rts and culture (including library facilities)	£15m	£15m	Phased with development	3
Access/ connectivity	Multiple good quality pedestrian and cycle Substantial public transport provision - bu N.B. Usage of non-car modes likely to be	s services ⁷	£4m £2.6m	£4m £2.6m	Operational prior to housing development	2
		Total	£192.5m	£216.7m		

- Wessex Water guidance indicates water supply infrastructure costs of £1000 per dwelling, given the scale of infrastructure required.

 Dorchester STW could accommodate circa 3000 additional dwellings (Dorchester-wide) within existing capacity. A moderate level of investment could accommodate a further 5000 dwellings. Development beyond 8000 dwellings would require major investment programme. Investment costs not provided by Wessex Water at this stage.
- Waste water costs estimated as £2.5m for moderate investment in STW. New connection = £400/metre. New pumping station = £0.3m.
- Electricity upgrade costs estimated as £1400 per dwelling, derived from an estimate of £7m strategic upgrade to serve an additional 5000 dwellings.
- Gas costs connections less than 1km assume cost covered by supplier. Connections greater than 1km assume cost of £250 per metre.
- Contribution to Community Hospital Facilities assumed as £300/dwelling.
- Bus provision: frequent shuttle services throughout the day, 6 days per week for 5 years at £500k/year.
- Cost of Education facilities estimated as £5736 per dwelling by Dorset County Council.



Figure 4.D: Development Option D - Development Threshold Graph

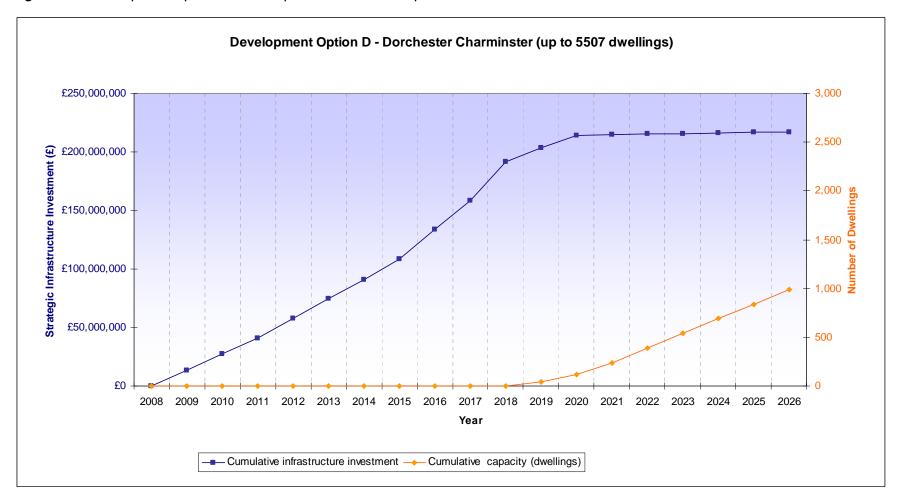




Table 4E: Development Option E - Key strategic infrastructure required to deliver development

Development Option E	Dorchester Urban Extension: West Land parcels: 12	Potential de	evelopment capacity = 969 d	wellings
Strategic infrastructure	Requirement for development	Estimated cost	Phasing requirements	Implementa- tion time (years)
Road network	Major junction improvement at Monkey's Jump Roundabout Trunk road junction improvements at Stinsford and Stadium roundabouts Dual the A35 between Stinsford and Yellowham Hill	£6m £10m £50m	Operational prior to housing development	5
Water	Local connection to existing trunk main in A37.	£0.5m ¹	Phased with development	1
Wastewater	Connection through Poundbury development - selected upsizing or duplicate sewers to provide capacity through Dorchester town centre.	£0.5m ²⁶³	Phased with development	3
Electricity	Significant upgrade of supply network - likely to include extension and reinforcement of 33kV network.	£1.4m ⁴	Phased with development	3
Gas	None specified - requirements subject to economic appraisal by network operator. Assume new connection less than 1km therefore costs covered by network operator ⁵ .	-	-	-
Health services	1 No. GP surgery 1 No. Dental surgery Community hospital facilities ⁶	£1.5m £1.5m £0.3m ⁶	Phased with development	3
Education	1 No. First School, 1 No. Middle School & Extension to Upper School	£5.6m ⁸	Phased with development	3
Waste and recycling	New Household Recycling Centre	£2.5m	Phased with development	3
Leisure and recreation	New Leisure Centre plus contribution to arts and culture (including library facilities)	£15m	Phased with development	3
Access/ connectivity	Good quality pedestrian and cycle links to existing Dorchester urban area Public transport provision - bus services ⁷ N.B. Usage of non-car modes may be limited by the distance from Dorchester	£3m £1.3m	Operational prior to housing development	2
	Total	£99.1m		

1) Wessex Water guidance indicates water supply infrastructure costs of £500 per dwelling, given the scale of infrastructure required.

