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Bath and North East Somerset

Strategic greenfield allocations - viability testing

Prepared for
Bath and North East Somerset Council

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1 Introduction

This report outlines the results of additional testing of strategic greenfield sites in the Bath and North East Somerset Council ('BANES') area. This work follows consultation by BANES with local stakeholders on revisions to the Core Strategy resulting from recommendations by the Inspector at the examination. The Inspector identified a shortfall in housing land supply which the Council is now seeking to address through limited and targeted releases of greenfield sites adjacent to the main settlements. The National Planning Policy Framework ('NPPF') requires that local planning authorities have regard to the impact on viability of the *cumulative effect* of all their planning requirements on viability. Paragraph 173 of the NPPF requires that local planning authorities give careful attention "*to viability and costs in plan-making and decision-taking*". The NPPF requires that "*the sites and the scale of development identified in the plan should not be subject to such a scale of obligations and policy burdens that their ability to be developed viably is threatened*". After taking account of policy requirements, land values should be sufficient to "*provide competitive returns to a willing landowner and willing developer*".

The meaning of a "*competitive return*" has been the subject of considerable debate over the past year. For the purposes of testing the viability of a Local Plan, the Local Housing Delivery Group¹ has concluded that the current use value of a site (or a credible alternative use value) plus an appropriate uplift, represents a competitive return to a landowner. Some members of the RICS consider that a competitive return is determined by market value², although there is no consensus around this view.

This report outlines the results of high level testing of the viability of these sites.

This report is structured as follows:

- Section 2 identifies the strategic sites that were tested;
- Section 3 details the inputs to our appraisals;
- Section 4 outlines the results of our appraisals; and
- Section 5 considers the implications of the results.

Our appraisals that assume a development density of 40 units per hectare (which is the assumption underpinning the Council's Development Plan) show a significant improvement in viability and would enable the Council to achieve more of its policy objectives in the short term.

Our appraisals indicate that, at the current time, it will not be possible to deliver the higher Code for Sustainable Homes levels in all circumstances across all strategic sites. However, the inability of some sites to meet the requirements does not justify a reduction in the Council's requirements. The appraisals indicate that changing market conditions are likely to assist the Council in achieving their required standards in more scenarios than is currently the case. Changing conditions could be addressed through a flexible application of policy requirements, which could allow schemes to proceed with lower sustainability credentials, on technical grounds or for reasons of individual site viability. In cases where technical or viability issues arise, the Council could also work with developers to explore whether Allowable Solutions or third party delivery

¹ Viability Testing Local Plans: Advice for planning practitioners, June 2012

² RICS Guidance Note: Financial Viability in Planning, August 2012

options for renewable energy might achieve the Council's objectives, but with a lower overall cost burden.

2 The strategic sites

The Council's proposed changes to the submitted draft Core Strategy identifies new strategic greenfield allocations on sites at Odd Down, Weston, MoD Ensleigh, east of Keynsham, south west of Keynsham and Whitchurch. The Council estimates that these sites will provide a total of 1,370 units. BANES has instructed us to consider the viability of the strategic allocations identified in Table 2.1.1.

Table 2.1.1: Strategic greenfield allocations

Site Description	Policy ref	No of units	Gross site area (ha) ³	Existing use
Land adjoining Odd Down	B3A	300	45	Agricultural
Land adjoining Weston	B3B	300	75	Agricultural
Extension to MoD Ensleigh	B3C	120	23	Recreation
East of Keynsham	KE3	250	78	Agricultural
Land adjoining South West of Keynsham	KE4	200	60	Agricultural
Whitchurch	RA5	200	200	Agricultural
Totals		1,370	481	

The sites are in a variety of ownerships.

In all cases, the amount of land the Council has identified far exceeds the amount of space required to build the allocated number of units. In these cases, we have made appropriate adjustments to the site area (these adjustments are set out in the next section).

In all cases, the Core Strategy Proposed Changes 2013 identifies broad locations for development, rather than site specific boundaries. Consequently, we have considered the amount of land required to accommodate the number of units planned to be developed on each site.

³ Based on Council's estimates of site area; does not reflect exact site boundaries

3 Development appraisals

Our assumptions for the development appraisals are set out in the following sections.

3.1 Sales values

Sales values used in the appraisals are summarised on Table 3.1.1. These correspond with the sales values used in the CIL Viability Study, although we have increased them in line with the change in the Land Registry House Price Index between March 2012 (the date of the study) and May 2013 (the most recent data available). Land Registry data for BANCES indicates an increase in market values of 4.5%.

Table 3.1.1: Sales values used in the appraisals

Site	Sales value (£s per sqm)	Sales value (£s per sq ft)
Land adjoining Odd Down	£2,894	£269
Land adjoining Weston	£2,894	£269
Extension to MoD Ensleigh	£2,894	£269
East of Keynsham	£2,537	£236
Land adjoining South West of Keynsham	£2,537	£236
Whitchurch	£2,894	£269

3.2 Sales rate

Our appraisals assume a sales rate of 3 to 4 units per month, with single sales outlets on each site. This sales rate is applied to the private housing only, with the developers assumed to contract with a Registered Provider for the disposal of the affordable housing prior to commencement of construction. The agreed acquisition price for the affordable housing is assumed to be received in staged payments over the build period.

3.3 Build costs and infrastructure

Our base build costs are £883 per square metre based on BCIS 'Estate Housing – 2 storey', rebased to the Bath area. On the larger sites, it is likely that the developers will be able to drive costs down to lower levels than we have used. Our appraisals do not attempt to reflect this.

In addition to the base costs above, we have allowed a 15% allowance for external works.

An allowance of £10,000 per unit has been included for site preparation, site-wide infrastructure and utilities. This is based on the costs estimated on other sites around the south west and south east.

We have included an allowance of £600 per unit for meeting additional costs associated with Lifetime Homes.

The 2011 Element Energy and Davis Langdon cost appraisal study on behalf of the Department for Communities and Local Government indicates that the costs associated with Code for Sustainable Homes Level 4 add circa 7.5% to the base BCIS costs.

Since the costs used in the 2011 study are now out of date, the Council, as part of consortium of other local authorities, recently commissioned Element Energy and David Langdon to update the 2011 study.⁴ This indicates that the costs associated with Code for Sustainable Homes Level 4 adds 4% to the base BCIS costs, while Level 5 adds circa 12% to the base BCIS costs.

3.4 Section 106 obligations

The Council has advised that the strategic greenfield allocations will be required to make either on-site provision or financial contributions towards primary education; financial contributions towards secondary education; provision of open space; financial contributions towards indoor and outdoor sports; and highways improvements. The Council has not costed these requirements; we have therefore estimated for testing purposes that they will amount to £15,000 per unit, with sensitivity analyses at £10,000 and £7,500 per unit.

We have assumed that open space requirements are provided on site, rather than through a financial contribution.

3.5 Other assumptions

The other assumptions in our appraisals are as follows:

- Allowance for professional fees of 10% of build costs;
- Additional allowance for planning costs: 2% of build costs;
- Finance costs of 7% on negative balances; 0% on positive balances;
- Profit of 20% of private housing Gross Development Value (GDV) and 6% on affordable housing GDV;
- Acquisition costs: 4% stamp duty land tax, 1% agent's fee and 0.8% legal fees;
- Marketing costs: 3% of private housing GDV; and
- Sales legal fee of £650 per private unit.

3.6 Site areas

The Council has advised that the sites areas for the strategic greenfield developments are as shown in Table 3.6.1. However, in many cases, the total site area required to support the quantum of development will be lower than the gross site area identified by the Council. Developers would not need to purchase the entire gross site area and some land could remain in existing ownership. We have assumed that a net to gross site ratio of 60% would apply, thus leaving sufficient land for open space and other planning requirements.

⁴ Davis Langdon & Element Energy, 2013 – see link below:
http://www.bathnes.gov.uk/sites/default/files/sitedocuments/Planning-and-Building-Control/Planning-Policy/Evidence-Base/Sustainability/code_for_sustainable_homes_costs_report.pdf

Table 3.6.1: Site areas (40 units per hectare)

Site Description	Gross site area (ha) ⁵	Gross site area required for development (ha)	Net site area (ha)
Land adjoining Odd Down	45	13	8
Land adjoining Weston	75	13	8
Extension to MoD Ensleigh	23	5	3
East of Keynsham	78	10	6
Land adjoining South West of Keynsham	60	8	5
Whitchurch	200	8	5

Table 3.7.2: Site areas (30 units per hectare)

Site Description	Gross site area (ha) ⁶	Gross site area required for development (ha)	Net site area (ha)
Land adjoining Odd Down	45	17	10
Land adjoining Weston	75	17	10
Extension to MoD Ensleigh	23	7	4
East of Keynsham	78	14	8
Land adjoining South West of Keynsham	60	11	7
Whitchurch	200	11	7

3.7 Unit mix

The unit mix applied to the strategic sites reflects the mix adopted for 'site type 7' in the CIL Viability Study, namely 45% two bed houses, 35% three bed houses, 15% four bed houses and 5% five bed houses.

