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Annex 1 – Notes of the development industry workshop

Central Bedfordshire Development Viability Study

Development Industry Workshop 31st July 2012

Technology House, 239 Ampthill Road, Bedford MK42 9BD

Introduction

Michael David welcomed the attendees and introduced the workshop. Three Dragons had been commissioned to carry out a viability study which would cover the introduction of CIL in 2014, and its interaction with the affordable housing target, currently set at 35%, and the various standards which the Council wished to see included in new development relating to quality of design, site layout, environmental standards and the cumulative impact on viability in the present market.

Viability Presentation

Kathleen Dunmore introduced the presentation and Dominic Houston set out the topics to be covered:

- CIL and viability testing (and guidance)
- Review of affordable housing targets
- Review of development standards
- Approach to the study
- Assumptions and evidence base
- Comment and feedback

This workshop session was part of the process of consultation with key stakeholders as required by "Viability Testing Local Plans". It was an opportunity to share key assumptions about development economics in the local area and to collect evidence about where (and if) these differed from national averages shown in published reports. The discussion would be covered within a follow up note (this document) and comments would not be attributable. People would have a further opportunity to comment after the workshop and they were urged to do so. The point was made that detailed feedback with examples was important as unless the consultants' team was made aware of alternative evidence, it would be assumed that the attendees agreed with the assumptions made and that they would be used within the viability testing.

Community Infrastructure Levy Principles

Dominic Houston briefly reviewed the principles behind the Community Infrastructure Levy (CIL), which are:

- CIL is set out as £s per sq metre for developments of 1 dwelling or more or over 100sq m additional on-residential floorspace and is not negotiable unlike S106
- Justification for the levy rate(s) should include:
  - There is a need (Infrastructure funding deficit)
  - The setting of the levy rates is informed by viability assessments
  - Charging authorities are not allowed to set rates for policy purposes
- There can be different rates for different areas / "*intended uses of development"* – along with different types of retail constituting different uses and the need to have proper OS base mapping as shown in Havant
- Exemptions include affordable housing and charities
- Charging authorities will have to have a Regulation 123 list setting out how the money will be spent
- Can collect in one place and spend in another
- Identified at planning permission, paid at commencement
- There will still be s106 contributions in order to make the development acceptable in planning terms. This will have to meet the three tests:
  1. necessary to make the development acceptable in planning terms
  2. directly related to the development
  3. fairly and reasonably related in scale and kind to the development

Adopted CILs in other Areas

In almost all cases residential development attracts CIL but there is more variance in the approach for non-residential – retail often attracts CIL, especially larger format convenience, B space rarely attracts CIL and hotels/student accommodation will sometimes attract a charge.

CIL Location	Residential	Retail	Office	Industrial/ warehouse	Other
London Mayors	£20 - £50	£20 - £50	£20 - £50	£20 - £50	£20 - £50
Newark & Sherwood	£45 - £75 (C2 £0)	£100 - £125	£0	£0 - £20	£0
Portsmouth	£105	£105 OOC £53 ITC	£0	£0	£53 hotels
Redbridge	£70	£70	£70	£70	£70

CIL Location	Residential	Retail	Office	Industrial/ warehouse	Other
Shropshire	£40 - £80	£0	£0	£0	£0
Wandsworth (nya)	£0 - £575	£0 - £100	£0 - £100	£0	£0

Viability Guidance

In comparison to a year ago, there is now guidance on viability testing:

NPPF - "To ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing, standards, infrastructure contributions or other requirements should, when taking account of the normal cost of development and mitigation, provide competitive returns to a willing land owner and willing developer to enable the development to be deliverable."

"Local planning authorities should ……..assess the likely cumulative impacts on development in their area of all existing and proposed local standards, ……

"Viability Testing Local Plans - Advice for planning practitioners - "The approach to assessing plan viability should recognise that it can only provide high level assurance "

"The advice and input of local partners, particularly those with knowledge of the local market and development economics, and those who will be involved in delivering the plan, should be sought at each stage."

"….. the role of an assessment is to inform the decisions made by local elected members to enable them to make decisions that will provide for the delivery of the development upon which the plan is reliant…"

The viability tests will then be used to set an appropriate CIL rate - "Charging authorities will use that evidence to strike an appropriate balance between the desirability of funding infrastructure from the levy and the potential effects of the levy upon the economic viability of development across their area." (CLG 2011)

In Summary

- In order to set policy for an area the guidance does not suggest that all schemes tested should be viable
- Proportionate testing is required to reflect local circumstances. If thinking of different rates for different uses or locations more evidence is needed

- The proposed CIL should take into account other policy requirements – including affordable housing, zero carbon and wider proposed standards

In general discussion the view was expressed that there were difficulties in producing a series of examples as policy level which accurately reflected any individual site. For this purpose site specific valuation would be required. An approach which relied on nationally published indicators could only provide a crude fit to local circumstances. It was suggested that an alternative approach would be to start from the cost of the 123 list and spread it across the planned development in order to set the planning obligation levels.

Land Values

VOA based evidence and analysis was presented showing that benchmark land values for:

- Infill/previously used land might be between £550,000 to £950,000 per gross ha. (based on 30% uplift on industrial values).
- Greenfield urban extension land values might be around £280,000 per gross ha. (based on at least 20 times agricultural values).

Industrial land (PMR Jan 2011)	
Oxford	£1m per ha
Cambridge	£740,000 per ha (historically Luton comparable with Cambridge)
Norwich	£425,000 per ha
Leicester	£400,000 per ha

During the subsequent discussion the following points were made:

- Threshold land value might be best assessed at the end of a residual valuation process
- Threshold land values need to be higher as owners will want return for the large sums spent on site promotion through planning – e.g. stamp duty and legal fees, promotional costs for large SUE £300,000 for 300 dwellings, capital gains tax for owners
- There were queries about why uplift on industrial land values were used rather than actual residential land transactions.
- At this stage of the economic cycle there is no demand for land at present – the main viability issue is the market. A return to 2007 values might bring forward land. The previous Savills study suggested land values were around £550,000-£650,000 per ha in 2009. However the market is currently very distressed and will not produce the activity required – lack of effective demand for homes reduces values, which in turn reduces land prices so that land will not come forward until values are regained.

- There were queries about whether CIL was a clandestine land tax – discussion suggested that a logical outcome of CIL was pressure on land prices although the advance purchases of land will result in a long time lag.
- There were also suggestions that the suggested land values were high and that in practice the pattern of land purchases was that they were staggered over say 18 months with prices varying over time. This reflected the pattern of income, which started to accrue in years 3 and onwards.
- Current industry delivery of houses is a fraction of what new supply needs to be, especially in light of the recently released Census figures. The implication that the Development Plan obligations including CIL should not further jeopardise land coming forward for housing.
- The basis for using an uplift on existing use values was queried and it was agreed to supply this (see Appendix 1)

Non-residential Viability Testing

Dominic Houston set out the initial assumptions to be used in the non-residential viability testing. He set out the classes of development to be considered:

- Offices
- Industrial
- Warehouse
- Hotels
- Health and fitness
- Care homes (Extra Care and Sheltered picked up as separate category in residential)
- Sui Generis – to be tested using analogous types of developments.

Because of the paucity of recent local transactions for some uses some of the value assumptions have drawn upon transactions across wider areas, in particular convenience retail, hotels, leisure and care homes have looked at data across Britain excluding London. For convenience retail the assumptions are based upon the strength of the operator's covenant being a more important determinant of value than location, particularly for larger stores.

Convenience Retail - Store Size	Rent/sqft	Rent/sqm	Yield %
Convenience <1000 sqm	£12.00	£129	6.11
Convenience 1001-2500 sqm	£13.00	£140	5.83
Convenience 2501-5000 sqm	£17.00	£183	5.18
Convenience >5000 sqm	£20.00	£215	4.98

Comparison Retail Store Location/Size	Rent/sqft	Rent/sqm	Yield %
Bedfordshire x-Luton & Bedford Town Centre comparison	£17.50	£188	8.7
Leighton Buzzard	£17.50	£188	7.4
Dunstable	£21.50	£230	9.8
Biggleswade	£19.50	£210	9.2
Other Central Bedfordshire	£13.00	£140	7.9

Discussion indicated that the town centre comparison retail rents were accurate although part of the wider picture is that while rents are pegged at these high levels there large numbers of vacant units across Central Bedfordshire.

Out of centre comparison/retail warehouse	Rent/sqft	Rent/sqm	Yield %
All Bedfordshire	£14.00	£150	7.7
up to 2500 sqm	£14	£150	7.7
over 2500 sqm	£15	£164	7.7

It was noted that currently the development of retail warehouses had substantially slowed down.

Offices	Rent/sqft	Rent/sqm	Yield %
Bedfordshire	£11.00	£120	10.5
Luton	£12.50	£130	9.9
Bedford	£10.00	£105	9.3
Central Beds	£10.00	£105	10.5
Bedfordshire new build only	£14.00	£150	9.0

The available data indicated that there are relatively few transactions but also that where there are new offices, they attract higher rents. The subsequent discussion indicated that the values are probably about right although there is very little demand and there is no market for small office units.

B2/B8	Rent/sqft	Rent/sqm	Yield %
Industrial	£5.30 - £5.60	£57-£60	7.5 – 9.5
Warehouse	£5.00-£7.00	£55-£78	7.0

Demand for employment premises is poor. No employment sites have been granted planning consent in recent times and there is no incentive to bring any forward as the relationship between risk and reward is not at all good and other factors such as rates on empty premises further discourage speculative build.

Type	Rent/sqft	Rent/sqm	Yield %
Hotels	£11.80	£127	7.3
Mixed Leisure/Fitness	£8.00	£86	7.5
Care Homes	£8.20	£88	6.3

Build Costs – Non residential (BCIS)

Type	Cost/sqft	Cost/sqm
Convenience Retail	£99	£1,060
Town Centre Comparison Retail	£66	£713
Out of Centre Comparison Retail	£48-£54	£516-£583

Type	Cost/sqft	Cost/sqm
Office	£111	£1,195
Industrial	£54	£586
Warehouse	£43	£462
Hotels	£84-£141	£907-£1,514
Leisure	£100	£1,075
Care Homes	£109	£1,168

In addition to these build costs from BCIS the testing would include 10% for external works and a premium of £20/sqm in line with the DCLG proposals for changes to the Building Regulations in 2013 (20% improvement in efficiency) .

There was some discussion about whether the BCIS build cost are too low and examples were requested. Further discussion indicated that £ per sq m build cost figures were higher for smaller units. Offices are currently being built to BREEAM very good and information on build costs to achieve this standard was requested.

Other Development Costs (Non- residential)

Professional fees	12% of build costs
Marketing fees	3% of GDV
Finance	7% of development cost
Developer return	20% of development cost
Purchaser costs	5%
Acquisition costs	Varies – c 2.0% + SDLT
Other	An allowance for S106 would be included in the testing.

The issue of including voids was briefly discussed – there was no clear suggestion that they should be included as in the current market developers would only build if their potential tenants were identified – particularly with the rates liability on empty premises.

Discussion included:

- The view that these costs are reasonable for purpose of this exercise.
- There may be a case to include voids/rent free periods to allow for the complexity of commercial lettings – an example was provided of 1.5 year rent free on 1,000 square foot office space.
- There needs to be a contingency allowance in line with the John Harman report.

- It was queried whether the 12% professional fees was enough to cover strategic site promotion through the planning process

Residential Viability Testing

Kathleen Dunmore set out the basis for the residential viability testing and initial assumptions to be used.

- CIL and affordable housing (AH) will be tested in combination
- 2 types of testing will be used:
  - Notional 1 hectare site (for an overview)
  - Series of case study sites – representative of variety of sites likely to come forward
- The initial thinking is to test at 5% intervals around policy for AH and £25 'steps' for CIL.
- All of the obligations and standards in the plan will be tested; and a list of draft plan policies with development implications will be circulated with the notes from the workshop.

Residential Values

A table of house achieved sales values was presented for comment. These values had been prepared using Land Registry data on recent transactions and were the compatible with those used in the current Strategic Housing Market Assessment.

Achieved price £,000s	Detached			Semi			Terraced			Flats		
	5 Bed	4 Bed	3 Bed	3 Bed	4 Bed	2 Bed	4 Bed	3 Bed	2 Bed	3 Bed	2 Bed	1 Bed
Ampthill /Flitwick	396	360	325	243	212	180	188	170	153	141	128	115
Leighton Buzzard	387	352	318	240	219	177	187	170	153	136	124	112
Sandy and Biggles wade	345	313	282	237	206	174	185	168	151	137	124	112
Dunstable and Houghton Regis	368	334	301	226	197	167	172	156	141	117	106	96

The data did not identify a rural house price premium although it was suspected that one existed.

The available data on newbuild sheltered housing (asking prices) was:

- 1 bed (Luton) £150,000
- 2 bed (Luton) £200,000

The subsequent discussion indicated that:

- Prices such as 4 bed in Ampthill were right.
- There was a considerable price premium for comparable village houses.

Attendees were informed about the lower values in Wixams compared to the neighbouring town of Ampthill and asked about the likely values of houses in urban extensions. Attendees confirmed that prices in SUEs related more strongly to the local main settlement than to the surrounding rural areas. and that a discount was probable as in the Ampthill/Wixams case .

Older persons housing: Attendees noted that there are schemes being built in Leighton Buzzard and Biggleswade and planned in Langford.

Affordable Housing

Kathleen Dunmore presented the draft assumptions for affordable housing.

- Affordable rents are based on 80% of 30th percentile of market rents – using a SHMA compatible methodology
- Biggleswade, Sandy, Ampthill, Flitwick are in the Bedford BRMA
- Dunstable and Houghton Regis are in the Luton BRMA
- Leighton Buzzard is in the Milton Keynes BRMA
- Lowest house price area should have lowest rents but does not always do so.
- Service Charges – flats only - £10 per week

Rents	1 bed	2 bed	3 bed	4 bed
Bedford	£78.46	£101.54	£120.00	£161.54
Luton	£92.30	£107.08	£129.23	£156.92
MK	£96.92	£115.38	£135.70	£175.38
Stevenage N Herts	£96.92	£120.00	£143.08	£184.62

Michael David from Central Bedfordshire Council confirmed that the council was happy to include affordable rents with affordable housing provision.