Dorchester STW could accommodate circa 3000 additional dwellings (Dorchester-wide) within existing capacity. A moderate level of investment could accommodate a further 5000 dwellings. Development beyond 8000 dwellings would require major investment programme. Investment costs not provided by Wessex Water at this stage.

Waste water new connection = £400/metre. New pumping station = £0.3m.
Electricity upgrade costs estimated as £1400 per dwelling, derived from an estimate of £7m strategic upgrade to serve an additional 5000 dwellings.

Gas costs - connections less than 1km assume cost covered by supplier. Connections greater than 1km assume cost of £250 per metre.

Contribution to Community Hospital Facilities assumed as £300/dwelling.

Bus provision: frequent shuttle services throughout the day, 6 days per week for 5 years at £250k/year. Cost of Education facilities estimated as £5736 per dwelling by Dorset County Council.



Figure 4.E: Development Option E - Development Threshold Graph

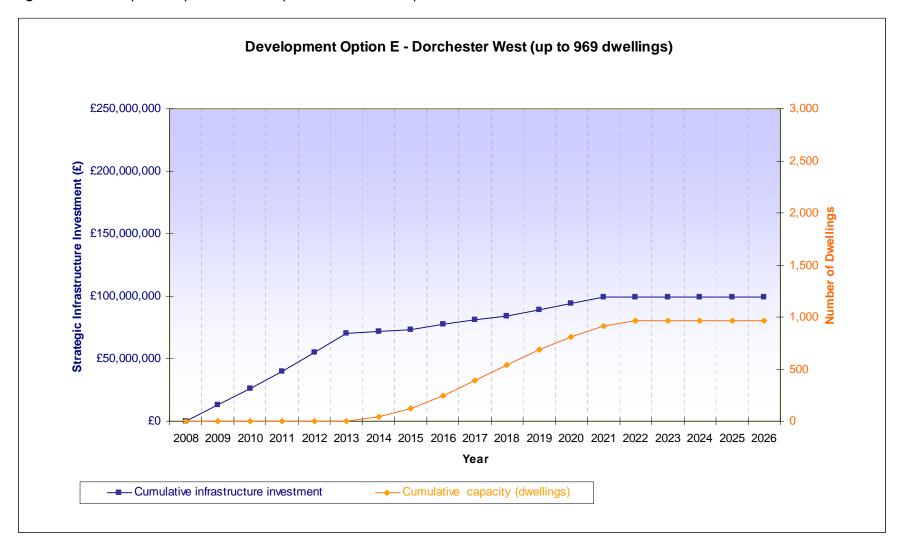


Table 4F: Development Option F - Key strategic infrastructure required to deliver development

Development Option F	Weymouth Urban Extension: Littlemoor Land parcels: A & B		Potential dev	relopment cap	Potential development capacity = 2310 dwellings	
Strategic infrastructure	Requirement for development		Estimated cost 700 3 dwellings	st 2310 dwellings	Phasing requirements	Implementa- tion time (years)
Road network	No significant infrastructure requirements identifi place with suitable access at Littlemoor junction)	No significant infrastructure requirements identified (assuming Weymouth Relief Road in place with suitable access at Littlemoor junction).	-	-		
Water	Upgrading of trunk main network. Potential need for new service reservoir or or facility- WW unable to scope without detailed appraisal and network modelling.	ential need for new service reservoir or on-site booster detailed appraisal and network modelling.	£0.7m¹	£2.3m¹	Phased with development	3
Wastewater	Local upgrading and improvement to existing network. Approx. 1200 metres of new connecting sewer to point of adequacy at Broadwey.	ig network. Approx. 1200 metres of new roadwey.	£0.5m²	£0.8m²	Phased with development	2
Electricity	No significant requirements - site benefits f	No significant requirements - site benefits from proximity of 400kV substation at Chickerell	-	•	-	1
Gas	None specified - requirements subject to ec new connection less than 1km therefore cos	to economic appraisal by network operator. Assume re costs covered by network operator.	-			-
Health services	Expansion of existing GP and Dental Surgeries	New GP and Dental Surgery	£1m	m£3	Phased with development	3
Education	Extensions to existing schools	1 No. Primary School Extensions to existing secondary schools	£3.7m ⁶	£12.2m ⁶	Phased with development	3
Waste and recycling				,	-	
Leisure and recreation	Contribution to facilities, including arts and	ts and culture⁴	£0.2m ⁴	£0.5m ⁴	Phased with development	3
Access/ connectivity	Good quality pedestrian and cycle links Subsidies to improve public transport provis to serve journeys to north and south	ss provision - enhanced frequency of rail and bus services	£1m £2.5m	£1m £2.5m	Operational prior to housing development	2
		Total	£9.6m	£22.3m		
Notes:	Notes:					