3.8 Benchmark land values

Our July 2012 report adopted benchmarks of £900,000 per gross hectare, but this included an allowance for site servicing, which was not included as a cost in the scheme appraisals. As our greenfield site appraisals include an allowance for site servicing, we have reduced the benchmark land values to range from £350,000 to £250,000 per gross hectare. This is consistent with the range identified in the Department for Communities and Local Government study on *The Cumulative Impact of Policy Requirements* (2011) of £100,000 to £150,000 per gross acre (£247,000 to £370,500 per gross hectare).

⁵ Based on Council's estimates of site area; does not reflect exact site boundaries

⁶ Based on Council's estimates of site area; does not reflect exact site boundaries

4 Appraisal results and analysis

4.1 Appraisal results

We have run appraisals of all the strategic greenfield sites varying affordable housing percentages and tenures, Section 106 packages and densities. We have then converted the residual land values for each entire site into a per hectare land value, so that we can determine whether this might be sufficient for the site to be brought forward for development. A summary of the appraisal results is attached as Appendix 1 (40 units per hectare) Appendix 2 (30 units per hectare). A sample of the appraisal model is attached as Appendix 3.

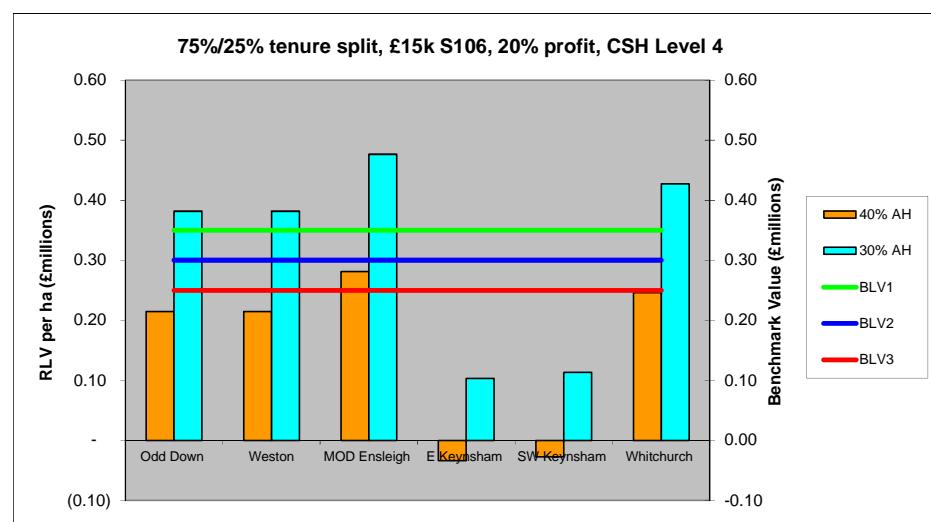
In the sections below, we present the appraisal outputs in a series of charts. The bars represent the residual land values on a price per gross hectare basis, at both 30% affordable housing (the blue bars) and 40% affordable housing (the orange bars). The benchmark land values are shown as three horizontal lines. Where the bars are higher than the lines, the scheme is 'viable', as the benchmark land value is exceeded. Conversely, where the bar falls short of the lines, the scheme is 'unviable'.

4.1.1 Base appraisals, with 75% rented and 25% intermediate tenure mix and £15,000 per unit Section 106, 40 dph

The charts below summarise the appraisal results for schemes that comply with the Council's preferred tenure split of 75% rent and 25% intermediate. The appraisals assume that the Council will seek financial contributions and on-site provision of community infrastructure, with a total 'package cost' of £15,000 per unit. The appraisals all assume that the sites are developed at a density of 40 units per hectare.

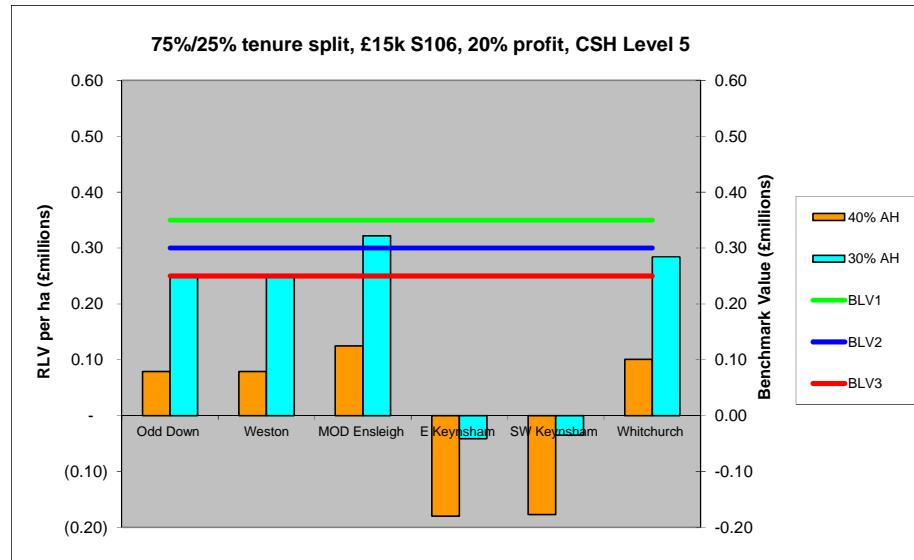
At CSH Level 4, all the sites with the exception of those at Keynsham can viably provide 30% affordable housing, while 40% will be challenging at the current point in the economic cycle.

Figure 4.1.1.1: Residual land values per hectare compared to benchmark land values (CSH Level 4)



When costs are increased to account for CSH Level 5, the residual values in Odd Down, Weston and Whitchurch all fall marginally short of the lowest benchmark land value at 30% affordable housing. This suggests that achieving Level 5 at the current point in the economic cycle will need to be balanced against the Council's aim of maximising affordable housing provision.

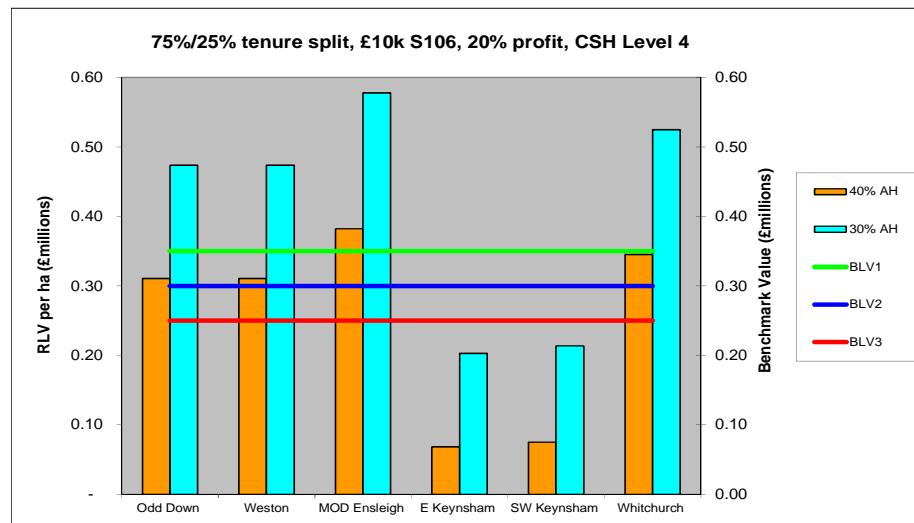
Figure 4.1.1.2: Residual land values per hectare compared to benchmark land values (CSH Level 5)



4.1.2 Base appraisals, with 75% rented and 25% intermediate tenure mix and £10,000 per unit Section 106, 40 dph

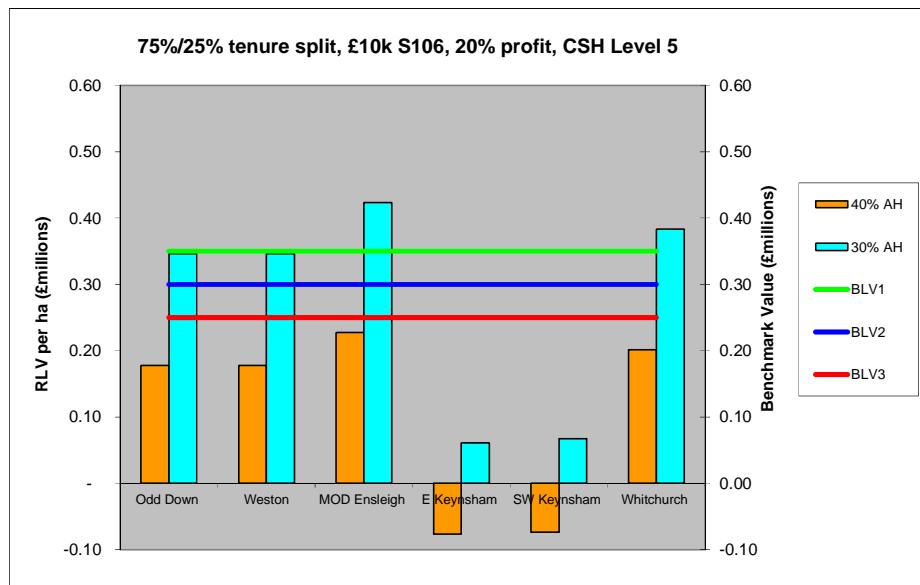
The next set of charts summarise the appraisal results for schemes that again comply with the Council's preferred tenure split of 75% rent and 25% intermediate. However, the assumed cost of the Council's Section 106 package falls from £15,000 to £10,000 per unit. As a result, there is a significant improvement in residual values.