Feedback from the registered providers at the workshop indicated that service charges are customarily included within the affordable rent. Bad debts/voids are currently lower than the proposed default but are anticipated to rise as a result of the Welfare Reform Act.

Comments on the proposed rents, service charges and housing association costs were requested.

Build costs

KathleenDunmore set out the build costs assumptions for the residential viability testing:

Type	COST PER SQ METRE
Houses	£1050
Flats	
1-2 storey	£1065
3-5 storey	£1135
6+ storey	£1360
Bungalows	£1185
Sheltered	£1160
Extracare	£1205
Lifetime Homes (per dwelling)	
Houses	£1050
Flats	£750

- The costs are based upon BCIS, taking into account the location factor 107 South and Mid Beds
- The figures includes prelims- an uplift of 15% has been applied to allow for external works
- Assume 2010 Building Regulations

Sustainable Homes

- Add on £795 per dwelling for 2013 Building Regulations " FEES" (based on the preferred option in the DCLG consultation paper on Building Regulations see http://www.communities.gov.uk/publications/planningandbuilding/brconsultationsection2
- Or £2,866 halfway point (DCLG alternative option as stated in the Consultation Paper on Building regulations)
- Or £9-10,000 Zero Carbon (based on Zero Carbon Hub estimate of the costs of a move to Zero Carbon from 2006 build costs amended to reflect 2010 Build Costs)

Additional Costs Type	Cost
Professional fees	10-12% of total build costs
Internal overheads	5% of build costs (or revenue)
Finance	7.5% of build costs (representative of current interest rates)
Marketing fees	3% of gross development value of market units (GDV)
Developer return	17% of GDV of market units
Contractor return	6% AH construction costs
Large Sites	
Nett to Gross	30-70% average 50%
Opening up costs	£200-300,000 per gross hectare – up to £600,000
Discount factor (DCF)	3.5%

The discussion included:

- The use of the median against mean build costs from BCIS – it was acknowledged that both can be used in viability appraisals but that the intention was to use the median because of the long tail of the build cost distribution.
- There was a suggestion that the £795/unit for 2013 building regulations may need to be increased to c. £1,600. Evidence was requested.
- Attendees indicated that getting to Code level 4 costs between £9,000 to £10,000 per dwelling; and that code 3 costs around £4,000/dwelling compared with 2010 Building Regulations. Evidence was requested.
- The consultants team was asked to provide the detail on the assumptions re BCIS so that the development industry can respond
- There are economies of scale for build costs for large developments although they are commercially sensitive.
- There is an argument that finance charges need to include land purchase costs.
- The 17% developer return for residential was queried and it was explained that the overall return included the 5% of build costs for developer overheads; and that taking this into account accounted for c.20% of GDV for the return to the developer.
- There is an argument that an allowance for contingencies should be part of the appraisal

- There is also an argument that if threshold land values are tested at different levels, so should be developer profit
- If land values are suppressed, it is likely that it is the land promoters who are squeezed first and as a result the pipeline of development land will dry up in the medium term.
- Development needs at least 25%-30% return including overheads and sales – should equal about the same as the draft assumptions.
- Banks will only lend if scheme has around 20% return. Finance costs total 12% when various fees are included. Evidence was requested.
- There was a query about how CBC plans to use its New Homes Bonus and clarification about how it is not ring fenced for infrastructure and may not be received if Central Bedfordshire does not perform better than other local authorities.

Large sites

Kathleen Dunmore explained that the viability appraisal will not model any specific site within Central Bedfordshire. That was a matter for site specific negotiation between the promoters and the local authority. The viability appraisal for policy making purposes will be based on an illustrative composite site which is then modelled in different locations. However that composite site will be informed by discussion with individual scheme promoters as well as by reference to experience elsewhere. Examples and evidence were requested.

In wider discussion the following points were made:

- Opening up costs could be twice the £300,000/ha i.e. the £600,000/ha upper figure. There was some discussion about the £17,000-£23,000opening up costs /plot quoted in the in the Viability Testing of Local Plans guidance although it was acknowledged that it was one developer's perspective.
- Some of the infrastructure costs and planning obligations associated with SUEs will still be best delivered through S106 (e.g. education) and this should be included in the viability appraisal of major sites. Some of such costs may feed through into the Section 123 list and consideration should be given to avoiding double charging.
- The Milton Keynes tariff model is very different and has almost no opening up costs for developers as the tariff provides for all offsite infrastructure provided to the edge of site. Replicating this arrangement would help development come forward. In Milton Keynes only 5% affordable rented housing was required.
- Looking beyond Central Bedfordshire falling house prices and the removal of affordable grant funding have led to renegotiation of S106 agreements.

There was broad agreement that there is little market for flats and that across the board lower densities (25-30 dph) have the highest values. It was recognised that there was still potential demand for flats but the people who want to buy them cannot currently get mortgages. The

HBF/CML NewBuy scheme which helps first time buyers with their deposit is currently only offered by volume builders in the area.

Other

CBC has a duty to co-operate with its neighbours. Michael David indicated that he intended to share the study assumptions and findings with neighbouring authorities. This was discussed in the context of potential widely differing CIL and other obligations in adjacent local authorities.

Up lift on existing use value to release land for development.

The research and guidance relating to the use of a premium on existing use value to set a threshold land value assumption includes:

Viability Testing Local Plans, 2012, Local Housing Delivery Group
http://www.nhbc.co.uk/NewsandComment/Documents/filedownload,47339,en.pdf

This reviews the use of market values and premiums on existing use values (EUV) and states (page 29) "We recommend that the Threshold Land Value is based on a premium over current use values and credible alternative use values (noting the exceptions below)." The exceptions referred to relate to "nonurban sites or urban extensions, where land owners are rarely forced or distressed sellers, and generally take a much longer term view over the merits or otherwise of disposing of their asset." In these circumstances it will be necessary to make greater use of benchmarks, taking account of local partner views on market data and information on typical minimum price provisions used within developer/site promoter agreements for sites of this nature."

The Examiners report on the Mayor of London's CIL
http://www.london.gov.uk/sites/default/files/Mayoral%20CIL%20final%20report.pdf

The proposed CIL used a premium on EUV and there were challenges in favour of market value instead. The Examiners report has a discussion about the relative merits of market value against EUV+premium in paragraphs 7-9 and concludes that "…Accordingly I don't believe that the EUV approach can be accurately described as fundamentally flawed or that this examination should be adjourned to allow work based on the market approach to be done."

Cumulative impacts of regulations on house builders and landowners - 2011, Turner Morum for CLG
http://www.communities.gov.uk/documents/corporate/pdf/1923450.pdf

This research considered the costs relating to relocation (capital gains tax, stamp duty on replacement property, redundancy costs, relocation costs including losses on stock, legal and other professional fees, double overheads (during relocation), marketing material including client change of location notifications) and concludes that an uplift of at least 20% on EUV is required and that in practice this is likely to be around 25%.

The HCA's Area Wide Toolkit Annex 1 Transparent Viability Assumptions
http://www.pas.gov.uk/pas/aio/756349

This reviewed various appeals and states in section 3.5 that "Benchmarks and evidence from planning appeals tend to be in a range of 10% to 30% above EUV in urban areas. For greenfield land, benchmarks tend to be in a range of 10 to 20 times agricultural value." It then goes on to state "In practice, the premium over EUV/ AUV will vary according to the strength of demand for new homes, the supply of land at various stages within the planning system and the predominant attitude of landowners to a sale of land. In areas where landowners have long investment horizons and they are content with current land use, the premium will be relatively high. Conversely, the premium will be relatively low (and in extreme cases non-existent) where landowners are minded to sell or financially distressed." It also observed that "…a policy decision to increase the supply of land allocated within a local plan (potentially via the use of preferred options) will increase competition amongst landowners, offering a mechanism to reduce the required premium above existing use value."

There are various appeal decisions relating to EUVs including 154 - 160 Croydon Road, Beckenham APP/G5180/A/08/2084559
http://www.pcs.planningportal.gov.uk/pcsportal/fscdav/READONLY?OBJ=COO.2036.300.12.650138&NAME=/DECISION.pdf, where in paragraph 9 it states that "…without an affordable housing contribution, the scheme will only yield less than 12% above the existing use value, 8% below the generally accepted margin necessary to induce such development to proceed."

Attendance

Name	Company
Adrian Sinha	Jephson
Alison Stingfellow -	Bedford Borough Council
Andrew Barr	Robinson and Hall
Andy Plant	Andy Plant Planning Consultants
Bob Williams	Arnold White Estates
Brain Hall	Woodfines
Brian Harding	Connolly Homes
Clive Faine	Abbey Gate Developments
David Hearnes	Hearne Holmes Developments Ltd
Dr Bill Temple-Pediani	KTI Energy Ltd
Duncan Jennings	4D planning
Emily Hale	David Wilson Homes
Geoff Evans	Grand Union Housing Group
Helen Pearson	Howard Cottages
Ian Taylor	
James Griffiths	Keir Homes
James Paynter	John Drake & Co
James Wright	Prologis UK Ltd
Jeff Streule	Water End Properties
John Shephard	J & J Design
Jon Jennings	Pegasus Planning
Kate Sylvester- Kilroy	
Keith Oliver	Taylor Wimpey
Leslie Clarke	Guinness
Lizzie Cullum	Savills
Mark Laidlow	David Wilson Homes

Name	Company
Mark Schmull	Hives Planning
Mathew Green	Broadband Development
Mervyn Dobson	Pegasus Planning
Michael Green	Broadland Developments Ltd
Parminder Dosanjh	Aspinall Verdi
Paul Doyle	Bloor Homes
Pippa Cheetham	O & H Properties
Richard Sarraff	Bloor Homes
Roger Willis	
Ross Leal Tom Arley	RCA Planning Turnburry
Tom Fraser	Savills

Local authority team	
Michael David	Central Bedfordshire Council
Jon Baldwin	Central Bedfordshire Council
Robert Paddison	Central Bedfordshire Council
Kathleen Dunmore	Three Dragons
Dominic Houston	Three Dragons

Annex 2 – Draft Development Plan Policies

Analysis of draft Development Plan Policies

The table below sets out the list of draft Development Plan policies assessed. The final column of the table reports the view of the Assessment Group on the allowances (if any) that need to be made in the viability testing. Policies not on this list were assessed at an earlier stage as having no significant viability implications and this assessment was tested through CBC and the development industry attendees to the 31/07/12 workshop.

Table A2.1: Development Plan Policies and Viability Implications

Number	Title	Implications	Cost allowance?
14	Dunstable Town Centre	Development proposals should be in accordance with the principles and objectives of the endorsed town centre masterplan. There is reference to bus priority schemes, attractive pedestrian and cycle linkages, public realm and highway improvements and efficient parking provision	No evidence that this policy has implications to be included within the viability testing. Delivery of the masterplan is likely to be through a combination of public and private sector investment.
15	Leighton Linslade Town Centre	In accordance with the two endorsed development briefs, new community, leisure and cultural facilities will be provided alongside additional retail floorspace and new housing. Access from the train station to the town centre will be improved and connectivity between different parts of the town centre enhanced. Development proposals elsewhere in the town should not prejudice development on these two sites, and should make a financial contribution towards their development where possible.	No evidence that this policy has implications to be included within the viability testing. Delivery of the masterplan is likely to be through a combination of public and private sector investment. The financial contribution referred to is likely to be through CIL.

Number	Title	Implications	Cost allowance?
16	Houghton Regis Town Centre	Town centre rejuvenation in accordance with the adopted Masterplan with improved pedestrian and visual linkages will be provided as well as enhancements to the public realm. Sustainable transport links will be enhanced, particularly bus, pedestrian and cycling access from the urban extensions.	No evidence that this policy has implications to be included within the viability testing. Delivery of the masterplan is likely to be through a combination of public and private sector investment.
17	Biggleswade Town Centre	…improvements to key road junctions will be implemented along with the provision of a new transport interchange including a new bus link and additional car parking.	No evidence that this policy has implications to be included within the viability testing. Delivery of the masterplan is likely to be through a combination of public and private sector investment.

Number	Title	Implications	Cost allowance?
18	Flitwick Town Centre	The urban environment including pedestrian linkages, public spaces and highways network will be enhanced by a combination of development supported measures and locally led initiatives. A new transport interchange combining all forms of public transport will be provided at Flitwick railway station which will also provide additional facilities for cyclists, pedestrians and improved car parking provision.	No evidence that this policy has implications to be included within the viability testing. Delivery of the masterplan is likely to be through a combination of public and private sector investment.
19	Planning Obligations and the Community Infrastructure	Developers will be required to make appropriate contributions following viability testing to offset the cost of providing new physical, social and environmental infrastructure required as a result of their proposals either by way of financial contributions, or direct provision of such infrastructure within larger developments. The Council will work in partnership with infrastructure providers, neighbouring authorities and other delivery agencies in seeking the provision of the necessary infrastructure to support new development.	Generic policy setting out the principle that development will have to contribute – either through S106 or CIL. No specific input to the viability testing.

Number	Title	Implications	Cost allowance?
20	Next Generation Broadband	…new residential development of 25 units or more and all employment development to include provision for high speed next generation broadband infrastructure through a fibre optic network. Where the minimum standards are not met, evidence will be required to demonstrate why this would not be feasible or viable.	Evidence was discussed and it was acknowledged that the situation for individual sites and individual suppliers will vary between net cost and net revenue. It was concluded that this policy is broadly cost neutral.