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Wessex Water guidance indicates water supply infrastructure costs of £1000 per dwelling, given the scale of infrastructure required. New sewer connection = £400/metre. New pumping station = £0.3m.

Gas costs - connections less than 1km assume cost covered by supplier. Connections greater than 1km assume cost of £250 per metre. Contribution to leisure and recreation assumed as £250 per dwelling.

Public transport provision: subsidies for 5 years at £500k /year.

Cost of £ducation facilities estimated as £5291 per dwelling by Dorset County Council. 6 5 6 3 5 7



Figure 4.F: Development Option F - Development Threshold Graph

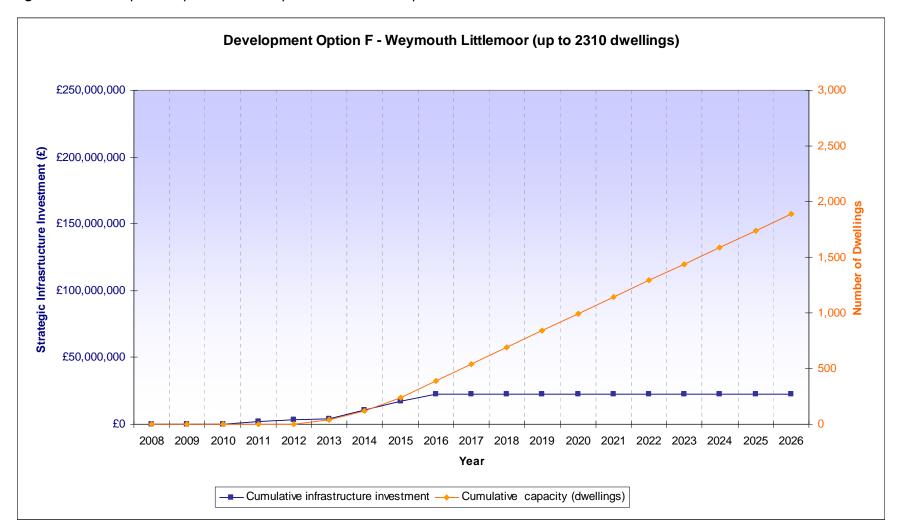




Table 4G: Development Option G - Key strategic infrastructure required to deliver development

Development Option G	Weymouth Urban Extension: Chickerell Land parcels: A, B1, B2, C		Potential development capacity = 3337 dwellings			
Strategic			Estimated cost			Implementa-
infrastructure	Requirement for development		700 dwellings	3337 dwellings	Phasing requirements	tion time (years)
Road network	Improvements to the Wessex and Chafeys round	abouts.	£6m	£6m	Operational prior to housing development	5
Water	Local reinforcement of trunk main network - WW unable to scope without detailed appraisal and network modelling.		£0.4m	£1.7m	Phased with development	3
Wastewater	Approx. 1200metres of new connecting sewer to roundabout southeast of Wessex Stadium.		£0.8m	£0.8m	Phased with development	2
Electricity	No significant requirements - site benefits from proximity of 400kV substation at Chickerell		-	-	-	-
Gas	None specified - requirements subject to econor new connection less than 1km therefore costs co		-	-	-	-
Health services	Expansion of existing GP and Dental Surgeries	New GP and Dental Surgery	£1m	£3m	Phased with development	3
Education	Extensions to existing schools	1 No. Primary School Extensions to existing secondary schools	£3.7m ⁵	£17.7m ⁵	Phased with development	3
Waste and recycling	No significant infrastructure requirements ident	ified.	-	-	-	-
Leisure and recreation	Contribution to facilities, including arts and cult	ure ³	£0.2m³	£0.5m³	Phased with development	3
Access/ connectivity	Contribution to pedestrian and cycle routes and	to bus services to Weymouth.	£0.2m ⁴	£0.8m ⁴	Phased with development	2
		Total	£12.3m	£30.5m		

- Notes:

 1) Wessex Water guidance indicates water supply infrastructure costs of £500 per dwelling, given the scale of infrastructure required.