Figure 4.1.2.1: Residual land values per hectare compared to benchmark land values (CSH Level 4)



As a result of the decrease in the cost of the Section 106 package, schemes in Odd Down, Weston, Ensleigh and Whitchurch would all be able to viably provide 30% affordable housing as well as meeting the requirements of CSH Level 5.

Figure 4.1.2.2: Residual land values per hectare compared to benchmark land values (CSH Level 5)



4.1.3 Base appraisals, with 75% rented and 25% intermediate tenure mix and £10,000 per unit Section 106, 40 dph

The next set of appraisals repeat the analysis in Section 4.1.2, but with a further reduction in the total Section 106 package from £10,000 to £7,500 per unit. The results show significant improvements in residual land values.

Figure 4.1.3.1: Residual land values per hectare compared to benchmark land values (CSH Level 4)

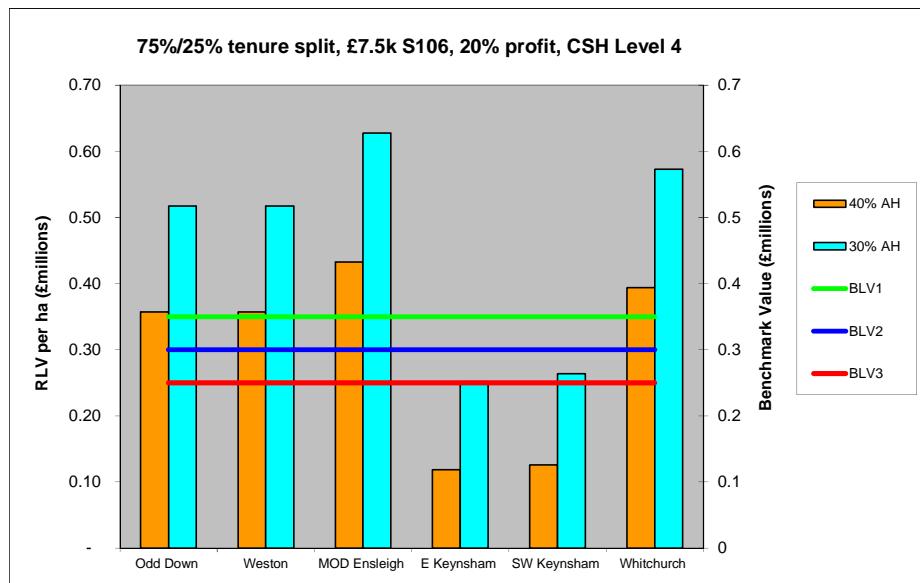
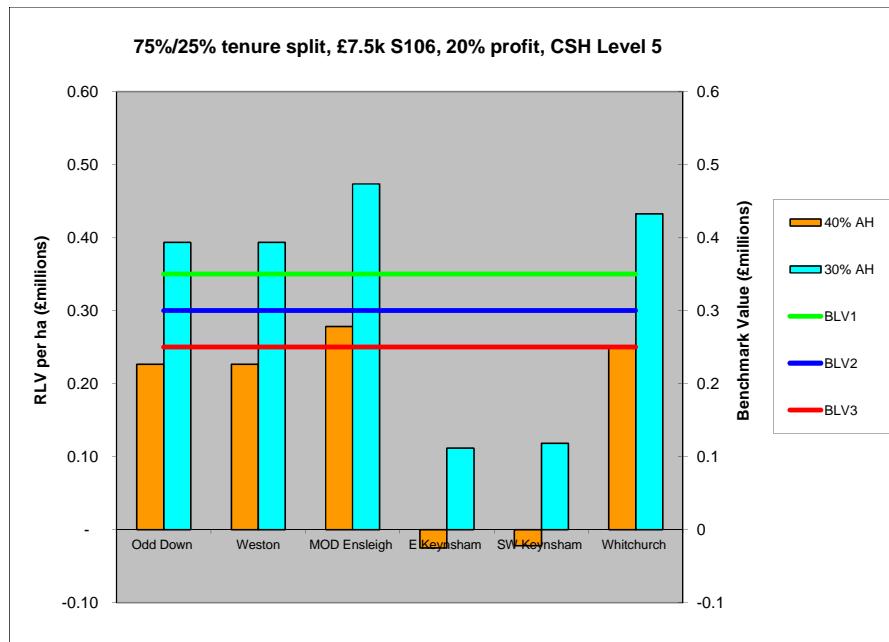


Figure 4.1.3.2: Residual land values per hectare compared to benchmark land values (CSH Level 5)



4.1.4 Sensitivity analysis, with 50% rented and 50% intermediate tenure mix and £10,000 per unit Section 106, 40 dph

We have undertaken two sensitivity analyses, the first of which considers the impact of a shift in the affordable housing tenure mix from 75% rent and 25% intermediate, to 50% rent and 50% intermediate. The analysis assumes that the Council will seek a £10,000 per unit Section 106 package and that the sites are developed at a density of 40 units per hectare.

The results indicate that the Council might be able to achieve a higher overall affordable housing percentage with this variation to the tenure mix.

Figure 4.1.4.1: Residual land values per hectare compared to benchmark land values (CSH Level 4)

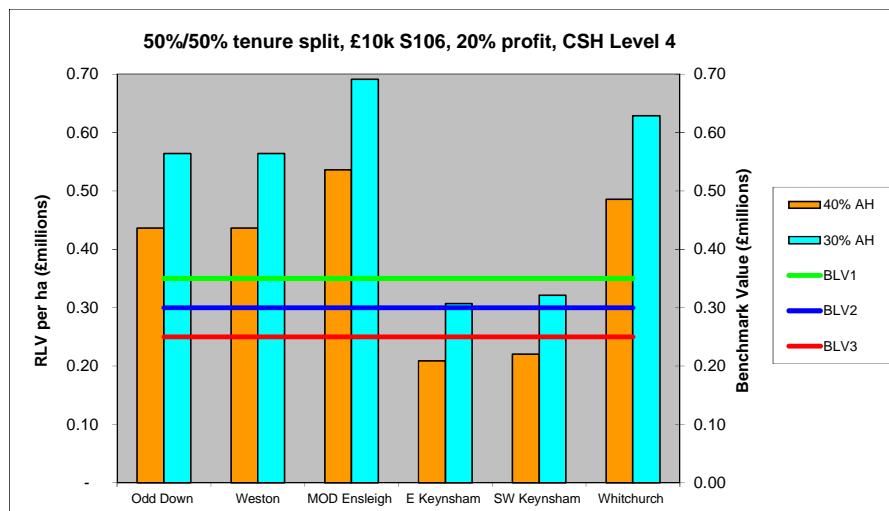
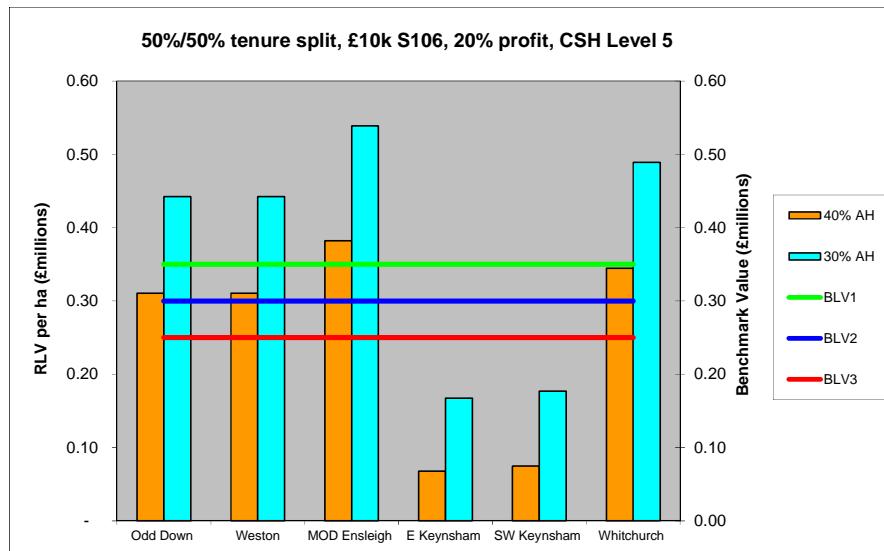


Figure 4.1.4.2: Residual land values per hectare compared to benchmark land values (CSH Level 5)