Number	Title	Implications	Cost allowance?
21	Increasing Access to Quality Social and Community Infrastructure	... the Council will work with developers, service providers and partners to:… … provide community facilities and services, including the creation of neighbourhood centres and places of worship. Where an application fails to provide adequate social and community infrastructure without reasoned justification, it will be refused. Developers will be required to make contributions towards the maintenance and running costs of the social and community infrastructure needs of the local community.	Viability implications likely to vary from situation to situation. Post CIL it is expected that most development will contribute through CIL while for SUEs it is more likely that some facilities will be developed as part of the masterplanning process and the costs spread over a large volume of development. Some of these facilities likely to be developed using 3rd party/public funding sources.
22	Leisure and open space provision	The Council will require new development to be supported by the delivery of leisure facilities and open space. These will be provided as an integral part of new development planned in at the early stages to meet both the needs arising on and off-site. Developers will also be required to make contributions towards maintenance and running costs. Contributions will be secured through planning obligations or CIL.	On site provision will be delivered by development and would be a normal cost of development. Offsite will be delivered through CIL.

Number	Title	Implications	Cost allowance?
23	Public Rights of Way	The Council will protect, enhance and promote the enjoyment of the public rights of way network. … contributions sought through planning obligations towards the public right of way network including the delivery of routes both on-site and off-site.	On site provision will be delivered by development and would be a normal cost of development. Offsite will be delivered through CIL.
24	Accessibility and Connectivity	When allocating land for development, priority will be given to development schemes that: • promote sustainable modes of transport; • ensure convenient access for walking and cycling to healthcare, retail and leisure provision, education and employment; • are located within 400 metres of a bus stop or rail station… • provide or build upon use of public transport services that are effective, viable and sustainable; and • develop sustainable and adaptable approaches to public transport in rural areas.	Broad policy with no clear implications for viability assessment.

Number	Title	Implications	Cost allowance?
25	Capacity of the Transport Network	Development should seek to maximise the capacity of the existing transport network. Where such capacity is insufficient to cater for the increase in demand to travel as a result of a new development, the provision of new transport and travel infrastructure will be sought as a priority. In the case of new development, such provision will be sought in parallel or before commencement where possible.	Will be delivered through CIL or public sector funds. Where there may be specific local issues to be addressed it is expected that S106/278 will be used to fund the necessary infrastructure and the land values will reflect this situation. The extent of the developer contributions to large roads etc will have a direct effect on viability and the amount of CIL which can be paid
26	Travel Plans	Travel Plans will be required to accompany a Transport Assessment and submitted as part of planning applications… ... the Council will expect the developer and/or user to implement and monitor the plan. The Council will also require, as appropriate, financial contributions towards sustainable travel options where connectivity to existing infrastructure is not of the required standard.	Considered to be a normal part of development for larger schemes. No viability implications.
27	Car Parking	... Provide electric charging points for vehicles	De minimis – no significant viability implications

Number	Title	Implications	Cost allowance?
28	Transport Assessments and Travel Plans	…submission of a Transport Assessment with any major new development	Considered to be a normal part of development for larger schemes. No viability implications.
31	Supporting an Ageing Population	… For developments of 100 dwellings or more, applicants will be expected to deliver some form of specialist accommodation with care support for older people.	This policy does have an implication for development viability as values and costs for different types of housing for older people will vary vastly. An example extra care scheme is tested.
32	Lifetime Homes	Developers are expected to demonstrate that they have delivered 70% of all homes to Lifetime Homes standard.. In conjunction with the 70% target, we would expect to see the delivery of 5% Mobility Homes and 5% Wheelchair Accessible Homes within the overall 70% Lifetime Homes provision.	This policy does have an implication for development viability as there are cost implications for lifetime homes This will be built into the notional sites for testing.

Number	Title	Implications	Cost allowance?
34	Affordable Housing	Residential Development of 4 dwellings should provide at least 1 affordable dwelling. For all development above this threshold, 30% of the qualifying site should be provided for affordable housing on-site.	The affordable housing requirement will be explicitly built into the viability testing for the 1 ha site and all of the qualifying notional sites.
35	Exception Sites	…provide affordable homes that will remain affordable in perpetuity and provide only a limited number of open market dwellings (up to 25% of the total dwellings) and in the case of shared ownership, 'stair-casing' or purchasing additional equity shares will be restricted to 80% of the properties' open market value.	Standard policy — a specimen scheme was tested as one of the case study notional sites.
43	High Quality Development	... proposals for all new development will: … contribute positively to creating a sense of place and respect local distinctiveness through design, use of materials and planting,… …provide soft and hard landscaping, greenspace, and green corridors appropriate in scale and design to the development and its setting with appropriate linkages for wildlife and human access to existing landscape features, corridors and green infrastructure,… …consider the provision of public art…	This quality policy is intended to be delivered through reduction in density combined with higher environmental standards (discussed elsewhere); and therefore no viability implications beyond density.

Number	Title	Implications	Cost allowance?
44	Protection from Environmental Pollution	All proposals for new developments will be required to comply with the current national guidance as well as the Council's adopted standards…	Standard policy and no viability implications.
45	The Historic Environment	The Council will conserve, enhance, protect and promote the enjoyment of the historic environment… … requiring the highest quality of design in all new development	Primarily aimed at the historic environment and therefore no viability implications for new build.

Number	Title	Implications	Cost allowance?
47	Resource Efficiency	Ahead of the introduction of revised national Building Regulations new developments will be required to demonstrate how they will: • meet water use standards equivalent to Code for Sustainable Homes Level 5 • provide a 10% reduction in carbon dioxide emissions as an improvement over the level set by Building Regulations at the time of application. The Council will allow a flexible approach to meeting these standards, including offsetting as an 'allowable solution' to achieve the appropriate Code Level as long as the benefitting scheme is located within Central Bedfordshire. Planning applications for extensions or alterations to existing buildings must demonstrate how the identified energy and water efficiency improvements which are technically, functionally and economically feasible will be implemented. Non-residential developments larger than 1000m2 will be required to: • meet BREEAM Excellent or the equivalent nationally recognised standard (if introduced) for water by 2013; and • meet BREEAM Excellent or the equivalent nationally recognised standard (if introduced) for all elements by 2015.	There are cost and value implications for building to different CfSH standards and to different BREEAM standards; and these have been tested in the viability appraisals.

Number	Title	Implications	Cost allowance?
48	Adaptation	…all new developments will be required to: • use design, layout and orientation to maximise natural ventilation, cooling and solar gain • retain and enhance existing trees, landscaping and other natural features • incorporate additional landscaping including green and brownroofs and walls as appropriate • use appropriate strategies including Sustainable Drainage Schemes to prevent surface water flooding • use water efficient fixtures and fittings and incorporate rain water harvesting and storage	Much of this policy is related to masterplanning and design, and is without clear viability implications. While SUDS for small schemes have few cost implications, for Strategic Urban Extensions the implications are more significant. The opening up cost allowance will include this aspect in the viability testing for SUE notional sites.

Number	Title	Implications	Cost allowance?
49	Mitigating Flood Risk	Detailed Flood Risk Assessments and Design Statements will be required to demonstrate how proposals will: • make a positive contribution to reducing or managing flood and drought risk and improving water quality, for example through the implementation of SUDS;…	Policy to apply to specific sites with flood risks implications. This will have case-by-case viability implications but in a standard market transaction this will be accounted for in the land price. There are no viability implications for standard new builds.
56	Green Infrastructure	The Council will work towards achieving a net gain in Green Infrastructure (GI) by: • requiring contributions, through planning obligations to help provide GI including where appropriate the delivery of a linked network of new and enhanced open spaces and corridors off-site • requiring high quality multifunctional GI within development, that incorporates sustainable urban drainage systems and enhances biodiversity, landscape character, the rights of way network and design quality and makes provision for the ongoing and effective management of GI	Strategic green infrastructure likely to fall within CIL therefore no specific viability implications.

Number	Title	Implications	Cost allowance?
59	Woodlands, Trees and Hedgerows	Developers will be required to retain and protect such features from root damage and avoid changes to soil structure that could also increase the risk of subsidence where they lie in close proximity to building works. Any trees or hedgerows unavoidably lost to development will be replaced.	Considered to be a normal part of development and therefore no specific viability implications.

Number	Title	Implications	Cost allowance?
60	Houghton Regis North Strategic Allocation	Various obligations relating to the type of development and its role; plus the facilities expected to be provided as part of the development. There is specific reference to the A5-M1 link Road a, new Junction 11A and the Woodside connection as critical infrastructure.	In broad terms these policy obligations are considered to be a normal part of strategic urban extension development and therefore no specific viability implications in SUE notional site viability assessments although this is dependent on balance of S106 and CIL within SUEs and how facilities might be funded. CBC is in discussion with the developers about the provision of the critical infrastructure. Specific infrastructure costs could be provided through S106/278 agreements or it could be on the CIL regulation 123 list.

Number	Title	Implications	Cost allowance?
61	North of Luton Strategic Allocation	Various obligations relating to the type of development and its role; plus the facilities expected to be provided as part of the development.	In broad terms these policy obligations are considered to be a normal part of strategic urban extension development and therefore no specific viability implications in SUE notional site viability assessments although this is dependent on balance of S106 and CIL within SUEs and how facilities night be funded Specific infrastructure costs could be provided through S106/278 agreements or it could be on the CIL regulation 123 list.

Number	Title	Implications	Cost allowance?
62	East of Leighton Linslade	Various obligations relating to the type of development and its role; plus the facilities expected to be provided as part of the development.	In broad terms these policy obligations are considered to be a normal part of strategic urban extension development and therefore no specific viability implications in SUE notional site viability assessments although this is dependent on balance of S106 and CIL within SUEs and how facilities might be funded Specific infrastructure costs could be provided through S106/278 agreements or it could be on the CIL regulation 123 list.

Number	Title	Implications	Cost allowance?
65	Wixams Southern Extension	Various obligations relating to the type of development and its role; plus the facilities expected to be provided as part of the development.	In broad terms these policy obligations are considered to be a normal part of strategic urban extension development and therefore no specific viability implications in SUE notional site viability assessments although this is dependent on balance of S106 and CIL within SUEs and how facilities night be funded Specific infrastructure costs could be provided through S106/278 agreements or it could be on the CIL regulation 123 list.

Annex 3 – Threshold land values

Land Values

The threshold land value is the value at which a willing developer and a willing landowner are able to transact land for development. The residual value appraisals of different notional developments are compared to the threshold land value in order to determine whether a development might be considered viable - if the residual value exceeds the threshold land value the development is viable, and if it is below the residual land value then it is not viable.

Our approach to setting threshold land values follows the recommendations in the Local Housing Delivery Group's 2012 report[1]. This reviews the use of market values and premiums on existing use values (EUV) and recommends that the threshold land value is based on a premium over current use values and credible alternative use values. The text box at the end of this Developer Workshop Annex provides further detail on this recommendation along with the role of premiums on EUV in the Mayor of London's CIL and other research.

We recognise that threshold land values will differ by type of site, location, size etc., and this has been considered. Both greenfield land and previously developed land have been included:

- The threshold land value for greenfield land is at the point where it might be transacted as being suitable for the intended development and as such it will include the original use value plus the owner's aspirations as well as the professional fees and other costs of promoting the site through the planning process along with any capital gains liabilities etc.
- The threshold value for previously developed land is on the basis that it is currently used sub-optimally and is not being used for high value activities paying good rents with few voids. These sub-optimally used sites (including vacant sites) will have few costs related to relocation etc.
- Where land has specific characteristics that incur abnormal costs we have assumed that these are known to both the buyer and the seller and are reflected in an adjustment to the land value. This might include contamination, archaeology, flood risk, topography, poor access etc.
- The premium on EUV will in part depend on what the seller considers to be the value of the end use of the land, and this will depend on its allocation. Therefore land which might be used for higher value uses such as housing or a supermarket will be subject to a higher premium on EUV than land for say industrial units.

Initial views on values for agricultural land and industrial land were presented at the development industry workshop held in CBC offices on 31st July 2012, based on information collected by the Valuation Office Agency. Although VOA data does not specifically cover Central

[1] Viability Testing Local Plans, 2012, Local Housing Delivery Group

Bedfordshire it does present information for neighbouring and similar areas[2] and this suggested that benchmark land values for:

- Infill/previously used land might be between £550,000 and £950,000 per gross hectare (based on 30% uplift on industrial values).
- Greenfield urban extension land values might be around £280,000 per gross hectare (based on at least 20 times agricultural values).

Previous research as part of the 2010 Strategic Housing Market Assessment[3] suggested that within Central Bedfordshire the threshold land values for residential development were between £480,000 per hectare and £650,000 per hectare, with the lower values associated with SUEs on Luton/Dunstable and the highest values on smaller rural sites.

The discussions with the development industry clearly indicate that the current economic situation has had an impact on land coming forward for development, although there were different interpretations on what this might mean in terms of values. One interpretation is that some landowners will not sell until values rise again, and for the purposes of this study we have considered these landowners as not willing to sell (in the context of the Housing Delivery Group recommendations about willing landowners and willing developers). Another interpretation is that land assemblers have either formally or informally written down the value of their land holdings and may continue to do so in order to let development proceed. We have taken the approach that there will be landowners willing to transact at values less than peak values experienced in the past. A further dimension to this issue is that in some cases, the land owner is also the developer and so any land transaction is an internal arrangement and that new development will be catalysed by end user values rather than adjustments to land values.

The January 2012 Inspector's report on the London Mayor's CIL[4] (para 32) considered the impact of CIL on land values. This noted that following the introduction of CIL "*the price paid for development land may be reduced. As with profit levels there may be cries that this is unrealistic, but a reduction in development land value is an inherent part of the CIL concept. It may be argued that such a reduction may be all very well in the medium to long term but it is impossible in the short term because of the price already paid/agreed for development land. The difficulty with that argument is that if accepted the prospect of raising funds for infrastructure would be forever receding into the future. In any event in some instances it may be possible for contracts and options to be re-negotiated in the light of the changed circumstances arising from the imposition of CIL charges*."