 2) New sewer connection = £400/metre. New pumping station = £0.3m.

 3) Contribution to leisure and recreation assumed as £250 per dwelling.

 4) Contribution to pedestrian and cycle routes and to public transport assumed as £250 per dwelling.

 5) Cost of Education facilities estimated as £5291 per dwelling by Dorset County Council.



Figure 4.G: Development Option G - Development Threshold Graph

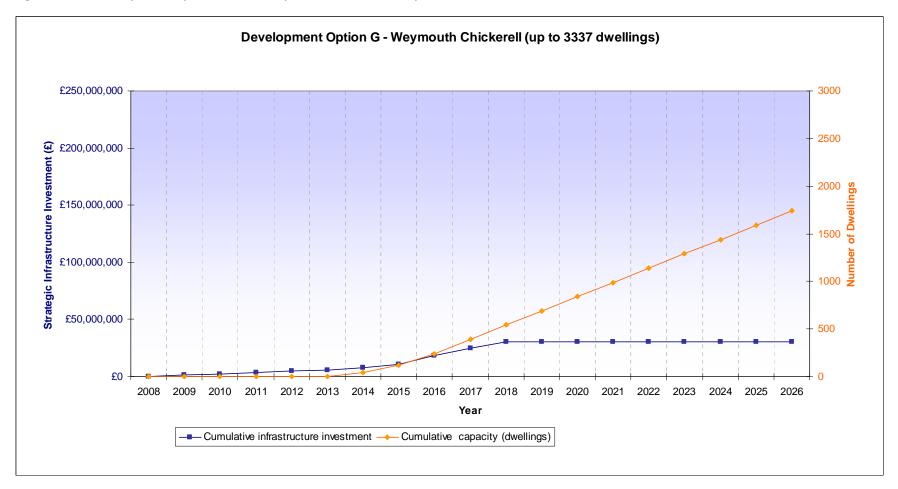




Table 4H: Development Option H - Key strategic infrastructure required to deliver development

Development Option H	Weymouth Urban Extension: 700 dwellings at Chickerell Land parcels: A and B2	Potential de	evelopment capacity = 700 d	wellings
Strategic infrastructure	Requirement for development	Estimated cost	Phasing requirements	Implementa- tion time (years)
Road network	Improvements to the Wessex and Chafeys roundabouts.	£6m	Operational prior to housing development	5
Water	Local reinforcement of trunk main network - WW unable to scope without detailed appraisal and network modelling.	£0.4m ¹	Phased with development	3
Wastewater	Approx. 1200metres of new connecting sewer to roundabout southeast of Wessex Stadium.	£0.8m ²	Phased with development	2
Electricity	No significant requirements - site benefits from proximity of 400kV substation at Chickerell	-	-	-
Gas	None specified - requirements subject to economic appraisal by network operator. Assume new connection less than 1km therefore costs covered by network operator.		-	-
Health services	Expansion of existing GP and Dental Surgeries	£1m	Phased with development	3
Education	Extensions to existing schools	£3.7m ⁵	Phased with development	3
Waste and recycling	No significant infrastructure requirements identified.	-	-	-
Leisure and recreation	Contribution to facilities, including arts and culture ³	£0.2m³	Phased with development	3
Access/ connectivity	Contribution to pedestrian and cycle routes and to bus services to Weymouth.	£0.2m⁴	Phased with development	2
	Total	£12.3m		

- Notes:

 1) Wessex Water guidance indicates water supply infrastructure costs of £500 per dwelling, given the scale of infrastructure required.

 New sewer connection = £400/metre. New pumping station = £0.3m.