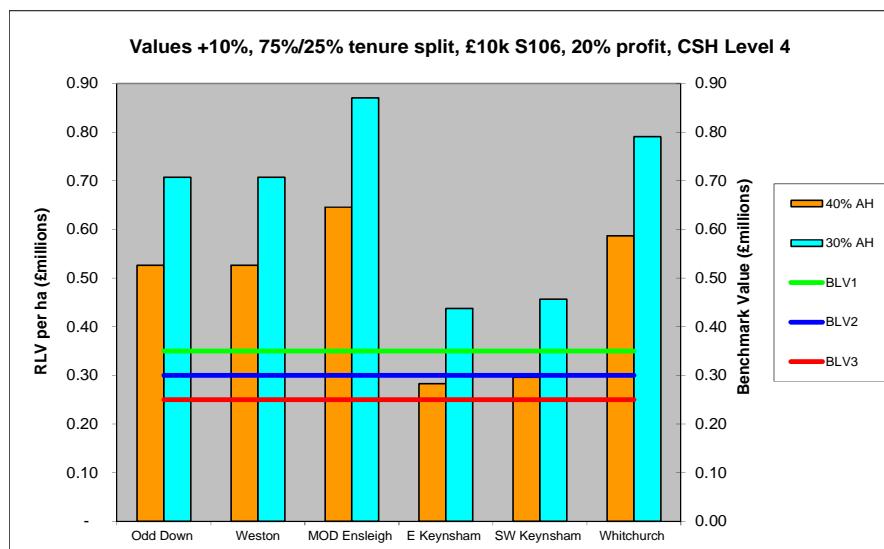


4.1.5 Sensitivity analysis, sales value growth of 10% (all other inputs remaining unchanged) and £10,000 per unit Section 106, 40 dph

The second sensitivity analyses consider the impact of a 10% increase in sales values, with all other inputs remaining unchanged. This is indicative only and makes no account for increases in build costs. In other words, the growth applied is assumed to be real growth, net of inflation. Growth cannot be guaranteed and should not be relied upon. The analysis assumes that the Council will seek a £10,000 per unit Section 106 package and that the sites are developed at a density of 40 units per hectare.

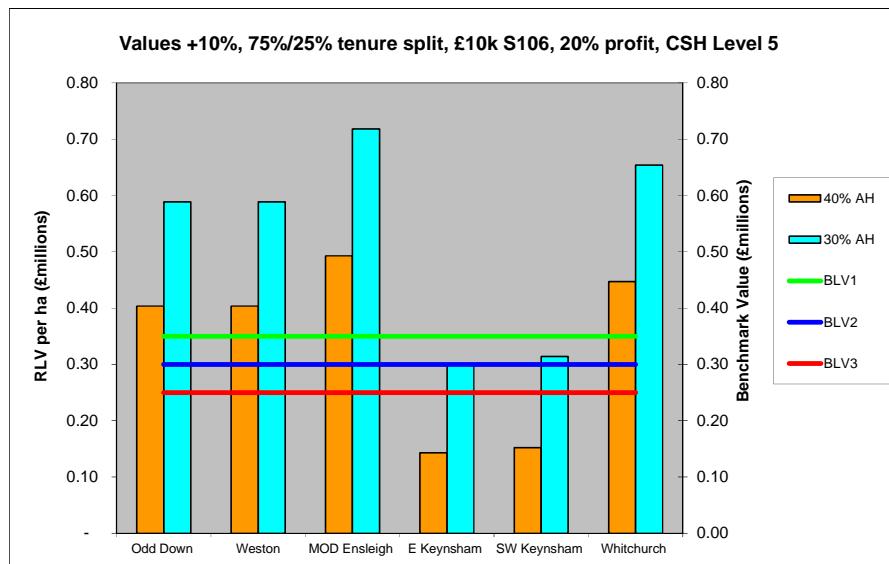
The results indicate that the sites in Keynsham would be able to provide 30% affordable housing, while those elsewhere would be able to provide 40% affordable housing.

Figure 4.1.5.1: Residual land values per hectare compared to benchmark land values (CSH Level 4)



However, when CSH Level 5 is applied, the residual values in Keynsham fall just short of the lowest benchmark land value. Elsewhere, 40% affordable housing would still be achievable, but only against the middle and lowest benchmark land value.

Figure 4.1.5.2: Residual land values per hectare compared to benchmark land values (CSH Level 5)



4.1.6 Sensitivity analysis, change in profit assumption and CSH level

Over the life of the Plan, it is likely that the risk associated with residential development will recede, which will aid viability (profit being a cost in a development appraisal). We have run an additional sensitivity analysis which considers the impact of a decrease in profit from 20% to 18%. Figure 4.1.6.1 runs this analysis with CSH level 4. Figure 4.1.6.2 and Figure 4.1.6.3 provide the land values per hectare with CSH levels 3 and 5 respectively.

Figure 4.1.6.1: Residual land values per hectare compared to benchmark land values (£10,000 per unit Section 106, 30% affordable housing – 75% rented, 25% intermediate) – CSH level 4

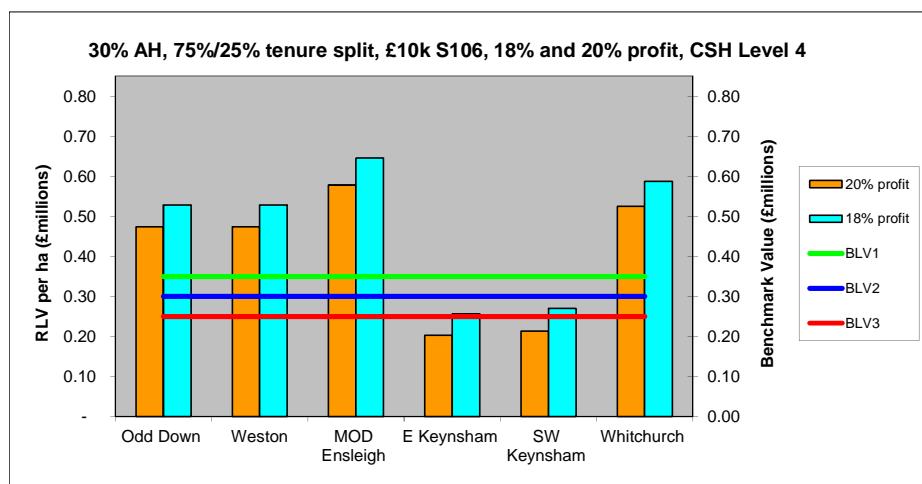


Figure 4.1.6.2: Residual land values per hectare compared to benchmark land values (£10,000 per unit Section 106, 30% affordable housing – 75% rented, 25% intermediate) – CSH level 3

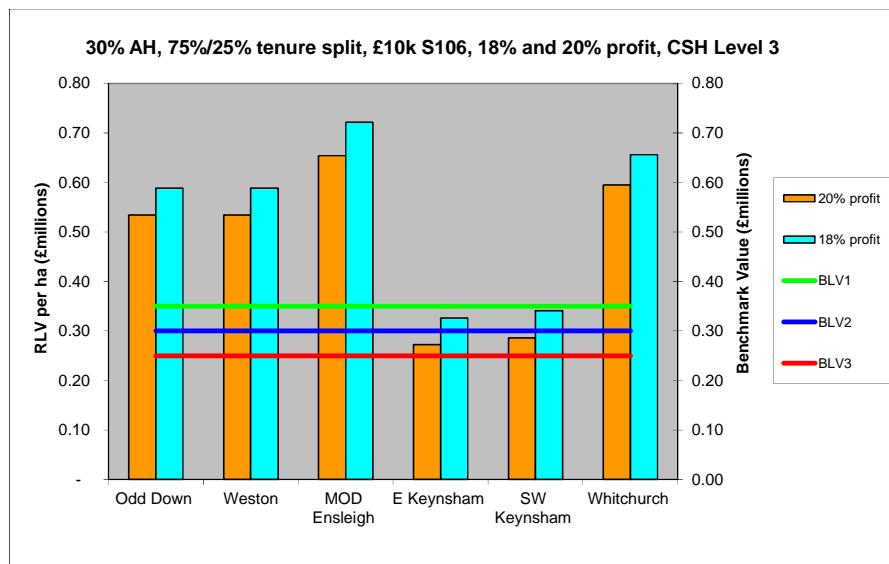
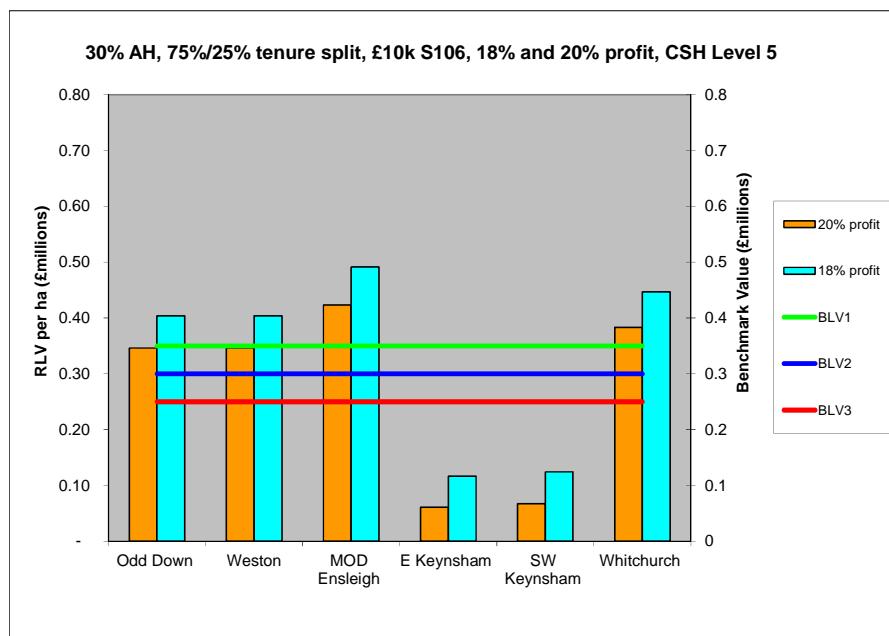