[2] Property Market Report, January 2011, VOA

[3] Bedfordshire SCHMA, 2012, ORS & Savills

[4] PINS, 2012, Report on the Examination of the Draft Mayoral Community Infrastructure Levy Charging Schedule

The land value benchmarks for residential development which we have assumed in this report range from £650,000-£950,000 per ha. £650,000 is the same value that was used in the previous viability appraisals carried out by Fordhams and Savills in 2009 and 2010 respectively. The figure of £650,000 per ha was accepted by the Inspector who appraised the 2009 Mid Bedfordshire Core Strategy (now part of Central Bedfordshire) and there is ample evidence from published data sources to indicate that there has been no change in house prices since then which would support a higher land value. This figure sets the lower boundary of our threshold land value. However there is no room for negotiation of CIL as there was for affordable housing and it is therefore important to ensure that the land value benchmarks set are such as will continue to encourage landowners to bring land forward for development.

Viability appraisal shows that the Council's present policies which seek 30% affordable housing and S106 contributions averaging £6,500 per dwelling but regularly achieving closer to £9,000 per dwelling (£270,000 per ha) will have enabled residential land to deliver values at or above £1m per ha. We have therefore adopted an upper benchmark of £950,000 per ha.

In the case of agricultural land and Sustainable Urban Extensions a land value of £330,000 per ha has been used based on a multiplier of 15 x agricultural value. This figure is based on guidance issued by the HCA in "Transparent Assumptions: Guidance for the Area Wide Viability Model" which states that for greenfield land, benchmarks tend to be in a range of 10 to 20 times agricultural value.

These threshold values have been used in the residential viability tests.

The discussion at the workshop and subsequent discussions with the developer industry suggested that the following land values should be used for the non-residential viability testing:

- Between £490,000 to £620,000/net developable hectare for industrial and office uses – with the higher values for warehouse sites near major transport routes and lower values to the east of Central Bedfordshire.
- Around £1,800,000/net developable hectare for town centre retail and large convenience retail. However whilst this per hectare figure is presented in a way that is comparable to the other threshold land values it is often more appropriate to work in terms of the assumed site value, and these are detailed in the viability annex.
- Around £1,200,000/net developable hectare for out of centre retail.
- The threshold land value for out of centre leisure, care homes and hotels will be similar to industrial and out of centre office uses – i.e. between £490,000 to £620,000/net developable hectare.

Annex 4 - Sustainability

Cost of Residential Standards

Code for Sustainable Homes: Extra-over costs against 2010 Buildings Regs @ 40dph – average costs across a scheme *(Source Costs of Building to the Code for Sustainable Homes Updated Cost Review Davis Langdon Everest 2011)*

Code Level 4 – all criteria

Small brownfield	20 dwellings	£4,260 per dwelling
Edge of town	100 dwellings	£4,787 per dwelling
SUE	2000 dwellings	£4,846 per dwelling
Average		£4,600 per dwelling
Less £795 for 2013 building regs		£3,800 per dwelling
Water only (5.45% of all CSH costs)		£207 per dwelling

(Level 5 water only £4,750)

Table 15: Packages of water measures appropriate to the Code level 3 & 4 (105 l/p/d) and Code level 5 & 6 (80 l/p/day) mandatory Wat 1 standards.

Water saving feature	Code Level 3 and 4	Code Level 5 and 6
Water consumption (l/p/d)	105	80
Low flush WCs	4/2.6 l	4/2.6 l
Low flow wash basin taps	2 l/min	2 l/min
Low flow shower	6 l/min	4.5 l/min
Bath capacity	150l	100 l
Kitchen tap flow rate	4 l/min	4 l/min
Rainwater harvesting	No	No
Greywater recycling	No	Yes
Water efficient washing machine	No	Yes

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Code Level 5 – all criteria

Extra-over costs against 2010 Buildings Regs @ 40dph – average costs across a scheme

Small brownfield	20 dwellings	£19,740 per dwelling
Edge of town	100 dwellings	£18,921 per dwelling
SUE	2000 dwellings	£20,469 per dwelling
Average		£20,000 per dwelling
Less £795 for 2013 building regs		£19,200 per dwelling

Further details of the make-up of the various cost items contained in the CSH are attached.

Revenue implications

Some 69% of consumers – and 96% of younger people – also agreed that they would be willing to pay a premium for energy efficient homes. (Source[2] *Today's attitudes to low and zero carbon homes – views of occupiers, house builders and housing associations, NHBC/Zero Carbon Hub)*

Lifetime Homes (Source: Assessing the cost of Lifetime Homes Standards BCIS July 2012) http://www.communities.gov.uk/documents/corporate/pdf/2180742.pdf

Cost per dwelling

Houses £1000

Flats £750

Note: Lifetime Homes standards are included in code level 6.

Commentary by Richard Morton – Siddell Gibson

<u>Assessing the cost of Lifetime Homes – Report by BICS</u>

The report studies ten dwelling 'typologies' and identifies likely cost increases of up to £2500 per unit with an average of about £1000 per unit. Proportionally, and again this is unsurprising, the cost increases weigh most heavily on the smallest units.

The cost increases relate particularly to additional floor area and the enhancement of structure in some parts of each dwelling, especially around bathrooms and WCs. One route is identified which might allow some mitigation of the increased costs but this relies on moving to much more open plan layouts and, as the report rightly points out, such strategy may be at variance with market requirements.

Design of Lifetime Homes – Report by HTA

The HTA report examines the impact of floor areas of the Lifetime Homes standards looking in particular at three types:

- A two bed four person house
- A three bed five person house
- A four bed six person house

For each of these the report identifies a typical house builder solution not aimed at LTH compliance, comparing it firstly with a version of the same house builder solution upgraded to achieve compliance and secondly with a unit designed from first principles to deliver the same accommodation while also achieving the LTH standard. The results can be tabulated

2B4P house

- Standard housebuilder version 667 sq ft
- Adapted housebuilder version 707 sq ft
- New Design 681 sq ft

3B5P house

- Standard housebuilder version 870 sq ft
- Adapted housebuilder version 988 sq ft
- New Design 895 sq ft

4B6P house

- Standard housebuilder version 1207 sq ft
- Adapted housebuilder version 1350 sq ft
- New Design 1224 sq ft

In each case the incorporation of LTH standards leads to a significant increase in frontage and the 'new designs' for each type are, as identified in the BICS report, much more open plan than their current counterparts.

Impact on Site Density of Lifetime Homes – Levitt Bernstein

The broad conclusion is that the increases in frontage stemming from the adoption of LTH standards are likely to lead to reductions in site density of around 3%.

Broadband

No cost to developer, broadband provider pays (outcome of discussion with James Cushing, no developer has ever mentioned cost of broadband as an issue to 3D).

Table 4: Code extra-over costs for each dwelling type and development scenario – Part L 2010 baseline

Code Level	2b-Flat		2b-Terrace		3b-Semi		4b-Detached		Average dwelling	
	E/O cost	%	E/O cost	%	E/O cost	%	E/O cost	%	E/O cost	%
Small brownfield (20 dwellings at 40 dph)										
1	-	-	£320	0.4%	£320	0.4%	£320	0.3%	£320	0.4%
2	-	-	£560	0.7%	£560	0.6%	£560	0.6%	£560	0.7%
3	-	-	£840	1.0%	£1,160	1.3%	£1,000	1.1%	£1,000	1.2%
4	-	-	£3,500	4.4%	£4,580	5.3%	£5,140	5.5%	£4,260	5.0%
5	-	-	£18,670	23.3%	£20,000	23.2%	£21,360	23.1%	£19,740	23.2%
6	-	-	£31,870	39.8%	£34,720	40.2%	£38,170	41.2%	£34,270	40.3%
City Infill (40 dwellings at 160 dph)										
1	£230	0.4%	-	-	-	-	-	-	£230	0.4%
2	£470	0.9%	-	-	-	-	-	-	£470	0.9%
3	£750	1.4%	-	-	-	-	-	-	£750	1.4%
4	£3,400	6.2%	-	-	-	-	-	-	£3,400	6.2%
5	£15,220	27.9%	-	-	-	-	-	-	£15,220	27.9%
6	£27,050	49.5%	-	-	-	-	-	-	£27,050	49.5%
Edge of town (100 dwellings at 40 dph)										
1	£230	0.4%	£320	0.4%	£320	0.4%	£320	0.3%	£298	0.4%
2	£470	0.9%	£560	0.7%	£560	0.6%	£560	0.6%	£538	0.7%
3	£1,470	2.7%	£1,360	1.7%	£1,590	1.8%	£1,370	1.5%	£1,457	1.9%
4	£3,950	7.2%	£4,280	5.3%	£5,360	6.2%	£5,920	6.4%	£4,787	6.2%
5	£12,060	22.1%	£19,990	25.0%	£21,330	24.7%	£22,690	24.5%	£18,921	24.3%
6	£27,870	51.0%	£33,340	41.7%	£36,190	41.9%	£39,650	42.8%	£33,892	43.5%
Urban Regeneration (1000 dwellings at 160 dph)										
1	£230	0.4%	£320	0.4%	£320	0.4%	£320	0.3%	£257	0.4%
2	£470	0.9%	£560	0.7%	£560	0.6%	£560	0.6%	£497	0.8%
3	£680	1.2%	£700	0.9%	£910	1.1%	£750	0.8%	£699	1.1%
4	£3,330	6.1%	£3,210	4.0%	£4,300	5.0%	£4,930	5.3%	£3,435	5.4%
5	£14,790	27.1%	£15,210	19.0%	£16,410	19.0%	£17,740	19.2%	£15,103	23.9%
6	£27,270	49.9%	£28,410	35.5%	£31,130	36.1%	£34,550	37.3%	£28,055	44.4%
Strategic Greenfield (2000 dwellings at 40 dph)										
1	£230	0.4%	£320	0.4%	£320	0.4%	£320	0.3%	£302	0.4%
2	£470	0.9%	£560	0.7%	£560	0.6%	£560	0.6%	£542	0.7%
3	£1,450	2.7%	£1,350	1.7%	£1,570	1.8%	£1,350	1.5%	£1,436	1.8%
4	£3,930	7.2%	£4,260	5.3%	£5,340	6.2%	£5,900	6.4%	£4,846	6.1%
5	£17,740	32.5%	£19,980	25.0%	£21,310	24.7%	£22,670	24.5%	£20,469	25.8%
6	£33,470	61.3%	£33,320	41.6%	£36,170	41.9%	£39,630	42.8%	£35,467	44.7%
Large edge of town (3,300 dwellings at 40 dph)										
1	£230	0.4%	£320	0.4%	£320	0.4%	£320	0.3%	£293	0.4%
2	£470	0.9%	£560	0.7%	£560	0.6%	£560	0.6%	£533	0.7%
3	£1,450	2.7%	£1,350	1.7%	£1,570	1.8%	£1,350	1.5%	£1,424	1.9%
4	£3,930	7.2%	£4,260	5.3%	£5,340	6.2%	£5,900	6.4%	£4,705	6.2%
5	£17,740	32.5%	£19,850	24.8%	£21,200	24.6%	£22,590	24.4%	£20,035	26.3%
6	£33,670	61.6%	£33,200	41.5%	£36,060	41.8%	£39,540	42.7%	£35,181	46.2%

Table 5: Breakdown of Code extra-over costs by Code category – three-bed semi (Part L 2010 baseline)

Code Level	1		2		3		4		5		6	
	Credits	E/O cost	Credits	E/O cost	Credits	E/O cost	Credits	E/O cost	Credits	E/O cost	Credits	E/O cost
Small Brownfield												
Energy	9	£25	13	£120	13	£120	18	£3,393	25	£12,673	28	£27,393
Water	3	£200	4	£250	4	£250	4	£250	6	£4,750	6	£4,750
Materials	14	£0	14	£0	14	£0	14	£0	14	£0	16	£0
Surface	2	£0	2	£0	2	£0	2	£0	2	£0	2	£0
Waste	6	£50	7	£100	7	£100	7	£100	7	£100	7	£100
Pollution	4	£0	4	£0	4	£0	4	£0	1	£0	3	£0
Health	2	£0	2	£0	8	£200	8	£350	12	£1,455	12	£1,455
Management	5	£40	7	£90	7	£90	7	£90	9	£620	9	£620
Ecology	0	£0	0	£0	6	£400	6	£400	6	£400	6	£400
Total	**45**	**£315**	**53**	**£560**	**65**	**£1,160**	**70**	**£4,583**	**82**	**£19,998**	**89**	**£34,718**
Edge of Town												
Energy	9	£25	13	£120	12	£120	19	£3,393	27	£13,523	29	£28,388
Water	3	£200	4	£250	4	£250	4	£250	6	£4,750	6	£4,750
Materials	14	£0	14	£0	14	£0	14	£0	14	£0	16	£0
Surface	2	£0	2	£0	2	£0	2	£0	2	£0	2	£0
Waste	6	£50	7	£100	6	£50	7	£100	7	£100	7	£100
Pollution	4	£0	4	£0	4	£0	4	£0	1	£0	3	£0
Health	2	£0	2	£0	8	£200	8	£650	12	£1,455	12	£1,455
Management	5	£40	7	£90	7	£18	7	£18	9	£548	9	£548
Ecology	0	£0	0	£0	5	£950	5	£950	5	£950	5	£950
Total	**45**	**£315**	**53**	**£560**	**62**	**£1,588**	**70**	**£5,361**	**83**	**£21,326**	**89**	**£36,191**
Urban Regeneration												
Energy	9	£25	13	£120	12	£55	17	£3,393	25	£9,330	28	£24,050
Water	3	£200	4	£250	4	£250	4	£250	6	£4,750	6	£4,750
Materials	14	£0	14	£0	14	£0	14	£0	14	£0	16	£0
Surface	2	£0	2	£0	2	£0	2	£0	2	£0	2	£0
Waste	6	£50	7	£100	6	£50	7	£100	7	£100	7	£100
Pollution	4	£0	4	£0	4	£0	4	£0	1	£0	3	£0
Health	2	£0	2	£0	8	£200	8	£200	12	£1,345	12	£1,345
Management	5	£40	7	£90	7	£2	7	£2	9	£532	9	£532
Ecology	0	£0	0	£0	7	£350	7	£350	7	£350	7	£350
Total	**45**	**£315**	**53**	**£560**	**64**	**£907**	**70**	**£4,295**	**83**	**£16,407**	**90**	**£31,127**
Strategic Greenfield												
Energy	9	£25	13	£120	12	£120	19	£3,393	27	£13,523	29	£28,388
Water	3	£200	4	£250	4	£250	4	£250	6	£4,750	6	£4,750
Materials	14	£0	14	£0	14	£0	14	£0	14	£0	16	£0
Surface	2	£0	2	£0	2	£0	2	£0	2	£0	2	£0
Waste	6	£50	7	£100	6	£50	7	£100	7	£100	7	£100
Pollution	4	£0	4	£0	4	£0	4	£0	1	£0	3	£0
Health	2	£0	2	£0	8	£200	8	£650	12	£1,455	12	£1,455
Management	5	£40	7	£90	7	£1	7	£1	9	£531	9	£531
Ecology	0	£0	0	£0	5	£950	5	£950	5	£950	5	£950
Total	**45**	**£315**	**53**	**£560**	**62**	**£1,571**	**70**	**£5,344**	**83**	**£21,309**	**89**	**£36,174**