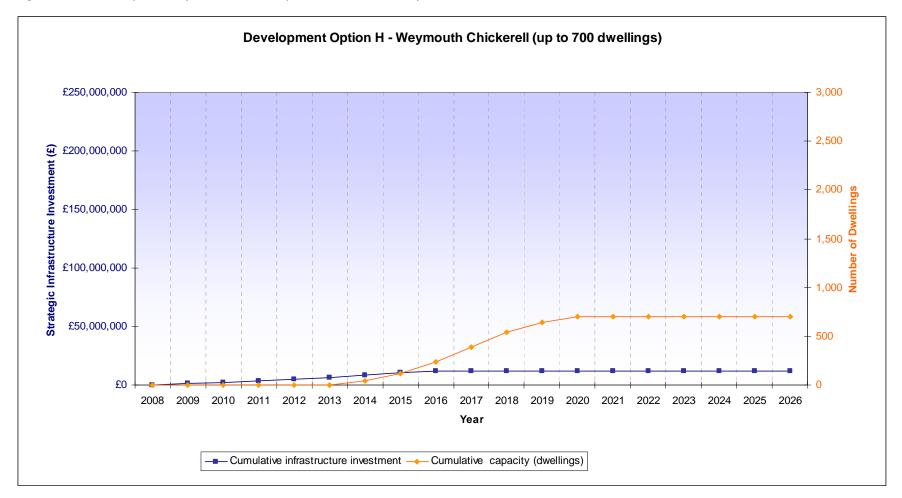
 Contribution to leisure and recreation assumed as £250 per dwelling.

 Contribution to pedestrian and cycle routes and to public transport assumed as £250 per dwelling.

 Cost of Education facilities estimated as £5291 per dwelling by Dorset County Council.



Figure 4.H: Development Option H - Development Threshold Graph





4.6 Viability assessment - net present value model

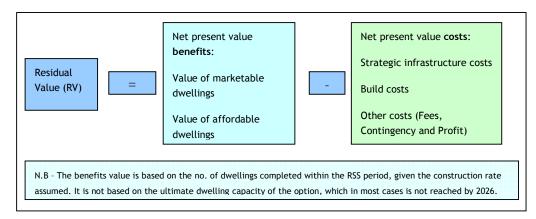
- 4.6.1 This section progresses the cost and phasing data captured in Section 4.5 above and applies a simplified net present value model to assess the relative viability of each of the eight development options.
- In addition to the assumptions applied to the threshold analysis (see Section 4.5.2), the assumptions listed in Table 4.3 below have also been applied.

Table 4.3: Economic appraisal (net present value model) assumptions

Assumptions		
Costs		
Fees	Professional and legal fees	10%
Contingency		15%
Developers profit		5%
Average build cost per dwelling	At 2006 prices	£72,460
Average property values - assume	d constant over 15 years (when av	reraged)
Dorchester	Detached	£414,703
	Semi-detached	£347,083
	Terraced	£331,154
	Flats	£195,878
	Average	£322,205
Littlemoor	Detached	£420,725
	Semi-detached	£268,047
	Terraced	£211,497
	Flats	£207,470
	Average	£276,935
Chickerell	Detached	£372,203
	Semi-detached	£278,617
	Terraced	£233,322
	Flats	£148,834
	Average	£258,244
Marketable/Affordable Housing Ra	tios	
West Dorset District	Marketable housing	65%
	Affordable housing	35%
	Total	100%



4.6.3 The viability assessment evaluates the net present value (npv) of development costs and the return generated from dwellings constructed. The Residual Value (RV) of the development option is then calculated as:



- 4.6.4 The purpose of the Residual Value is to give an indication of the scale of the end value of the development and a measure of the relative viability of the options being considered. The intention is not to provide detailed and final cost information upon which investment decisions could be made. The Residual Value calculated for each of the development options is listed in Table 4.4 below.
- 4.6.5 The npv model is simplified; it is limited to the timeframe of the RSS (2008 to 2026) and also does not include any economic allowance for the following items:
 - Code for Sustainable Homes or other dwelling performance requirements
 - Land Values at purchase or at sale
 - Provision of green infrastructure, open space or habitat mitigation.
- 4.6.6 The summary npv costs, benefits and residual values for each development option are presented in Tables 4.6A to 4.6H in the following pages. The full economic appraisal data is presented in Section 4 of Volume 2.

Table 4.4: Summary of npv Residual Value results

Development Option	NPV of Total Costs	NPV of Total Dwellings	Residual Value
A - Dorchester North	£311,532,257	£137,559,290	- £173,972,967
B - Dorchester South East	£257,075,853	£281,605,729	+ £24,529,876
C - Dorchester A&B	£491,288,913	£137,559,290	- £353,729,623
D - Dorchester Charminster	£293,548,839	£137,559,290	- £155,989,549
E - Dorchester West	£142,618,956	£159,793,352	+ £17,174,396
F - Weymouth Littlemoor	£91,439,394	£255,488,664	+ £164,049,270
G - Weymouth Chickerell	£101,159,997	£217,181,142	+ £116,021,145
H - Weymouth Chickerell (700)	£24,227,397	£119,152,466	+ £94,925,069