Figure 4.1.6.3: Residual land values per hectare compared to benchmark land values (£10,000 per unit Section 106, 30% affordable housing – 75% rented, 25% intermediate) – CSH level 5



Figures 4.1.6.4 to 4.1.6.6 repeat the analysis above, but with 40% affordable housing in place of 30%. The charts show the results with CSH level 4 (Figure 4.1.6.4), CSH level 3 (Figure 4.1.6.5) and CSH level 5 (Figure 4.1.6.6).

Figure 4.1.6.4: Residual land values per hectare compared to benchmark land values (£10,000 per unit Section 106, 40% affordable housing – 75% rented, 25% intermediate) – CSH level 4

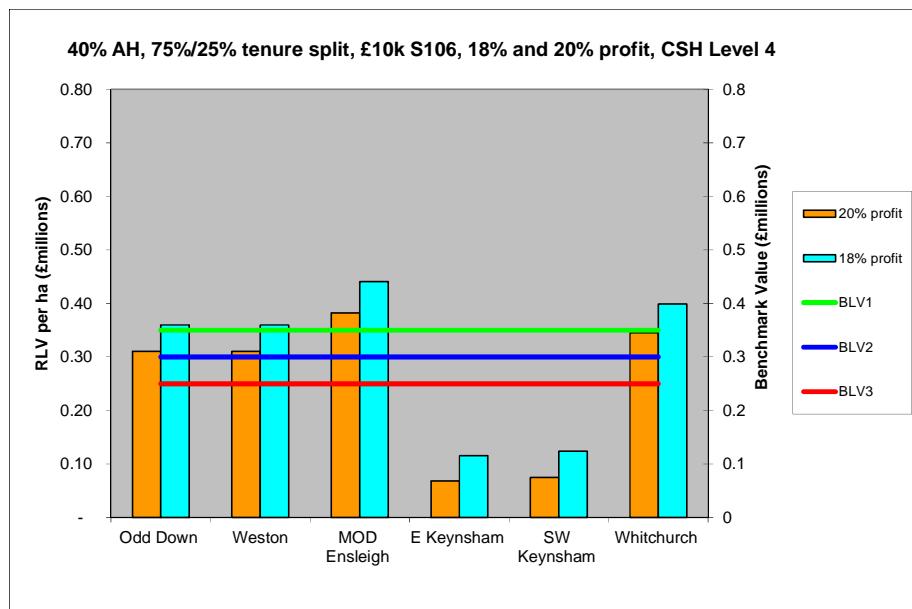


Figure 4.1.6.5: Residual land values per hectare compared to benchmark land values (£10,000 per unit Section 106, 40% affordable housing – 75% rented, 25% intermediate) – CSH level 3

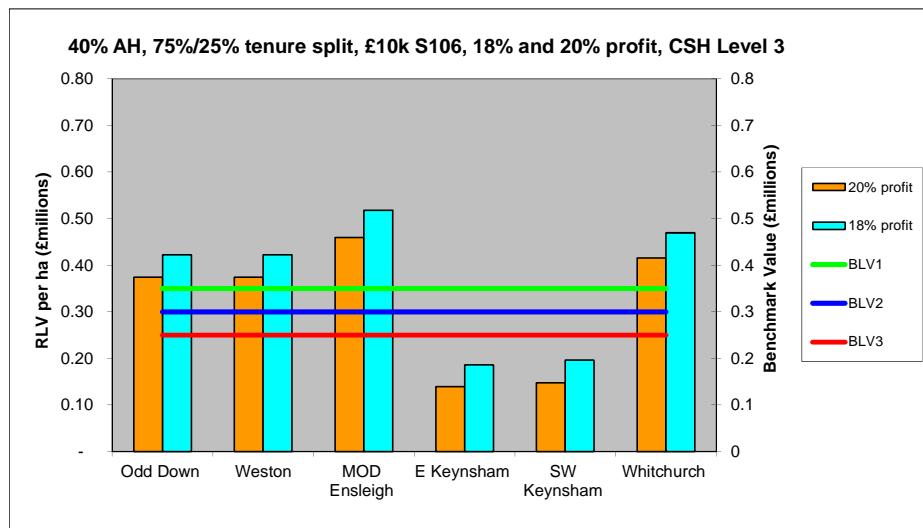
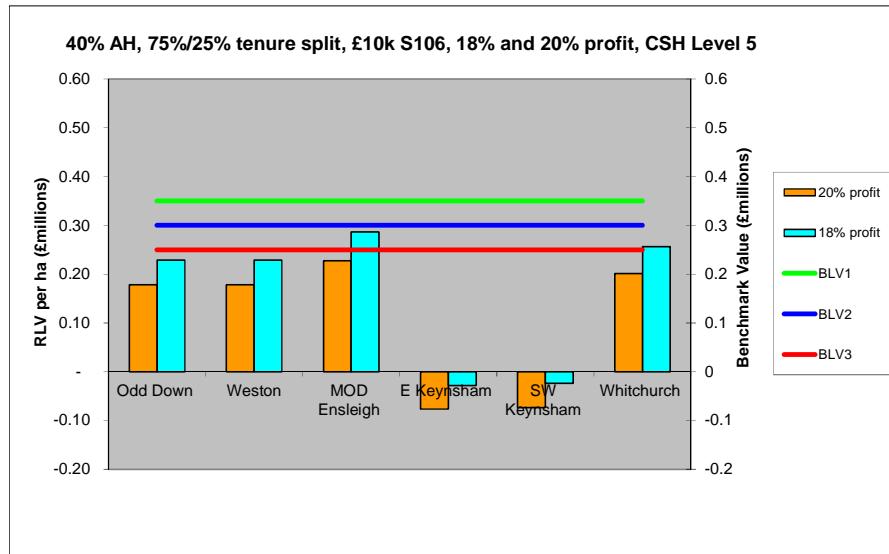


Figure 4.1.6.6: Residual land values per hectare compared to benchmark land values (£10,000 per unit Section 106, 40% affordable housing – 75% rented, 25% intermediate) – CSH level 5



4.1.7 Reduced density – 30 dph

The appraisals in the preceding section assume that a density of 40 dwellings per hectare can be achieved. Some sites may not be able to achieve this density, which would increase the land area required to deliver the same number of houses. Appendix 2 summarises the results of our appraisals assuming a decrease in density from 40 to 30 units per hectare.

Figure 4.1.7.1: Residual land values per hectare compared to benchmark land values (CSH Level 4) – 75% rented, 25% intermediate, £15,000 per unit Section 106

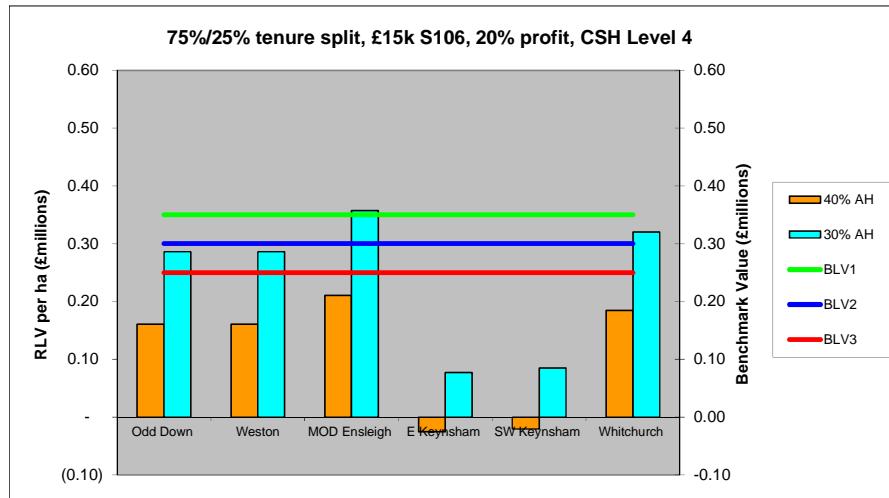


Figure 4.1.7.2: Residual land values per hectare compared to benchmark land values (CSH Level 4) – 50% rented, 50% intermediate, £10,000 per unit Section 106