EC Harris `"The Value of Sustainability" Feb 2009

On a well-managed commercial project with early input on sustainability, additional project costs aimed at achieving a sustainability accreditation (BREEAM/LEED) rating can be reduced from in excess of 10% down to 3-5%. In the future, market values are going to be significantly affected by the sustainability rating. Evidence has started to suggest of decreased voids, increased rental values of 3-8% and higher sales values of 5-10% for internationally accredited sustainable buildings

Cutland Consulting Limited

Report for Three Dragons

Central Bedfordshire Sustainability Standards

1. The brief

We were asked to provide an opinion on Central Bedfordshire Council's amended cost proposals for energy and water, as outlined in Kathleen Dunmore's email to us of 26 October 2012. The work was carried out by Cutland Consulting's Director, Dr Neil Cutland.

2. Water

We note that the Council's proposal is only to address the WAT1 (Indoor Water Use) credit in the Code for Sustainable Homes, and not to address WAT2 (External Water Use). This seems reasonable given that it is only WAT1 which has mandatory requirements at the various Code levels.

The suggested approach, to require 'true' Level 4 but thereafter to allow 'offsetting' (whereby the equivalent of Level 5 will be achieved through water savings elsewhere), is admirably pragmatic. DCLG's publication "Cost of building to the Code for Sustainable Homes", August 2011, indicates that 'true' Level 5 might cost between £4,500 and £5,000 for a typical home, yet Central Bedfordshire Council's suggested approach has an indicated cost that is only one fifth of that.

It must be noted, however, that the Code contains no formal provision for offsetting, so the Council's approach cannot claim to be 'Code Level 5' in the strict sense.

As we understand the suggested approach, each new home will be required to meet WAT1 Level 4 and also to bring an existing home up to WAT1 Level 4. Is this a valid methodology?...

- The assumption is that the combination of one new home and one existing home both meeting WAT1 Level 4 is equivalent to the new home alone achieving WAT1 Level 5.
- WAT1 Level 4 mandates no more than 105 litres per person per day (l/p/d), and Level 5 no more than 80 l/p/d; the saving required to move from Level 4 to Level 5 is therefore 25 l/p/d.
- Given that the existing home will be required to reach 105 l/p/d, for this to represent 25 l/p/d of savings the home must be using 130 l/p/d in the first place. Is that a reasonable assumption?...

The Consumer Council for Water indicates that the average 3-person family uses between 82 and 175 (136 on average) l/p/d [1]. This is sufficiently close to 130 l/p/d to indicate that the technical assumptions underpinning the proposed offsetting approach are reasonable.

1 http://www.ccwater.org.uk/server.php?show=ConWebDoc.913

Regarding the cost, the proposed figure of £1,000 is extremely sensitive to the Council's assumption that it costs three times as much to achieve WAT1 Level 4 in an existing home as in the newbuild context. Is this therefore a reasonable assumption?...

- The £250 indicated in "Cost of building to the Code for Sustainable Homes" represents only the marginal cost of low water use taps, flow restrictors, sanitaryware and associated fittings in the newbuild context.
- If £750 is indeed sufficient for the existing home, it must cover the full cost of the same items plus, say, 1-2 days' labour.
- If we were to assume £40/hr for labour (ie. £300-600 in total), this would leave £150-450 for the taps, flow restrictors, sanitaryware and associated fittings. This seems quite reasonable.

We therefore conclude, from both a technical and commercial perspective, that a total cost of £1,000 per dwelling to meet Central Bedfordshire Council's proposed water standard is reasonable.

3. Energy

In our experience the DER of a typical Approved Document L1A 2010-compliant home is around 19 kg/m2/yr. This would imply that the DER of a Level 4 home (25% reduction) is around 14 kg/m2/yr, so we do not understand why the North Houghton Regis homes have a DER as high as 23 kg/m2/yr. Nevertheless, in this analysis we will continue to assume 23 kg/m2/yr because it leads to a 'safer' cost figure when considering the 10% reduction.

We agree that, for consistency with the proposed Allowable Solutions framework, the period over which savings should be accrued is 30 years. This means that with a DER of 23 kg/m2/yr the carbon dioxide to be saved is 23 x 80 x 30 x 10% = 5520 kg per dwelling.

We now diverge from Central Bedfordshire Council's analysis, because we are accustomed to using rather different industry figures for PV yields and costs. As will be seen, however, our calculations lead to a similar cost to Central Bedfordshire Council's figure.

In our client work we normally assume that:

- 1 kWp yields 750-800 kWh/yr (775 kWh/yr on average), and that
- 1 kWh of solar electricity displaces 0.53 kg of grid CO2 (SAP-based figure),

1 kWp will therefore displace 775 x 0.53 = 411 kg of grid CO2 per year. We agree that 20 years is a reasonable lifetime to assume for the PV panels, although (a) some industry observers state 25 years, and (b) the inverter will typically need replacing twice within that period. Over 20 years, 1 kWp will displace 20 x 411 = 8220 kg of CO2.

Therefore, in order to save 5520 kg during a 20 year lifetime, the required generating

capacity is 5520/8220 = 0.63 kWp. Central Bedfordshire Council's calculations effectively over-estimate the required capacity by (perfectly reasonably) stating that "1 kWp… is more than enough".

The installed cost of PV systems in bulk to a newbuild developer today is around £1,500 per kWp [2]. This only includes the first-cost for the inverter however, so over 20 years another two inverters at around £1,000 each will typically be needed - giving a lifetime capital cost of £3,500 per kWp. By comparison, Energy Saving Trust figures (guide CE317 published in 2010) suggest £4,000 per kWp, although there is no doubt that the cost has fallen somewhat since then.

Central Bedfordshire Council's assumption of £2,000 per kWp therefore seems rather low when considering the 20 year lifetime cost.

Assuming that 0.63 kWp (not 1 kWp) is required, at a cost of £3,500 per kWp (not £2,000 per kWp), the cost of achieving the 10% saving is £2,200 per dwelling. This includes the two replacement inverters over the lifetime of the system, the cost of which might arguably be excluded because it falls on the householder rather than the developer.

Interestingly, despite its different assumptions, our alternative analysis by and large supports Central Bedfordshire Council's proposal to use £2,000.

It should be noted that this analysis is extremely sensitive to Central Bedfordshire Council's assumption that a Level 4 home has a DER of 23 kg/m2/yr. Were this instead to be the 14 kg/m2/yr that we tentatively indicated above, the capital cost to save 10% would only be 1.4/2.3 x 2,200 = £1,400 approx.

4. Final thoughts

While we appreciate that '10% carbon reduction' is Central Bedfordshire Council's policy, we are unclear whether the policy states that this must be through the use of renewable energy specifically. We would recommend that the Council considers a flexible approach, because a developer can often achieve a greater reduction in carbon by investing the same sum of money in fabric and airtightness measures rather than necessarily in PV generation.

We would advise that the Government has made no comment on the proposed 2013 Approved Document L1 since its consultation closed in February 2012. There is therefore little certainty within the industry about where the carbon performance level will be set, although we are assured by Government that sustainability in general will be protected from the 'radical shake-up' of Building Regulations that has recently been announced.

Similarly, the Allowable Solutions framework that is essential for a workable zero carbon standard in 2016 has still not been announced by Government, despite the ongoing advisory work by the Zero Carbon Hub.

Non-residential Development – Costs of meeting environmental standards

Part of the viability testing includes the cost of meeting the required sustainability standards. For non-residential accommodation the viability study considers different BREEAM standards.

BREEAM level	Criteria
Excellent	Criteria relating to water only
Excellent	All criteria
Outstanding	All criteria

In order to assess the impact of meeting standards the available evidence on additional costs has been reviewed. This has included the discussion around the changing obligations as part of subsequent Building Regulations Part L standards, with successive iterations introducing higher environmental standards.

The main sources of evidence have been from various CLG consultations relating to new building regulations, work from other locations and from cost consultants. The evidence that we are aware of has been summarised below.

CLG

Zero carbon for new non-domestic buildings

The 2009 CLG Consultation on policy options for Zero carbon for new non-domestic buildings includes information on extra-over costs using part L 2006 as the starting point (but 2010 prices) to achieve 54% efficiency improvements. However it is not easy to assess how this relates to BREEAM Excellent and Outstanding - partly because BREEAM ratings represent relative performance - e.g. BREEAM Excellent is performance within the top 10% of new non-domestic buildings; and partly because some aspects of BREEAM are location specific.

	Base build cost – 2006 standards per m²	Increase in capital cost (relative to 2010) in 2019 for Scenario 2 – 54% aggregate improvement	
		Stand alone	With district heating
2* Hotel	£1,120	12%	n/a
3* Hotel	£1,830	7%	4%
5* Hotel	£2,375	4%	2%
Convenience store	£1,315	8%	38%
Large office	£2,250	6%	5%
Medium office	£940	14%	16%
Shopping centre	£3,560	6%	6%
Small office	£865	15%	n/a
Supermarket	£1,325	9%	5%
Distribution warehouse	£320	28%	30%
Retail warehouse	£745	17%	17%

Source: Zero carbon for new non-domestic buildings Consultation on policy options, 2009, CLG

This consultation did include some case studies - an office development from 2007/8 had a 23% cost premium to get to BREEAM Excellent.

Proposed changes to Part L (Conservation of fuel and power) of the Building Regulations 2012/13 in England

The 2012 CLG Consultation stage impact assessment for the proposed changes included graphs setting out the cumulative costs of different percentage improvements on 2010 building regulations. While this only covers a subset of the different non-residential uses compared to the 2011 Zero carbon non-domestic buildings Phase 3 final report, the earlier and wider set of graphs uses percentage improvements on *2006* Building Regulations, which is now less useful.

These 2012 graphs indicate that the typical extra-over cost for a 20% improvement over 2013 Building Regulations is about £20/sqm – see graphs in https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/8390/2076716.pdf.

How to manage the true costs of sustainability and realise its value

This 2009 review by EC Harris suggested that:

- On a well-managed commercial project with early input on sustainability, additional project costs aimed at achieving a sustainability accreditation (BREEAM/LEED) rating can be reduced from in excess of 10% down to 3-5%.
- In the future, market values are going to be significantly affected by the sustainability rating. Evidence has started to suggest of decreased voids, increased rental values of 3-8% and higher sales values of 5-10% for internationally accredited sustainable buildings.

An introduction to judging the viability of sustainability standards

BRE provided this summary in 2010, which included the following:

- In a naturally ventilated office, a BREEAM Good rating can be achieved for a saving of between 0.3% and 0.4% when compared to building regulations costs (due to being able to take capacity out of mechanical plant). A Very Good rating can be achieved for between a cost saving of 0.4% and an additional cost of 2% and an Excellent rating for an additional cost of between 2.5% and 3.4%, for a range of locations
- Project viability can be bolstered by sale or rental premiums associated with sustainability ratings and although evidence of added value is limited in the UK markets at present, the strongest signs of a value differential is emerging for energy efficient commercial buildings in the US. However industry surveys for the British Property Federation in the UK allow some optimism that British property markets may follow suit and initial BRE research findings demonstrate a positive correlation between BREEAM ratings and improved commercial property values and rental incomes.

The Price of Sustainable Schools

In 2008 BRE and Faithfull & Gould reviewed the extra-over costs of sustainability for primary and secondary schools built through the Building Schools for the Future programme. This noted that significant improvements in the sustainability performance of a building can be achieved at little additional cost compared to the Building Regulation specification standard requirements.

***Table 1a:* % increase in capital cost for a primary school to achieve Pass, Good, Very good and Excellent BREEAM Schools rating in a 'good' and 'poor' location**

Location	% increase in capital cost to achieve a Pass/Good/Very good/Excellent			
	Pass	Good	Very good	Excellent
Good	0	0.5	1.4	4.5
Poor	0.2	0.8	2.3	7.6

Table 2a: % increase in capital cost for a secondary school to achieve Pass, Good, Very good and Excellent BREEAM Schools rating in a 'good' and 'poor' location

Location	% increase in capital cost to achieve a Pass/Good/Very good/Excellent			
	Pass	Good	Very good	Excellent
Good	0	0.2	1.0	4.1
Poor	0.1	0.7	2.6	5.6

The report noted that costs may significantly increase if sustainability advice is received too late. Ensuring that sustainability is considered broadly at the outset (and in detail at appropriate stages in the development of the design) will minimise cost and maximise environmental performance.