Table 4.6A: Development Option A - npv Residual Value results

Option A - Dorchester North (capacity up to 6858 dwellings)

Costs		
NPV's		
	Road Network	£113,105,832
	Water	£9,301,008
	Wastewater	£3,378,181
	Electricity	£8,965,238
	Gas	£373,875
	Health services	£7,471,032
	Education	£36,701,444
	Waste and recycling	£2,334,698
	Leisure and recreation	£14,008,185
Strategic Infrastructure Costs	Access/ connectivity	£4,084,343
Build costs		£39,916,362
Total cost		£239,640,198
	Fees	£23,964,020
	Contingency	£35,946,030
Other costs	Developers	£11,982,010
NPV of TOTAL COST		£311,532,257

Residual Value		
	Marketable Dwellings: (643)	£123,588,563
Housing Capacity	Affordable Dwellings: (347)	£13,970,727
	Total Dwellings: (990)	£137,559,290
Residual value	End Value of the Scenario	-£173,972,967



Table 4.6B: Development Option B - npv Residual Value results

Option B – Dorchester South East (capacity up to 2585 dwellings)

Costs		
NPV's		
	Road Network	£65,016,754
	Water	£1,804,710
	Wastewater	£2,817,854
	Electricity	£3,361,964
	Gas	£0
	Health services	£3,548,740
	Education	£13,821,409
	Waste and recycling	£2,334,697
	Leisure and recreation	£14,008,185
Strategic Infrastructure Costs	Access/ connectivity	£4,084,343
Build costs		£86,952,000
Total cost		£197,750,656
	Fees	£19,775,066
	Contingency	£29,662,598
Other costs	Developers	£9,887,533
NPV of TOTAL COST		£257,075,853

Residual Value		
	Marketable Dwellings: (1131)	£237,477,589
Housing Capacity	Affordable Dwellings: (609)	£44,128,140
	Total Dwellings: (1740)	£281,605,729
Residual value	End Value of the Scenario	£24,529,876



Table 4.6C: Development Option C - npv Residual Value results

Option C – Dorchester Options A & B (capacity up to 9443 dwellings)

Costs		
NPV's		
	Road Network	£183,796,978
	Water	£12,822,749
	Wastewater	£10,711,087
	Electricity	£12,327,203
	Gas	£373,552
	Health services	£11,019,772
	Education	£50,616,241
	Waste and recycling	£2,334,697
	Leisure and recreation	£14,008,185
Strategic Infrastructure Costs	Access/ connectivity	£8,168,685
Build costs		£71,735,400
Total cost		£377,914,549
	Fees	£37,791,455
	Contingency	£56,687,182
Other costs	Developers profit	£18,895,727
NPV of TOTAL COST		£491,288,913

Residual Value		
	Marketable Dwellings: (643)	£123,588,563
Housing Capacity	Affordable Dwellings: (347)	£13,970,727
	Total Dwellings: (990)	£137,559,290
Residual value	End Value of the Scenario	-£353,729,623



Table 4.6D: Development Option D - npv Residual Value results

Option D – Dorchester Charminster (capacity up to 5507 dwellings)

Costs		
NPV's		
	Road Network	£113,105,832
	Water	£5,136,367
	Wastewater	£3,751,733
	Electricity	£7,190,868
	Gas	£0
	Health services	£7,190,868
	Education	£29,510,576
	Waste and recycling	£2,334,698
	Leisure and recreation	£14,008,185
Strategic Infrastructure Costs	Access/ connectivity	£6,268,991
Build costs		£39,916,362
Total cost		£228,414,480
	Fees	£22,841,448
	Contingency	£30,872,186
Other costs	Developers profit	£11,420,724
NPV of TOTAL COST		£293,548,839

Residual Value		
	Marketable Dwellings: (643)	£123,588,563
Housing Capacity	Affordable Dwellings: (347)	£13,970,727
	Total Dwellings: (990)	£137,559,290
Residual value	End Value of the Scenario	-£155,989,549



Table 4.6E: Development Option E - npv Residual Value results

Option E – Dorchester West (capacity up to 969 dwellings)

Costs		
NPV's		
	Road Network	£59,598,691
	Water	£483,092
	Wastewater	£466,939
	Electricity	£1,307,431
	Gas	£0
	Health services	£3,081,801
	Education	£5,229,722
	Waste and recycling	£2,334,697
	Leisure and recreation	£14,008,185
Strategic Infrastructure Costs	Access/ connectivity	£4,084,343
Build costs		£19,111,988
Total cost		£109,706,889
	Fees	£10,970,689
	Contingency	£16,456,033
Other costs	Developers	£5,485,344
NPV of TOTAL COST		£142,618,956