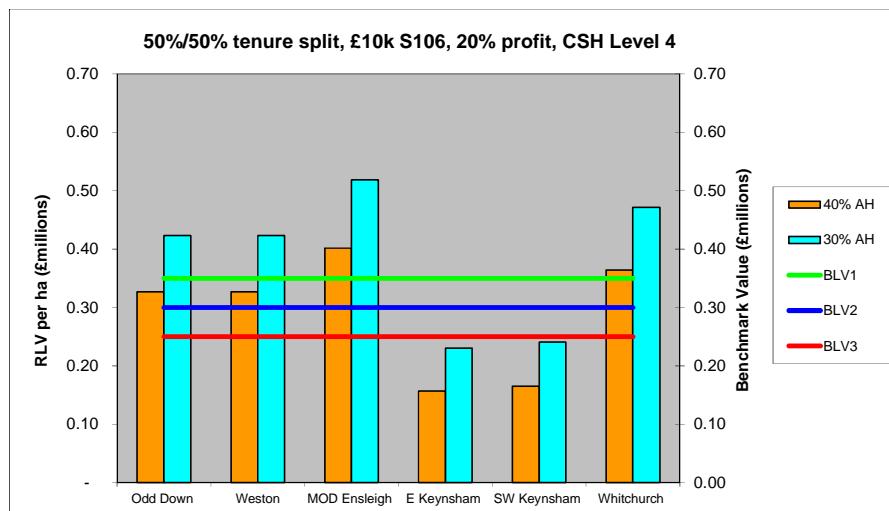
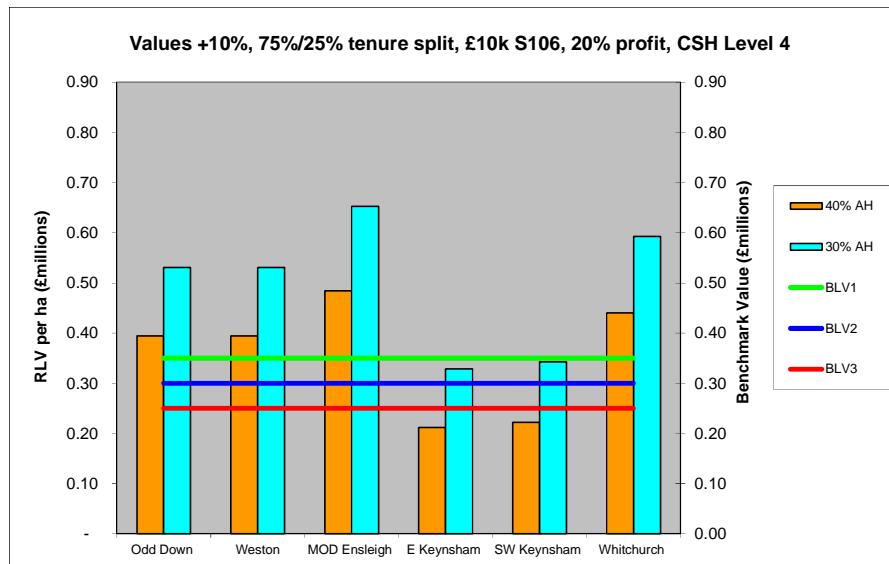


Figure 4.1.7.3: Residual land values per hectare compared to benchmark land values (CSH Level 4) – 75% rented, 25% intermediate, £10,000 per unit Section 106, value growth of 10%



5 Conclusions

Our appraisals indicate that across the economic cycle, the sites identified by the Council will be viable and deliverable. However, depending on the timing of delivery, a degree of flexibility may be required in terms of application of the Council's policy target for affordable housing.

The additional costs of meeting CSH Level 5 will also be challenging in the short term and will need to be balanced against the Council's aim of maximising affordable housing delivery. Our appraisals that assume a development density of 40 units per hectare (which is the assumption underpinning the Council's Development Plan) show a significant improvement in viability and would enable the Council to achieve more of its policy objectives in the short term.

Our appraisals indicate that, at the current time, it will not be possible to delivery the higher Code for Sustainable Homes levels in all circumstances across all strategic sites. However, the inability of some sites to meet the requirements does not justify a reduction in the Council's requirements. The appraisals indicate that changing market conditions are likely to assist the Council in achieving their required standards in more scenarios than is currently the case. Changing conditions could be addressed through a flexible application of policy requirements, which could allow schemes to proceed with lower sustainability credentials, on technical grounds or for reasons of individual site viability. In cases where technical or viability issues arise, the Council could also work with developers to explore whether Allowable Solutions might achieve the Council's objectives, but with a lower overall cost burden.

Appendix 1 - Summary of results – 40 units per hectare

75% rent: 25% intermediate tenure split, £15k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	2,678,836	214,307	4,772,038	381,763
Weston	2,678,836	214,307	4,772,038	381,763
MOD Ensleigh	1,406,267	281,253	2,383,381	476,676
E Keynsham	-352,084	-33,789	1,073,478	103,021
SW Keynsham	-228,512	-27,432	941,987	113,084
Whitchurch	2,052,793	246,434	3,560,775	427,464

75% rent: 25% intermediate tenure split, £15k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	984,999	78,800	3,122,369	249,790
Weston	984,999	78,800	3,122,369	249,790
MOD Ensleigh	623,314	124,663	1,610,291	322,058
E Keynsham	-1,873,665	-179,814	-430,139	-41,280
SW Keynsham	-1,478,543	-177,496	-292,637	-35,130
Whitchurch	839,665	100,800	2,369,718	284,480

75% rent: 25% intermediate tenure split, £10k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	3,883,919	310,714	5,918,089	473,447
Weston	3,883,919	310,714	5,918,089	473,447
MOD Ensleigh	1,911,594	382,319	2,888,641	577,728
E Keynsham	711,588	68,291	2,114,193	202,898
SW Keynsham	624,433	74,962	1,779,323	213,604
Whitchurch	2,874,950	345,132	4,370,210	524,635

75% rent: 25% intermediate tenure split, £10k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	2,223,230	177,858	4,329,412	346,353
Weston	2,223,230	177,858	4,329,412	346,353
MOD Ensleigh	1,136,906	227,381	2,115,619	423,124
E Keynsham	-798,355	-76,618	634,788	60,920
SW Keynsham	-615,385	-73,876	561,340	67,388
Whitchurch	1,678,272	201,473	3,192,280	383,227

75% rent: 25% intermediate tenure split, £7.5k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	4,467,854	357,428	6,469,501	517,560
Weston	4,467,854	357,428	6,469,501	517,560
MOD Ensleigh	2,164,258	432,852	3,137,239	627,448
E Keynsham	1,235,096	118,531	2,626,307	252,045
SW Keynsham	1,046,665	125,650	2,195,554	263,572
Whitchurch	3,282,700	394,082	4,774,673	573,190

75% rent: 25% intermediate tenure split, £7.5k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	2,835,006	226,800	4,920,148	393,612
Weston	2,835,006	226,800	4,920,148	393,612
MOD Ensleigh	1,391,168	278,234	2,368,282	473,656
E Keynsham	-260,700	-25,019	1,161,944	111,511
SW Keynsham	-183,806	-22,066	985,974	118,364
Whitchurch	2,095,377	251,546	3,603,183	432,555

50% rent: 50% intermediate tenure split, £10k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	5,452,938	436,235	7,053,278	564,262
Weston	5,452,938	436,235	7,053,278	564,262
MOD Ensleigh	2,680,048	536,010	3,458,213	691,643
E Keynsham	2,179,019	209,119	3,198,581	306,966
SW Keynsham	1,836,444	220,461	2,676,032	321,252
Whitchurch	4,047,849	485,936	5,239,925	629,043

50% rent: 50% intermediate tenure split, £10k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	3,881,311	310,505	5,528,294	442,264
Weston	3,881,311	310,505	5,528,294	442,264
MOD Ensleigh	1,910,353	382,071	2,694,505	538,901
E Keynsham	709,186	68,060	1,744,435	167,412
SW Keynsham	622,459	74,725	1,475,337	177,111
Whitchurch	2,873,040	344,903	4,075,929	489,307

Sales values + 10%, 75% rent: 25% intermediate tenure split, £10k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	6,578,370	526,270	8,843,670	707,494
Weston	6,578,370	526,270	8,843,670	707,494
MOD Ensleigh	3,229,718	645,944	4,352,230	870,446
E Keynsham	2,948,970	283,011	4,561,267	437,742
SW Keynsham	2,469,758	296,490	3,804,937	456,775
Whitchurch	4,888,972	586,911	6,585,803	790,613