Life Cycle Costing Of Sustainable Design

This 2009 RICS research paper concluded that innovative design solutions can used to substantially reduce a project's carbon footprint; that these design solutions do not need to cost more; and that it is a over simplification to say that a sustainable design will add 10% or 15% to the cost of the building – these 'rule of thumb' extra-over costs instead relate to bolting on sustainability to existing designs rather than including them from the outset.

Target Zero

Target Zero is a programme of work, funded by Tata Steel and the British Constructional Steelwork Association, to provide guidance on the design and construction of sustainable, low and zero carbon buildings in the UK. Five non-domestic building types were analysed: a school, a distribution warehouse, a supermarket, a medium to high rise office and a mixed-use building. The base case used is Part L 2006 building regulations.

Office: modelled on a steel framed office in London, published 2012. The capital cost uplift of the base case office is:

- 0.17% to achieve BREEAM 'Very Good'
- 0.77% to achieve BREEAM 'Excellent'
- 9.83% to achieve BREEAM 'Outstanding'

Warehouse: modelled on the DC3 distribution warehouse at Prologis Park, Stoke, published in 2011. The estimated capital cost uplift of the steel portal frame base case distribution warehouse for achieving the following three BREEAM assessments is:

- 0.04% to achieve BREEAM 'Very Good'
- 0.4% to achieve BREEAM 'Excellent'

- 4.8% to achieve BREEAM 'Outstanding'

Supermarket: modelled on the Asda food store in Stockton-on-Tees, published 2011. The capital cost uplift of the base case supermarket is:

- 0.24% to meet BREEAM 'Very Good'
- 1.76% to achieve BREEAM 'Excellent'
- 10.1% to achieve BREEAM 'Outstanding'

Mixed Use: modelled on the Holiday Inn tower located in MediaCityUK, Manchester, published 2012. The capital cost uplift of the base case mixed-use building is:

- 0.14% to meet BREEAM 'Very Good' rating;
- 1.58% to achieve BREEAM 'Excellent' rating
- 4.96% to achieve BREEAM 'Outstanding'

Putting a Price on Sustainability – BRE/Cyril Sweett 2005.

This research considered three non-residential building types (and housing) and assessed the cost implications of reaching different BREEAM ratings. The base case was Building Regulations compliant – although the Building Regulations date is not provided, we have assumed that these are Building Regulations 2002.

Office: Naturally ventilated 493 sqm over two floors.

- BREEAM Good rating can be achieved for a saving of between 0.3% and 0.4% of the capital cost.
- Very Good rating can be achieved for between a cost saving of 0.4% and an additional cost of 2%
- Excellent rating for an additional cost of between 2.5% and 3.4%, for a range of locations.

Office: Air conditioned 10,098 sqm over three floors.

- BREEAM Good rating can be achieved for an additional cost of between 0% and 0.2% of the capital cost.
- Very Good rating can be achieved with an additional cost of between 0.1% and 5.7%
- Excellent rating for between 3.3% and 7.0%, for a range of locations.

Health Centre: PFI build 6400 sqm over three floors.

- The base case health centre already achieves a Good rating.
- Very Good rating can be achieved at no additional cost
- Excellent rating for an additional cost of between 0.6% and 1.9%, for a range of locations.

Sustainable Buildings Standards Evidence Base - Bristol City Council, 2011

This study by Climateworks reviewed a case study by BRE Centre for Sustainable Construction, and Cyril Sweett, March 2005. This used real data to assess the costs of constructing four types of building:

i. A house - one of 40 units on a speculative new build;

ii. A naturally ventilated office;

iii. An air conditioned office;

iv. A healthcare centre;

In each case BREEAM and EcoHomes were used to assess environmental performance. The capital costs of each design (including prelims, overheads, profits and contingencies) were assessed and compared with Building Regulations. Costs were based on new-build using the most cost effective options.

Both BREEAM and EcoHomes take account of location so three location scenarios were used, a poor location where no location credits were awarded, a typical location with some location credits and a good location where all the location credits were achieved.

Building type	Capital cost	Notes
House	£76,000, £661 per sq m	Percentage increase in cost in moving from Pass to Excellent (EcoHomes) 0 to 6.9%, and for achieving Excellent only 4.2% in good location.
Naturally ventilated office	£731,200, £1483 per sq m	Percentage increase from Pass to Excellent 0.3 to 3.4%
Air Conditioned office	£11,430,000, £1132 per sq m	Percentage increase from Pass to Excellent 0 to 7.0%. Location was a strong factor in this case.
PFI health centre	Capital cost £11,590,000, £1811 per sq m	Percentage increase for Very Good to Excellent 0.6 to 1.9%

Source Sustainable Buildings Standards Evidence Base - 2011, Bristol City Council

The overall study also included consultation with stakeholders in Bristol, which showed that concerns and objections from developers about meeting higher performance standards are not principally about how to meet the extra-over costs of a particular standard. Rather they appear to centre more on uncertainty about what these costs might be, how to achieve the required standard, the difficulties of amending existing design and procurement processes to do this and how to sell higher performance buildings to customers.

Non-residential Development – Premium Values for Sustainable Buildings

The EC Harris 2009 and the BRE 2010 reviews discussed above both suggest that there may be a premium value for 'green' buildings. This issue was explored in a 2011 research paper The Value of Green Buildings New Evidence from the United Kingdom [5], and this paper was then used as the basis for a RICS document[6].

The key findings were that during 2000-2009 in the London office market, there was a substantial premium on the rental and sales values of sustainable offices – 21% and 26% respectively. When rental contract terms and incentives were taken into account the effective premium lessened (by about 5% points) and the research also found that as the number of sustainable premises increased, the differential lessened as competition of supply increased (a fall of 3% points on rents and 1% point on sales). Furthermore there was also a micro environmental effect whereby the expanding supply of sustainable buildings had a positive impact on rental and sales values generally. Behind these headline findings, the factors that might give rise to these premiums included lower operating costs, the use of sustainable buildings to reinforce corporate social responsibility credential and the preference of institutional investors for sustainability. The wider market changes during the period of research also need to be taken into account, as during this time there was a substantial amount of market activity driven by legal and financial services sectors and the research took place in London, one of the major international office markets. The researchers also noted that wider building quality aspects might have an impact on the premium values observed in the research, but were unable to quantify this aspect in their research.

Discussion and Summary

A number of issues are clear from the evidence reviewed:

- There is generally an extra-over cost on meeting higher environmental standards.
- The extent of this cost depends on the base case – as building regulations demand ever higher standards, the differential is reduced.
- There is also a learning process, which reduces costs over as the industry becomes more familiar with the methods required to improve environmental performance.
- The costs of meeting BREEAM standards are reduced when issues are considered through from the earliest stages of design rather than 'bolted' on at a later stage.
- BREEAM is a relative rating compared to other new development and so as standards increase generally, achieving the highest BREEAM ratings will become successively more difficult.

[5] The Value of Green Buildings New Evidence from the United Kingdom, 2011, Chegut, Eichholtz and Kok

[6] Supply, Demand and the Value of Green Buildings, 2012, RICS

- Some BREEAM scores are site specific and with a balanced scorecard system, lower scores on this aspect will mean more effort to get higher scores on other indicators. This is not easy to assess in a generic viability appraisal.

The range of additional costs presented by different studies varies, partly because of different development types, but also different base cases and through other factors. Having considered the evidence we will apply the following construction cost uplifts over current BCIS construction costs within the viability testing:

	BREEAM Excellent	BREEAM Outstanding
Office	2.50%	10.00%
Warehouse/industrial	1.50%	5.00%
Supermarket/retail	2.00%	10.00%
Other	2.50%	5.00%

The Target Zero information is the only source for costs of achieving BREEAM Outstanding and the assumptions for these costs are very much guided by this source. The costs for BREEAM Excellent have a wider spread of information (and values) and we have discussed and set a reasonable conservative estimate from within these values.

In addition to costs issues there is also evidence that buildings with good environmental credentials are able to attract a value premium. The current evidence is from the London office market and from abroad, and it is not fully clear how this might apply to different development types in different parts of the UK. However it seems appropriate to make some allowance for better values, and we have used a conservative 5% uplift in values within the viability testing.

Annex 5 – Residential Testing Assumptions

A range of case study sites was tested with 25%, 30% and 35% affordable housing.

Dwelling Mix

The following range of development mixes is used:

Mix of units	25 dph	30 dph (no bungalows)	30 dph (with bungalows)	35 dph	40 dph	45 dph	50 dph	55 dph
1 bed flat								15%
2 bed flat								15%
2 bed terrace				10%	20%	25%	30%	30%
3 bed terrace		25%		22%	20%	30%	40%	40%
3 bed semi		25%	25%	23%	20%	25%	30%	
3 bed detached	30%							
4 bed detached	50%	25%	25%	30%	40%			
5 bed detached	20%	25%	25%	15%				
2 bed bungalow			25%					
Total	100%	100%	100%	100%	100%	100%	100%	100%

Dwelling Sizes

Dwelling sizes are as follows:

Size in m²	Affordable	Market
1 bed flat	48	45
2 bed flat	70	56
2 bed terrace	71	65
3 bed terrace	96	80
3 bed semi	96	95
3 bed detached	101	105
4 bed detached	114	125
5 bed detached	125	150
2 bed bungalow	70	80

Size in sq m		Affordable	Market
Sheltered	1 bed flat	52	52
	2 bed flat	77	77
ExtraCare	1 bed flat	62	62
	2 bed flat	82	82

Selling Prices

Case Study sites are tested in two market areas:-

- Area A – using Leighton Buzzard prices
- Area B – using Dunstable and Houghton Regis prices

House prices (£000)	Flitwick	Leighton Buzzard	Biggleswade	Dunstable and Houghton Regis
1 bed flat	115	112	112	96
2 bed flat	128	124	124	106
2 bed terrace	153	153	151	141
3 bed terrace	170	170	168	156
3 bed semi	212	219	206	197
3 bed detached	325	318	282	301
4 bed detached	360	352	313	334
5 bed detached	396	387	345	368

House prices £		**Area A**	**Area B**
Sheltered	1 bed flat	170,000	160,000
	2 bed flat	233,000	220000
ExtraCare	1 bed flat	250,000	2115000
	2 bed flat	280000	263000

Affordable Housing

Affordable housing is split 50% affordable rent: 50% shared ownership, with a 40% share sold except in the case of Sheltered and ExtraCare housing where we have modelled a 70% equity share product instead of the shared ownership.

Affordable Rents

Affordable rents (net of service charge £10 for flats)	1 bed flat	2 bed flat	bungalow	2 bed house	3 bed house	4 bed house	5 bed house
Flitwick	£70.00	£90.00	£110.00	£110.00	£120.00	£160.00	£195.00
Leighton Buzzard	£85.00	£100.00	£120.00	£120.00	£135.00	£175.00	£210.00
Biggleswade	£70.00	£90.00	£110.00	£110.00	£120.00	£160.00	£195.00
Dunstable and Houghton Regis	£80.00	£95.00	£115.00	£115.00	£129.23	£155.00	£185.00

Affordable Housing costs

Affordable rent

Management and maintenance	£900 per annum
Void/ bad debts	3% gross rent
Repairs	£500 per annum
Capitalisation	6.00% of net rent

Shared Ownership

Rental factor	2.5% of share
Capitalisation factor	6.00% of net rent

Build Costs (including 15% uplift for external works)

Houses	£1,050/sq m
Flats (1-2 storeys)	£1,065/sq m
Flats (3-5 storeys)	£1,135/sq m

Other Development Costs

Professional Fees	12%
Internal overheads	0%
Finance (market and affordable)	7.5%
Marketing	3%
Developer return	20%
Contractor return	6%

SUE Assumptions

	3000 units SUE	6000 units SUE
No of units	3000	6000
Net area (at 37dph)	81ha	162ha
Gross to net ratio	65%	45%
Gross area	125ha	360ha
Development Rate	No completions in year 1 and 350 per annum thereafter. Assume development starts post 2016.	No completions in year 1 and 350 per annum thereafter. Assume development starts post 2016.
House types	Based on 1 ha Central Beds assumptions below - Figure 1	
Market Values	Based on 1 ha Central Beds assumptions below – Figure 2	
Development Mix	1 bed flat 7.5% 2 bed flat 7.5% 2 bed terrace 15% 3 bed terrace 15% 3 bed semi 12.5% 3 bed detached 17.5% 4 bed detached 12.5% 5 bed detached 12.5%	
Tenure Mix	Affordable only on smaller units and no detached. Affordable split 50/50 between affordable rent and shared ownership. Test 20%, 25% and 30% affordable housing provision.	
Rents	Based on 1ha Central Beds assumptions – see figure 3 below.	
Affordable Housing Costs – Affordable rent	Management - £900 pa Voids/Bad debts – 3% gross rent Repairs - £500 pa Capitalisation – 6% net rent	
Affordable Housing Costs – shared ownership	Rental factor – 2.5% of share Capitalisation – 6% net rent	
Build Costs	Based on 1ha Central Beds assumptions – see figure 4 below	
Other development costs	Based on 1ha Central Beds assumptions – see figure 5 below	
Exceptional development costs	• Allow £4600 per unit for compliance with 2016 B Regs • Allow £735 per unit Lifetime Homes	

	• Allow £750 per unit for Flexible water. • Opening Up Costs – ○ Scenario 1 – 15k per unit opening up costs ○ Scenario 2 – 20k per unit opening up costs
Planning Obligations	○ Scenario 1 – allow 15k per unit ○ Scenario 2 – allow 20k per unit
Capital Contributions from other sources	Assume no contribution from other sources
Affordable Housing	Assume that the toolkit calculates payment for affordable housing and no grant is available
Benchmark Value	£650,000 - £950,000

House Types

Size in m²	**Affordable**	**Market**
1 bed flat	48	45
2 bed flat	70	56
2 bed terrace	71	65
3 bed terrace	96	80
3 bed semi	96	95
3 bed detached	101	105
4 bed detached	114	125
5 bed detached	125	150
2 bed bungalow	70	80

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Selling Prices

House prices (£000)	Flitwick	Leighton Buzzard	Biggleswade	Dunstable and Houghton Regis
1 bed flat	115	112	112	96
2 bed flat	128	124	124	106
2 bed terrace	153	153	151	141
3 bed terrace	170	170	168	156
3 bed semi	212	219	206	197
3 bed detached	325	318	282	301
4 bed detached	360	352	313	334
5 bed detached	396	387	345	368
2 bed bungalow				

Affordable Rents

Affordable rents	put in the social rent column of the toolkit						
net of service charge £10 for flats rounded	1 bed flat	2 bed flat	2 bed bungalow	2 bed house	3 bed house	4 bed house	5 bed house
Flitwick	£70.00	£90.00	£110.00	£110.00	£120.00	£160.00	£195.00
Leighton Buzzard	£85.00	£100.00	£120.00	£120.00	£135.00	£175.00	£210.00
Biggleswade	£70.00	£90.00	£110.00	£110.00	£120.00	£160.00	£195.00
Dunstable and Houghton Regis	£80.00	£95.00	£115.00	£115.00	£129.23	£155.00	£185.00

Build Costs

Build costs					
•Flats					
• 1-2 storey		£1,065			
• 3-5 storey		£1,135			
• 6+ storey		£1,360			
•Houses		£1,050			
•Bungalows		£1,185			
•Sheltered		£1,160	not used for 1 ha site but will be		
•Extracare		£1,205	case study as 3-5 storey flats		

Other development costs

Professional Fees 12%

Internal overheads 0%

Finance (market and affordable)	7.5%
Marketing	3%
Developer return	20%
Contractor return	6%

Annex 6 – Details of Case Study Sites

Case study sites

A number of case study sites were identified (in consultation with the Council) which reflect typical sites likely to be brought forward in Central Bedfordshire.