Residual Value		
	Marketable Dwellings: (630)	£143,564,501
Housing Capacity	Affordable Dwellings: (339)	£16,228,851
	Total Dwellings: (969)	£159,793,352
Residual value	End Value of the Scenario	£17,174,396



Table 4.6F: Development Option F - npv Residual Value results

Option F – Weymouth Littlemoor (capacity up to 2310 dwellings)

Costs		
NPV's		
	Road Network	£0
	Water	£2,147,922
	Wastewater	£759,878
	Electricity	£0
	Gas	£0
	Health services	£2,801,637
	Education	£11,393,324
	Waste and recycling	£0
	Leisure and recreation	£466,940
Strategic Infrastructure Costs	Access/ connectivity	£3,324,465
Build costs		£49,443,831
Total cost		£70,337,995
	Fees	£7,033,800
	Contingency	£10,550,699
Other costs	Developers	£3,516,900
NPV of TOTAL COST		£91,439,394

Residual Value		
Housing Capacity	Marketable Dwellings: (1228)	£225,792,257
	Affordable Dwellings: Estimate (662)	£29,696,407
	Total Dwellings: (1890)	£255,488,664
Residual value	End Value of the Scenario	£164,049,270



Table 4.6G: Development Option G - npv Residual Value results

Option G – Weymouth Chickerell (capacity up to 3337 dwellings)

Costs		
NPV's		
	Road Network	£5,418,063
	Water	£1,587,594
	Wastewater	£759,878
	Electricity	£0
	Gas	£0
	Health services	£2,849,541
	Education	£16,529,658
	Waste and recycling	£0
	Leisure and recreation	£466,939
Strategic Infrastructure Costs	Access/ connectivity	£759,878
Build costs		£49,443,831
Total cost		£77,815,382
	Fees	£7,781,538
	Contingency	£11,672,307
Other costs	Developers	£3,890,769
NPV of TOTAL COST		£101,159,997

Residual Value		
Housing Capacity	Marketable Dwellings: (1131)	£190,336,145
	Affordable Dwellings: (609)	£26,844,996
	Total Dwellings: (1740)	£217,181,142
Residual value	End Value of the Scenario	£116,021,145



Table 4.6H: Development Option H - npv Residual Value results

Option H – Weymouth Chickerell (capacity limited to 700 dwellings)

Costs		
NPV's		
	Road Network	£5,418,063
	Water	£373,552
	Wastewater	£759,878
	Electricity	£0
	Gas	£0
	Health services	£933,879
	Education	£3,455,352
	Waste and recycling	£0
	Leisure and recreation	£186,776
Strategic Infrastructure Costs	Access/ connectivity	£189,969
Build costs		£7,318,991
Total cost		£18,636,459
	Fees	£1,863,646
	Contingency	£2,795,469
Other costs	Developers	£931,823
NPV of TOTAL COST		£24,227,397

Residual Value		
Housing Capacity	Marketable Dwellings: Estimate (455)	£107,051,163
	Affordable Dwellings: Estimate (245)	£12,101,302
	Total Dwellings: (700)	£119,152,466
Residual value	End Value of the Scenario	£94,925,069



5 Conclusions

5.1 Overview

- 5.1.1 This study has provided an evidence-based assessment of the strategic constraints and opportunities for urban extension development in West Dorset District.
- 5.1.2 The study reports provide a clear audit trail of the assessment process, beginning with broad Areas of Search (AoS) and progressing through a detailed assessment of the suitability of land parcels, going on to identify a range of potential development options and finally undertaking an economic appraisal of those options. This structure is such that, should the District Council wish to explore alternative development options in the future, the underlying evidence base can be re-visited to explore the potential impacts.
- 5.1.3 A total of eight urban extensions development options were identified and the key strategic infrastructure required for each option was then determined. The indicative costs and phasing requirements were estimated and this data was used to assess the deliverability and financial viability of urban extension development. The conclusions drawn for the Dorchester and Weymouth urban extensions are presented below.
- 5.1.4 The key strategic infrastructure identified for each of the urban extension development options is considered to have a reasonable prospect of provision based on the information available. The prospect of provision should be examined in more detail in preparation of the West Dorset Core Strategy, including further exploration of potential constraints and the certainty of funding.