Sales values + 10%, 75% rent: 25% intermediate tenure split, £10k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	5,045,838	403,667	7,359,933	588,795
Weston	5,045,838	403,667	7,359,933	588,795
MOD Ensleigh	2,464,969	492,994	3,591,580	718,316
E Keynsham	1,491,844	143,171	3,129,950	300,379
SW Keynsham	1,267,651	152,179	2,619,858	314,509
Whitchurch	3,723,577	447,008	5,450,624	654,337

Profit sensitivity analysis: 30% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 4

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	5,918,089	473,447	6,603,727	528,298
Weston	5,918,089	473,447	6,603,727	528,298
MOD Ensleigh	2,888,641	577,728	3,225,877	645,175
E Keynsham	2,114,193	202,898	2,675,847	256,799
SW Keynsham	1,779,323	213,604	2,246,121	269,642
Whitchurch	4,370,210	524,635	4,889,787	587,009

Profit sensitivity analysis: 30% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 3

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	6,679,793	534,383	7,355,378	588,430
Weston	6,679,793	534,383	7,355,378	588,430
MOD Ensleigh	3,268,965	653,793	3,606,201	721,240
E Keynsham	2,838,843	272,442	3,397,684	326,073
SW Keynsham	2,379,802	285,691	2,841,446	341,110
Whitchurch	4,953,285	594,632	5,464,806	656,039

Profit sensitivity analysis: 30% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 5

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	4,329,412	346,353	5,049,424	403,954
Weston	4,329,412	346,353	5,049,424	403,954
MOD Ensleigh	2,115,619	423,124	2,457,190	491,438
E Keynsham	634,788	60,920	1,211,437	116,261
SW Keynsham	561,340	67,388	1,036,907	124,479
Whitchurch	3,192,280	383,227	3,718,296	446,374

Profit sensitivity analysis: 40% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 4

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	3,883,919	310,714	4,497,263	359,781
Weston	3,883,919	310,714	4,497,263	359,781
MOD Ensleigh	1,911,594	382,319	2,204,370	440,874
E Keynsham	711,588	68,291	1,203,162	115,467
SW Keynsham	624,433	74,962	1,030,295	123,685
Whitchurch	2,874,950	345,132	3,323,589	398,990

Profit sensitivity analysis: 40% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 3

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	4,682,755	374,620	5,278,220	422,258
Weston	4,682,755	374,620	5,278,220	422,258
MOD Ensleigh	2,298,139	459,628	2,590,004	518,001
E Keynsham	1,451,108	139,262	1,938,112	185,999
SW Keynsham	1,233,926	148,130	1,635,356	196,321
Whitchurch	3,463,983	415,844	3,909,335	469,308

Profit sensitivity analysis: 40% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 5

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	2,223,230	177,858	2,859,201	228,736
Weston	2,223,230	177,858	2,859,201	228,736
MOD Ensleigh	1,136,906	227,381	1,431,280	286,256
E Keynsham	-798,355	-76,618	-294,061	-28,221
SW Keynsham	-615,385	-73,876	-201,090	-24,140
Whitchurch	1,678,272	201,473	2,135,675	256,384

Appendix 2 - Summary of results – 30 units per hectare

75% rent: 25% intermediate tenure split, £15k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	2,678,836	160,698	4,772,038	286,265
Weston	2,678,836	160,698	4,772,038	286,265
MOD Ensleigh	1,406,267	210,835	2,383,381	357,328
E Keynsham	-352,084	-25,348	1,073,478	77,284
SW Keynsham	-228,512	-20,568	941,987	84,787
Whitchurch	2,052,793	184,770	3,560,775	320,502

75% rent: 25% intermediate tenure split, £15k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	984,999	59,088	3,122,369	187,305
Weston	984,999	59,088	3,122,369	187,305
MOD Ensleigh	623,314	93,450	1,610,291	241,423
E Keynsham	-1,873,665	-134,893	-430,139	-30,968
SW Keynsham	-1,478,543	-133,082	-292,637	-26,340
Whitchurch	839,665	75,577	2,369,718	213,296

75% rent: 25% intermediate tenure split, £10k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	3,883,919	232,989	5,918,089	355,014
Weston	3,883,919	232,989	5,918,089	355,014
MOD Ensleigh	1,911,594	286,596	2,888,641	433,080
E Keynsham	711,588	51,230	2,114,193	152,210
SW Keynsham	624,433	56,205	1,779,323	160,155
Whitchurch	2,874,950	258,771	4,370,210	393,358

75% rent: 25% intermediate tenure split, £10k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	2,223,230	133,367	4,329,412	259,713
Weston	2,223,230	133,367	4,329,412	259,713
MOD Ensleigh	1,136,906	170,451	2,115,619	317,184
E Keynsham	-798,355	-57,477	634,788	45,701
SW Keynsham	-615,385	-55,390	561,340	50,526
Whitchurch	1,678,272	151,060	3,192,280	287,334

75% rent: 25% intermediate tenure split, £7.5k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	4,467,854	268,018	6,469,501	388,092
Weston	4,467,854	268,018	6,469,501	388,092
MOD Ensleigh	2,164,258	324,476	3,137,239	470,351
E Keynsham	1,235,096	88,920	2,626,307	189,079
SW Keynsham	1,046,665	94,209	2,195,554	197,620
Whitchurch	3,282,700	295,473	4,774,673	429,764

75% rent: 25% intermediate tenure split, £7.5k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	2,835,006	170,066	4,920,148	295,150
Weston	2,835,006	170,066	4,920,148	295,150
MOD Ensleigh	1,391,168	208,571	2,368,282	355,065
E Keynsham	-260,700	-18,769	1,161,944	83,653
SW Keynsham	-183,806	-16,544	985,974	88,747
Whitchurch	2,095,377	188,603	3,603,183	324,319

50% rent: 50% intermediate tenure split, £10k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	5,452,938	327,111	7,053,278	423,112
Weston	5,452,938	327,111	7,053,278	423,112
MOD Ensleigh	2,680,048	401,806	3,458,213	518,473
E Keynsham	2,179,019	156,877	3,198,581	230,279
SW Keynsham	1,836,444	165,296	2,676,032	240,867
Whitchurch	4,047,849	364,343	5,239,925	471,640

50% rent: 50% intermediate tenure split, £10k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	3,881,311	232,832	5,528,294	331,631
Weston	3,881,311	232,832	5,528,294	331,631
MOD Ensleigh	1,910,353	286,410	2,694,505	403,974
E Keynsham	709,186	51,057	1,744,435	125,589
SW Keynsham	622,459	56,027	1,475,337	132,794
Whitchurch	2,873,040	258,599	4,075,929	366,870

Sales values + 10%, 75% rent: 25% intermediate tenure split, £10k per unit S106, CSH 4

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	6,578,370	394,623	8,843,670	530,514
Weston	6,578,370	394,623	8,843,670	530,514
MOD Ensleigh	3,229,718	484,216	4,352,230	652,508
E Keynsham	2,948,970	212,309	4,561,267	328,385
SW Keynsham	2,469,758	222,300	3,804,937	342,479
Whitchurch	4,888,972	440,051	6,585,803	592,782

Sales values + 10%, 75% rent: 25% intermediate tenure split, £10k per unit S106, CSH 5

Site name	40% AH		30% AH	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	5,045,838	302,690	7,359,933	441,508
Weston	5,045,838	302,690	7,359,933	441,508
MOD Ensleigh	2,464,969	369,561	3,591,580	538,468
E Keynsham	1,491,844	107,404	3,129,950	225,338
SW Keynsham	1,267,651	114,100	2,619,858	235,811
Whitchurch	3,723,577	335,155	5,450,624	490,605

Profit sensitivity analysis: 30% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 4

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	5,918,089	355,014	6,603,727	396,144
Weston	5,918,089	355,014	6,603,727	396,144
MOD Ensleigh	2,888,641	433,080	3,225,877	483,640
E Keynsham	2,114,193	152,210	2,675,847	192,646
SW Keynsham	1,779,323	160,155	2,246,121	202,171
Whitchurch	4,370,210	393,358	4,889,787	440,125

Profit sensitivity analysis: 30% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 3

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	6,679,793	400,707	7,355,378	441,234
Weston	6,679,793	400,707	7,355,378	441,234
MOD Ensleigh	3,268,965	490,100	3,606,201	540,660
E Keynsham	2,838,843	204,380	3,397,684	244,614
SW Keynsham	2,379,802	214,204	2,841,446	255,756
Whitchurch	4,953,285	445,840	5,464,806	491,882

Profit sensitivity analysis: 30% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 5

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	4,329,412	259,713	5,049,424	302,905
Weston	4,329,412	259,713	5,049,424	302,905
MOD Ensleigh	2,115,619	317,184	2,457,190	368,394
E Keynsham	634,788	45,701	1,211,437	87,216
SW Keynsham	561,340	50,526	1,036,907	93,331
Whitchurch	3,192,280	287,334	3,718,296	334,680

Profit sensitivity analysis: 40% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 4

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	3,883,919	232,989	4,497,263	269,782
Weston	3,883,919	232,989	4,497,263	269,782
MOD Ensleigh	1,911,594	286,596	2,204,370	330,490
E Keynsham	711,588	51,230	1,203,162	86,621
SW Keynsham	624,433	56,205	1,030,295	92,736
Whitchurch	2,874,950	258,771	3,323,589	299,153