Table A6.1: Case study sites

Case Study	Site Type	No of dwgs	Description	Net/ gross ratio	Gross (ha)	Net (ha)	Net den sity	Additional costs per ha	Development period (years)
I	Lower density scheme	25	Notional site	100%	1.00	1.00	25	£0	1
IIa	Smaller market units	40	Smaller market units similar floor area to affordable	100%	1.00	1.00	40	£0	1
IIb	Smaller market units	30	Smaller market units similar floor area to affordable	100%	1.00	1.00	30	£0	1
III	Urban infill	55	High density urban infill	100%	1.00	1.00	55	50k per net ha	Yr1 20 units, bal in yr 2
IV	Edge of market town	200	Edge of urban area	80%	8.33	6.67	30	100k per net ha	Yr 1 20 units, yr 2 onwards 40 dwgs pa
V	Small development in Market town	10	Urban infill	100%	0.25	0.25	40	£0	1
VI	Small development outside village envelope	10	Rural Exception site	100%	0.33	0.33	30	£0	1
VIIa	Single plot within village envelope	1	Infill plot – rear garden	100%	0.05	0.05	20	£0	1
VIIb	Two plots within village envelope	2	Infill plot	100%	0.08	0.08	27	£0	1
VIIIa	Extracare scheme	56	Older persons housing	65%	0.46	Na	122	£0	3
V111b	Sheltered Scheme	56	Older persons housing	74%	0.40	Na	138	£0	3
IXa	3000 dwelling SUE	3000	Major urban extension	65%	125.00	81.00	37	30k/unit ouc & S106; 40k/unit ouc and S106 costs	I year to open up, 9 years to build out
IXb	6000 dwelling SUE	6000	Major urban extension	45%	360.00	162.00	37	30k/unit ouc & S106; 40k/unit ouc and S106 costs	I year to open up, 18 years to build out

The Advice for Planning Practitioners indicates that larger scale schemes have additional costs that do not apply to smaller developments. Additional opening up costs of £100,000 per net hectare have been allowed for Case Study IV, a development of 200 units. An additional opening up cost of £50,000 per net hectare has also been allowed for Case Study III, a high density urban infill scheme to cover potential costs such as demolition etc.

An allowance of £3,000 per unit has been made to allow for Base Standards as identified in the Central Bedfordshire Draft Development Strategy. A cost per unit of £735 has been added to allow for Lifetime Homes on 70% of dwellings and onsite S106 provision of £3,500 per dwelling has been made.

A separate set of assumptions have been agreed with the Council in respect of Case Studies IX(a) and IX(b), large scale strategic urban extensions of 3000 and 6000 units respectively. These assumptions include additional opening up and development infrastructure costs, allowances for S106 contributions and provision for compliance with future building regulations. These assumptions are shown in full in Annex 4.

The additional opening up and onsite S106 costs associated with large scale development and the lower net developable to gross area, help explain why large-scale greenfield development can be particularly expensive to develop.

For case studies where development is identified as taking more than 2 years, we have modelled the scheme over time, using a discount cash flow, to show how time impacts on residual values.

All results are based on residual values for the gross area, compared with the benchmark land values used.

All case studies have been undertaken in Area A (Leighton Buzzard) and Area B (Dunstable and Houghton Regis).

Annex 7 – Case Study Results

Base 1 ha site

The site was modelled at 30% affordable housing at 30, 35 and 40 dph. Affordable housing was divided equally between affordable rented and shared ownership (at 40% share). Affordable housing was allocated to 2 and 3 bed units. The Council's specified development standard was used. 70% of homes (across all tenures) were developed as Lifetime Homes. It was assumed that the scheme was developed in 1 year. S106 obligations of £3,500 per dwelling were assumed. No CIL was applied.

Density	Residual value less 10% acquisition costs (£)	
	Area A	Area B
30 dph	1,493,000	1,130,000
35 dph	1.494,000	1,100,000
40 dph	1,668,000	1,440,000

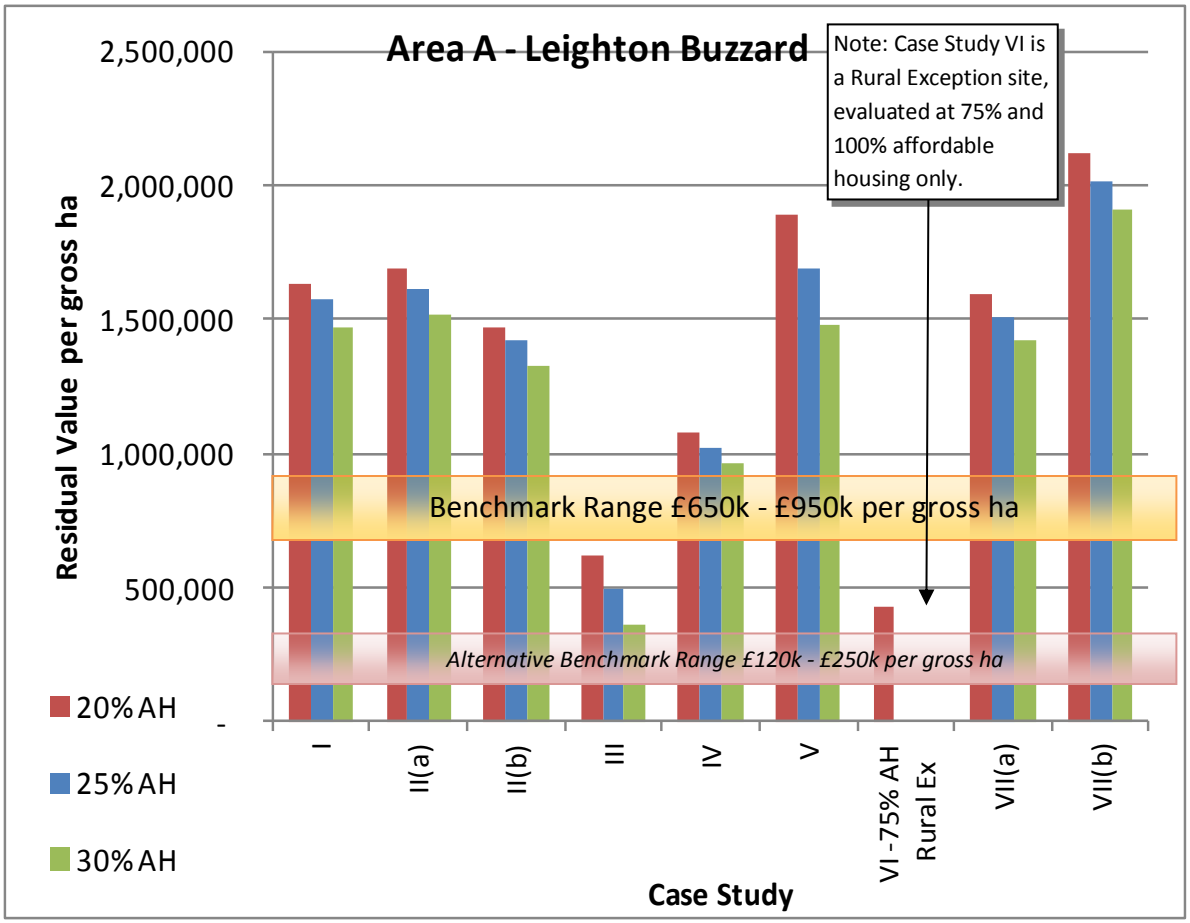
Individual Case Studies

Area A

Table A7.1: Case study results Area A

						Residual Value less 10% acquisition costs		
Area A (Leighton Buzzard)		**Units**	**Net Area**	**Gross area**		**20% AH**	**25% AH**	**30% AH**
Case Study	I	25	1.00	1.00		1,630,913	1,576,013	1,468,013
Case Study	II(a)	40	1.00	1.00		1,687,140	1,615,140	1,513,440
Case Study	II(b)	30	1.00	1.00		1,467,855	1,418,355	1,329,255
Case Study	III	55	1.00	1.00		614,768	496,868	365,468
Case Study	IV	200	6.67	8.33		1,082,051	1,018,791	958,836
Case Study	V	10	0.25	0.25		1,892,340	1,687,140	1,478,340
Case Study	VI -75% AH Rural	10	0.33	0.33		427,282	See note below	
Case Study	VII(a)	1	0.05	0.05		1,597,770	1,507,770	1,417,770
Case Study	VII(b)	2	0.08	0.08		2,118,660	2,010,660	1,914,360

Note: Case Study VI is a Rural Exception site, tested with 75% affordable housing and with 100% affordable housing.



Key findings

Case Study I - The residual value of Case Study I comfortably exceeds the upper benchmark value of £950k per hectare for all levels of affordable housing tested.

Case Study II(a) and (b) - The residual values of Case Studies II (a) and (b) both exceed the lower benchmark value at all levels of affordable housing tested.

Case Study III - The residual value of Case Study III falls below the lower benchmark value at all levels of affordable housing tested.

Case Study IV - The residual values at all levels of affordable housing tested are above the upper benchmark value of £950k per hectare.

Case Study V - The residual values at all levels of affordable housing tested are above the upper benchmark value of £950k per hectare.

Case Study VI – Rural Exception Site - The residual value, with 75% affordable housing, is above £250k per hectare. At 100% affordable housing the residual value is negative.

Case Study VII(a) and (b) - The residual values at all levels of affordable housing tested are above the upper benchmark value of £950k per hectare.

Conclusions

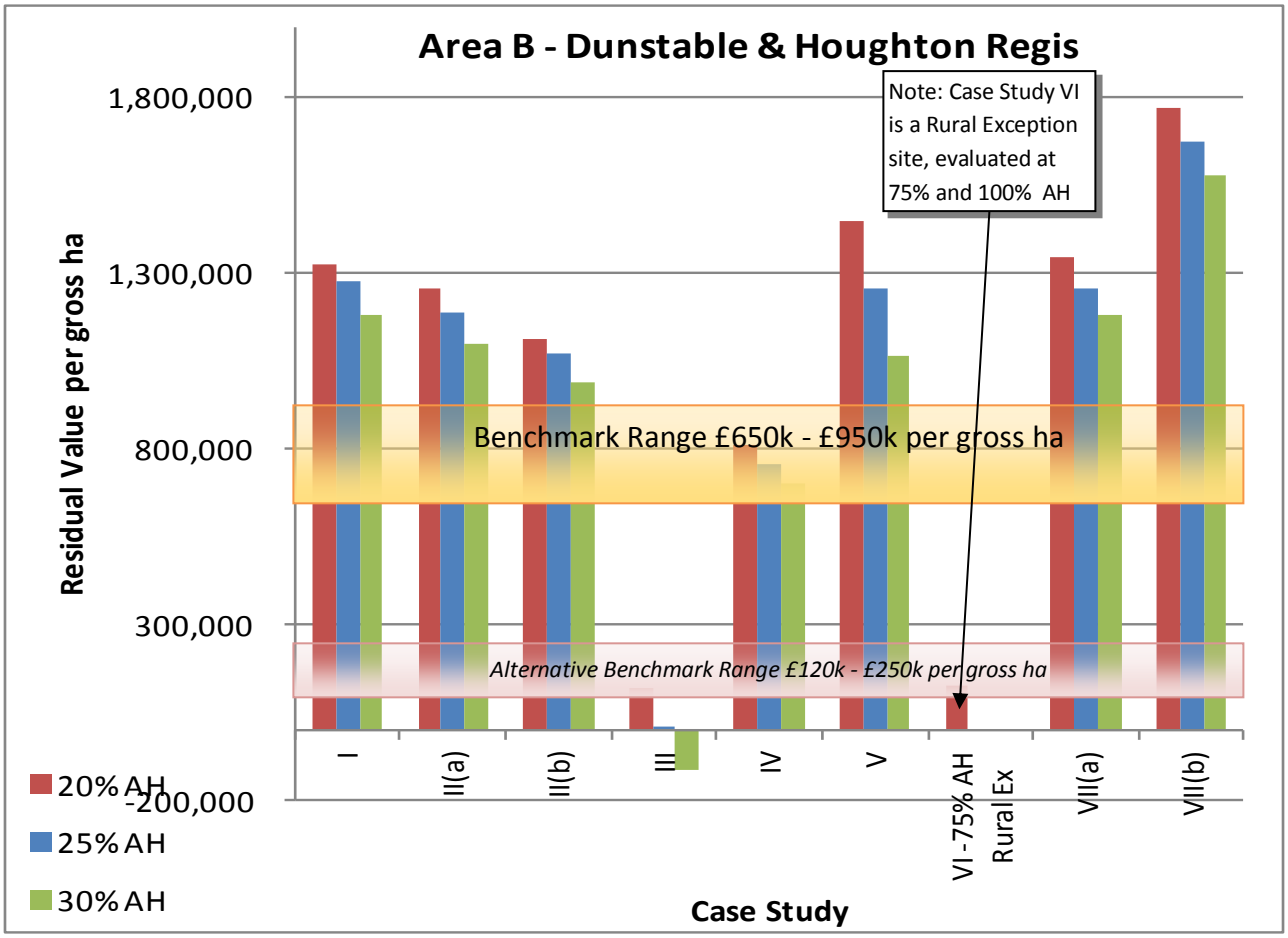
In Area A all types of development except for III and IV (a 55 dph town centre development and a 200 unit edge of town development) have residual values comfortably above the higher benchmark at 30% affordable housing, with base standards and with £3,500 onsite S106 costs. These types of scheme should be able to afford the recommended levels of CIL. In the case of Case Studies III, IV ad VI it may, be necessary to consider a reduction in the level of affordable housing or the onsite S106 requirement where scheme developers can demonstrate that this would enable the scheme to proceed. Very small sites (Case studies VIIa and b) have economics which are broadly comparable with those of larger sites and there is no reason why they should not be subject to the same CIL and affordable housing targets and the same development standards.