5.2 Dorchester urban extension

- 5.2.1 The assessment identified that there are several fundamental constraints to urban extension development at Dorchester; most notably the capacity of the strategic and local highway networks, but also the capacity of the strategic electrical distribution and sewage treatment infrastructure. The extent of suitable development land at Dorchester is also limited by the sensitive built and natural environment surrounding the town and the wide River Frome flood plain to the north.
- 5.2.2 In the absence of spare capacity, significant highway network improvements are required to deliver even modest levels of development and such improvements would have to be provided before development could proceed.
- 5.2.3 Land to the north of the Frome floodplain and land surrounding Charminster village are the only areas that could potentially accommodate an urban extension of 3000 dwellings or greater. Development in these areas would require a new northern bypass linking east-to-west between the existing highway network, with indicative costs in excess of £100 million. The large scale of road network improvements could have significant environmental impacts, in particular on landscape character and flood risk. Such impacts would need to be scoped in consultation with statutory consultees including the Environment Agency. Achieving an urban extension that is well-integrated with



- the existing town could be challenging due to the distance from the town centre and the physical barrier of the River Frome floodplain.
- 5.2.4 Elsewhere around Dorchester the development options have land areas that in isolation are insufficient to meet the target of 3000 dwellings. Land to the west of the Poundbury development could achieve no more than 1000 additional dwellings and is located outside of the A37 road. Achieving an urban extension that is well-integrated with the existing town could be challenging due to the distance from the town centre and the physical barrier of the A37.
- 5.2.5 Land to the south east of Dorchester could accommodate in the region of 2000 dwellings. The land is located relatively close to existing community facilities, but is segregated by the A35 bypass and so it could be challenging to achieve an urban extension that is well-connected with the existing settlement across the trunk road.
- 5.2.6 The threshold analysis indicated that the target of 3000 dwellings could not be achieved within the RSS plan period. At a development rate of 150 dwellings per year, and given a requirement to provide highway network infrastructure in advance, an urban extension development at Dorchester is expected at best to yield no more than 1000 dwellings by the year 2026.
- The viability assessment indicated that the net present value (npv) Residual Values of the development options to the north of Dorchester were negative. The npv Residual Values of the other smaller development options were marginally positive. The significant infrastructure required for an urban extension to the north of Dorchester could not be funded solely by development proceeds; to do so would require unfeasible levels of developer contributions in the order of between £72,000 and £118,000 per dwelling.

5.3 Weymouth urban extension

- 5.3.1 The assessment identified that there were a limited number of constraints to urban extension development at Littlemoor; notably that development would be within the Dorset AONB and would require the Weymouth Relief Road to be in place and accessible. The location of the Littlemoor area presents the opportunity to provide high quality public transport services and the development could also be extended to incorporate some land within Weymouth and Portland District.
- 5.3.2 In the case of Chickerell, the key constraint identified was the impact that development could have on the sensitive environmental areas at The Fleet and Chesil Beach. No significant strategic infrastructure constraints have been identified at either Littlemoor or Chickerell and there is a good prospect for an urban extension at either location to integrate well with the existing settlements.
- 5.3.3 The threshold analysis indicated that the target of 700 dwellings could be achieved within the RSS plan period, given a development rate of 150 dwellings per year. An urban extension of greater than 700 dwellings could potentially be accommodated, but consideration should also be given to the need to balance housing with the provision of employment land.
- 5.3.4 The viability assessment indicated that all of the Weymouth development options had net present value (npv) Residual Values that were positive.



6 Glossary

AoS Area of Search

BBC Bournemouth Borough Council

DCC Dorset County Council

DEC Dorset Engineering Consultancy

dpa Dwellings per annum

dph Dwellings per hectare

DPD Development Plan Document

dRSS Draft Regional Spatial Strategy

DTEP Dorchester Transport & Environment Plan

ha Hectares

HA Highways Agency

HMA Housing Market Area

LDD Local Development Document

MLA Museums, Libraries & Archives Council

Npv Net present value

ONS Office of National Statistics

PPG Planning Policy Guidance Note

PPS Planning Policy Statement

RSS Regional Spatial Strategy

SSCT Strategically Significant Cities and Towns (dRSS Development Policy A)

STW Sewage Treatment Works

SWRA South West Regional Assembly

TTWA Travel To Work Area

WDDC West Dorset District Council

WDLP West Dorset Local Plan

WPBC Weymouth & Portland Borough Council

WW Wessex Water



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Appendix A - Assessment Matrix