Profit sensitivity analysis: 40% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 3

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	4,682,755	280,909	5,278,220	316,630
Weston	4,682,755	280,909	5,278,220	316,630
MOD Ensleigh	2,298,139	344,549	2,590,004	388,306
E Keynsham	1,451,108	104,471	1,938,112	139,533
SW Keynsham	1,233,926	111,064	1,635,356	147,197
Whitchurch	3,463,983	311,790	3,909,335	351,875

Profit sensitivity analysis: 40% affordable, 75% rent; 25% intermediate tenure split, £10k per unit S106, CSH 5

Site name	20% profit		18% profit	
	Residual land value (£millions)	Residual land value £millions per ha	Residual land value (£millions)	Residual land value per ha (£millions)
Odd Down	2,223,230	133,367	2,859,201	171,518
Weston	2,223,230	133,367	2,859,201	171,518
MOD Ensleigh	1,136,906	170,451	1,431,280	214,585
E Keynsham	-798,355	-57,477	-294,061	-21,171
SW Keynsham	-615,385	-55,390	-201,090	-18,100
Whitchurch	1,678,272	151,060	2,135,675	192,230

Appendix 3 - Full appraisal (30%
affordable, 75%: 25% tenure split, CSH
level 4 and £7,500 per unit Section 106
obligations)

LOCAL PLAN AND CIL VIABILITY MODEL

This is input source box for reference info that appears on all sheets

Local Authority	Bath and North East Somerset
Area(s)	
Author	
Date	04 November 2013
Reference	Strategic sites testing

S106	£27,500
Value growth	0%

		Typology description	Residual Land Values	Total units	Total floor area	Private floor area	Ave unit size	CIL as % of dev costs
Affordable housing percentage	30%	Land adj Odd Down	£7,145,631	300	27,600	19,320	92	0.0%
of which social rented	75%	Land adj Weston	£7,145,631	300	27,600	19,320	92	0.0%
of which intermediate	25%	Ext to MOD Emsleigh	£3,474,475	120	11,040	7,728	92	0.0%
Code for Sustainable Homes		East of Keynsham	£3,187,962	250	23,000	16,100	92	0.0%
Cost allowance - all tenures (% of base costs)	4.0%	Land adj SW of Keynsham	£2,657,198	200	18,400	12,880	92	0.0%
Grant available	<input type="checkbox"/>	Whitchurch	£5,288,062	200	18,400	12,880	92	0.0%
CIL rate	1							

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Benchmark Land Values

BLV no	Description	£s per ha
BLV1	GF 1	£350,000
BLV2	GF 2	£300,000
BLV3	GF 3	£250,000

CIL rates	Rate per sqm		Description	£s per ha		
	1	2				
1	£0	£20	GF 1	£350,000		
2	£20	£40	GF 2	£300,000		
3	£40	£60	GF 3	£250,000		
4	£60	£80				
5	£80	£100				
6	£100	£110				
7	£110	£140	Growth			
8	£140	£150	Value growth	0.00%		
9	£150	£180	Cost growth	0.00%		
10	£180	£200				
11	£200	£220				
12	£220	£240				
13	£240	£260				
14	£260	£280				
15	£280	£300				
16	£300					

LOCAL PLAN AND CIL VIABILITY MODEL

Local Authority	Bath and North East Somerset
Area(s)	0
Author	0
Date	04 November 2013
Reference	Strategic sites testing

SITE TYPOLOGIES

Total number of units identified from Site Details

UNIT MIX enter for each typology identified

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UNIT SIZES enter for each unit type (net sellable area) - square metres						
	Floors					Houses
1 bed flat	2 bed flat	3 bed flat	4 bed flat	2 bed house	3 bed house	4 bed house
rival	52.0 sqm	74.0 sqm	85.0 sqm	95.0 sqm	75.0 sqm	95.0 sqm
affordable	52.0 sqm	74.0 sqm	85.0 sqm	95.0 sqm	75.0 sqm	95.0 sqm

UNIT SIZES enter for each unit type (net sellable area) - square metres

	Flats			Houses			
	1 bed flat	2 bed flat	3 bed flat	4 bed flat	2 bed house	3 bed house	4 bed house
Private affordable	52.0 sqm	74.0 sqm	85.0 sqm	95.0 sqm	75.0 sqm	95.0 sqm	125.0 sqm
	52.0 sqm	74.0 sqm	85.0 sqm	95.0 sqm	75.0 sqm	95.0 sqm	125.0 sqm

LOCAL PLAN AND CIL VIABILITY MODEL

Local Authority	Bath and North East Somerset
Area(s)	0
Author	0
Date	04 November 2013
Reference	Strategic sites testing

SALES AND AFFORDABLE HOUSING VALUES

VALUE BANDS for private sales

Sub Market	£ per sqmetre
1 Old Down	£2,894
2 Weston	£2,894
3 MDC Emsleigh	£2,894
4 E of Keynsham	£2,637
5 SW Keynsham	£2,537
6 Whitelchurch	£2,894
7	
8	
9	

GROUND RENTS from flats (£s per annum)

	Private	Affordable		Investment value
One bed	£150	£0	One bed	£2,500
Two beds	£150	£0	Two beds	£2,500
Three beds	£150	£0	Three beds	£2,500
Four beds	£150	£0	Four beds	£2,500
Capitalisation rate		6.00%		

Select affordable value option from drop down box

Option 2: Capital values calculated from net rents & yields

AFFORDABLE HOUSING CAPITAL VALUES (price paid to developer)

Option 1 User defined capital values per unit

	Social rent	NBHB
Capitalised rent per unit	Indicative HCA funding per unit	Indicative HCA funding per unit
£59,592	£850.88	£850.88
£84,804	£129,356	£129,356
£97,410	£143,990	£143,990
Four bed flats	£0	£0
Two bed house	£0	£0
Three bed house	£0	£0
Four bed house	£0	£0

Option 2 Capital values for affordable housing calculated from net rents & yield assumption

	Social rent	NBHB
Net Target rent per annum	Indicative unit funding	Indicative unit funding
Yield	Capital value	Capital value
5.50%	£3,800	£144,300
5.50%	£4,100	£205,350
5.50%	£4,160	£235,875
5.50%	£4,420	£263,625
5.50%	£4,100	£105,450
5.50%	£4,160	£83,250
5.50%	£4,800	£138,750
		2.00%
		40%
		£1,732
		5.00%
		£2,464
		5.00%
		£2,831
		5.00%
		£3,164
		5.00%
		£2,498
		5.00%
		£3,164
		5.00%
		£4,163
		5.00%

LOCAL PLAN AND CIL VIABILITY MODEL

Local Authority	Bath and North East Somerset
Area(s)	0
Author	0
Date	04 November 2013
Reference	Strategic sites testing 3

BUILD COSTS

Typology	Build costs (flats) per gross sq m	Build costs (houses) per gross sq m	External works and other costs	Gross to net adjustment for flats	TIMINGS for cash flow		PLANNING OBLIGATIONS / CIL			
					Build start	Build period	Sales period start	Sales period	S106 payments	CIL Charges
Land adj Odd Down	£883	£883	£241.0	100.0%	4	23	8	8	£7,500	8
Land adj Weston	£883	£883	£241.0	100.0%	4	23	8	8	£7,500	8
Ext to MDD Earsleigh	£883	£883	£241.0	100.0%	3	9	7	7	£7,500	7
East of Keynsham	£883	£883	£241.0	100.0%	3	19	19	19	£7,500	7
Land adj SW of Keynsham	£883	£883	£241.0	100.0%	3	16	16	16	£7,500	7
Whitchurch	£883	£883	£241.0	100.0%	3	16	16	16	£7,500	7
0	£853	£853	£241.0	100.0%	1	4	1	4	£7,500	4
0	£853	£853	£241.0	100.0%	1	4	1	4	£7,500	5
0	£853	£853	£241.0	100.0%	1	4	1	4	£7,500	5
										12%

OTHER COSTS

Developer return % GDV	Private	18.00%						
Code for Sustainable Homes	Affordable	6.00%	4%	From test variables				
Contingency	All tenures		5%					
Marketing costs % of sales values		3.00%						
Legal Fees % of GDV		0.50%						
Site acquisition costs % land value		5.80%						
Development Finance		7.00%						

Sales period start
Quarters from start on site
Quarters

Build start
Build period
Quarters

Sales period start
Quarters from start on site
Quarters

S106 payments
£s per unit all tenures
Quarter paid

CIL Charges
£s p sq m private sales
only

Instalment 1 - Qtr paid
Instalment 2 - Qtr paid

Instalment 3 - Qtr paid
Instalment 4 - Qtr paid

% of build cost

12%

DEVELOPMENT PROGRAMMES

LOCAL PLAN AND CIL VIABILITY MODEL

Local Authority Bath and North East Somerset
Area(s) _____