Area B

Table A7.2: Case study results: Area B

						Residual Value less 10% acquisition costs		
Area B (Dunstable & Houghton Regis)		**Units**	**Net Area**	**Gross area**		**20% AH**	**25% AH**	**30% AH**
Case Study	I	25	1.00	1.00		1,325,813	1,278,113	1,182,713
Case Study	II(a)	40	1.00	1.00		1,253,340	1,188,540	1,099,440
Case Study	II(b)	30	1.00	1.00		1,114,155	1,068,255	990,855
Case Study	III	55	1.00	1.00		117,068	6,368	-116,933
Case Study	IV	200	6.67	8.33		813,577	756,382	701,954
Case Study	V	10	0.25	0.25		1,449,540	1,255,140	1,064,340
Case Study	VI -75% AH Rural	10	0.33	0.33		124,882	See note below	
Case Study	VII(a)	1	0.05	0.05		1,345,770	1,255,770	1,183,770
Case Study	VII(b)	2	0.08	0.08		1,770,360	1,674,060	1,578,660

Note: Case Study VI is a Rural Exception site, with 75% affordable housing.



Key findings

Case Study I - The residual value of Case Study I exceeds the upper benchmark value of £950k per hectare for all levels of affordable housing tested.

Case Study II(a) and (b) - The residual values of Case Studies II (a) and (b) both exceed the lower benchmark value at all levels of affordable housing tested.

Case Study III - At all levels of affordable housing tested, the residual value falls well below the lower benchmark value of £650k per hectare. At 30% affordable housing the residual value is below zero.

Case Study IV - At all levels of affordable housing tested, the residual values fall between the upper and lower benchmark values.

Case Study V - The residual values at all levels of affordable housing tested are above the upper benchmark value of £950k per hectare.

Case Study VI – Rural Exception Site - The residual value of Case Study VI, a Rural Exception Site with 75% affordable housing, falls just above £120k per hectare. At 100% affordable housing the residual value is negative.

Case Study VII(a) and (b) - The residual values at all levels of affordable housing tested are above the upper benchmark value of £950k per hectare.

Conclusions

In Area B all types of development except for Case Studies III, IV and VI (a 55 dph town centre development, a 200 unit edge of town development and a rural exceptions site) have residual values comfortably above the higher benchmark at 30% affordable housing, with base standards and with £3,500 onsite S106 costs. These types of scheme should be able to afford the recommended levels of CIL. In the case of Case Studies III, IV ad VI it may, be necessary to consider a reduction in the level of affordable housing or the onsite S106 requirement where scheme developers can demonstrate that this would enable the scheme to proceed. Very small sites (Case studies VIIa and b) have economics which are broadly comparable with those of larger sites and there is no reason why they should not be subject to the same CIL and affordable housing targets and the same development standards.

ExtraCare and Sheltered Housing (Case Study VIII)

ExtraCare Housing with 30% affordable housing produces a negative residual value for the scheme of -£411,000 in Area A and -£979,000 in Area B. Modelling is very sensitive to assumptions about house prices. Modelled here as £225,000 for a 1 bed flat and £280,000 for a 2 bed flat in Area A and as £210,000 and £260,000 respectively in Area B.

Sheltered housing with 30% affordable housing produces a negative residual value for the scheme of -£99,000 in Area A and -£550,000 in Area B. . Modelling is very sensitive to assumptions about house prices. Modelled here as £170,000 for a 1 bed flat and £233,000 for a 2 bed flat in Area A and as £160,000 and £220,000 respectively in Area B.

Strategic Urban Extensions – Case Studies IX(a) and (b)

The assumptions used in testing the Strategic Urban Extensions (SUE) are shown in Annex 3. Both the 3000 and 6000 unit SUEs have been tested in Area A and Area B. Two alternative cost scenarios have also been tested for each SUE – Scenario 1 assuming £15k/unit opening up costs and £15k/unit S106 contributions and Scenario 2

3000 unit SUE

Assuming benchmark values of £330,000 per gross ha and taking the discounted cash flow (DCF) values per gross hectare, the residual value for Area A reaches the benchmark at 20%

affordable housing in Scenario 1 (£15k per unit opening up costs and £15k per unit S106 contributions).

In Scenario 2, with the opening up costs and S106 contributions being increased to £20k per unit, the residual values are, as expected lower. The development does not reach the benchmark at any of the affordable housing scenarios modelled.

The residual values for Area B are lower than those for Area A and the scheme does not reach the benchmark even at 20% affordable housing and at the lower cost Scenario 1. In Scenario 2, with higher costs, the residual values for all levels of affordable housing tested are negative.

6000 unit SUE

The results for the 6000 unit SUE show that Area A with Scenario 1, costs generates positive residual values, between £185,000k and £117,000 per gross hectare, for all levels of affordable housing. The residuals are however well below the benchmark value of £330k per gross hectare.

The increased costs associated with Scenario 2 result in reduced residual values, with 20% affordable housing generating a residual just above zero. 25% and 30% affordable housing generate negative residual values.

As for the 3000 unit SUE, the residual values for Area B are lower than those for Area A, with only 20% affordable housing generating a positive residual value with scenario 1 costs. All other residual values for Scenario 1 and all residuals for scenario 2 are negative.

Conclusion

The relatively low net to gross ratio for the 3000 and 6000 unit SUEs, together with the high costs of opening up and developing sites of this size combine to produce residual values that are well below the benchmark values and are significantly lower than most of the other case studies.

On the information modelled it would appear that a 6,000 unit SUE in both Area A and and Area B will be unlikely to be able to deliver onsite S106 requirements plus 20% or more affordable housing. The 3,000 unit SUE would be able to provide onsite S106 requirements plus 20% affordable housing in Area A but not in Area B

Sensitivity Analysis

Affordable Housing/Shared Ownership split

A custom 40 dph mix (see table below) was evaluated at 30% affordable housing to assess the residual value against varying levels of affordable rent and shared ownership tenures. The affordable housing was apportioned evenly across the house types modelled and this produces

lower residual values than the mix modelled for the specimen 1 ha site where affordable housing was concentrated in the smaller units.

Table A7.3: Mix used to assess impact of varying splits of affordable housing by tenure type

Housing Mix			No.	30% affordable
1 bed flat		5%	2	0.6
2 bed flat		22.50%	9	2.7
2 bed terrace		22.50%	9	2.7
3 bed terrace		20%	8	2.4
3 bed semi		20%	8	2.4
4 bed detached		10%	4	1.2
Total		100%	40	12

The results for the alternative splits of affordable housing are shown in the table below:

Table A7.4: Results of affordable housing tenure split testing

Affordable Housing Mix				**Area A**		**Area B**
	Affordable Rent	Intermediate Tenure (Shared Ownership)		**RV Less 10% Acq Costs (000's)**		**RV Less 10% Acq Costs (000's)**
	80%	20%		**538**		**145**
	60%	40%		**614**		**211**
	50%	50%		**654**		**244**
	40%	60%		**692**		**277**
	20%	80%		**769**		**343**

Area A

The default 50/50 split between Affordable Rent and Shared Ownership shows a residual value that is just above the lower benchmark value of £650k per hectare. Where the Affordable Rent provision is greater than 50% of all affordable housing, the residual value decreases and falls below the benchmark value. Conversely, decreasing the Affordable Rent and increasing the percentage of Shared Ownership improves the residual value.

Area B

At the default 50/50 split of Affordable Rent and Shared Ownership, the residual value of the scheme is less than half of the lower benchmark value of £650k per hectare. The scheme shows

the same behaviour as Area A as the split between the two tenures is adjusted but the highest value still falls short of the lower benchmark.

Impact of varying developer margins, build costs and selling prices

The impact of varying developer margins, and increases and decreases in build costs and market value have been assessed using notional 1 hectare schemes at 30, 35 and 40 dph, with 30% affordable housing provision in Areas A and B. The results are shown in the table below.

Table A7.5: Results of Varying Developer Margins and Changes in Build Costs and Market Value

	Area A			Area B		
Scheme Density	**30 dph**	**35dph**	**40 dph**	**30 dph**	**35dph**	**40 dph**
Residual Values (000's/ ha)	Residual Value (000's per ha)	Residual Value (000's per ha)	Residual Value (000's per ha)	Residual Value (000's per ha)	Residual Value (000's per ha)	Residual Value (000's per ha)
Baseline Value	**1,249**	**1,397**	**1,558**	**1,037**	**1,008**	**1,130**
17% developer margin	1,430	1,601	1,774	1,206	1,199	1,333
25% developer margin	948	1,057	1,196	755	689	792
-5% Market value/ -5% Build Costs	1,190	1,328	1,476	985	957	1,067
+5% Market value/ +5% Build Costs	1,308	1,462	1,639	1,085	1,055	1,188
+10% Market Value/ +10% Build Costs	1,364	1,526	1,706	1,137	1,102	1,240

Varying Developer Margins

The schemes were tested with a reduction in developer margin to 17% from the default of 20% and an increase of developer margin to 25% A reduction in developer margin to 17% generates an improved residual value against the baseline value as expected. Similarly, an increase in developer margin from 20% to 25% results in a lower residual value.

In Area A, only the 30 dph scheme residual falls slightly below the upper benchmark value of £950k with a 25% developer margin. In Area B however all three schemes fall from being above the upper benchmark, to being between the upper and lower benchmark values, with the 35 dph scheme being the lowest of the three.

Changes in Build Cost and Market Value

A 5% reduction in both build costs and market value, together with a 5% and 10% increase in build costs and market value were tested. In all schemes tested, a 5% reduction in build costs and market value generated a decrease in residual value from the baseline figure. Both 5% and 10% increases in build cost and market value increased the residual value relative to the baseline value.

In both areas, the reduction in residual value was insufficient to cause any of the residuals to fall below the upper benchmark of £950k although they come very close to this in Area B..

Area A - Leighton Buzzard			
Scenario 1 - 15k/unit opening up costs, 15k/unit S106 costs		Less 10% acquisition cost	
		Static	DCF
20% AH	Scheme Total	59,390,100	43,856,468
	per net ha	733,500	541,438
	per gross ha	475,200	350,852
25% AH	Scheme Total	52,695,000	37,569,571
	per net ha	650,700	463,822
	per gross ha	421,200	300,557
30% AH	Scheme Total	45,999,000	31,277,557
	per net ha	567,900	386,142
	per gross ha	368,100	250,221
Scenario 2 - 20k/unit opening up costs, 20k/unit S106 costs			
20% AH	Scheme Total	32,390,100	14,534,459
	per net ha	399,600	179,438
	per gross ha	259,200	116,276
25% AH	Scheme Total	25,695,000	8,017,424
	per net ha	316,800	98,980
	per gross ha	205,200	64,139
30% AH	Scheme Total	18,999,000	1,411,665
	per net ha	234,900	17,428
	per gross ha	152,100	11,293
Area B - Dunstable and Houghton Regis			
Scenario 1 - 15k/unit opening up costs, 15k/unit S106 costs			
20% AH	Scheme Total	27,107,100	13,547,788
	per net ha	334,800	167,257
	per gross ha	216,900	108,383
25% AH	Scheme Total	21,074,400	7,706,839
	per net ha	260,100	95,146
	per gross ha	168,300	61,655
30% AH	Scheme Total	15,042,600	1,768,869
	per net ha	185,400	21,838
	per gross ha	120,600	14,151
Scenario 2 - 20k/unit opening up costs, 20k/unit S106 costs			
20% AH	Scheme Total	107,100	-21,427,524
	per net ha	900	-264,537
	per gross ha	900	-171,421
25% AH	Scheme Total	-7,242,400	-28,934,805
	per net ha	-89,100	-357,220
	per gross ha	-58,300	-231,479
30% AH	Scheme Total	-14,614,600	-36,442,086
	per net ha	-180,400	-449,902
	per gross ha	-116,600	-291,536

Area A - Leighton Buzzard			
Scenario 1 - 15k/unit opening up costs, 15k/unit S106 costs		**Less 10% acquisition cost**	
		Static	**DCF**
20% AH	Scheme Total	118,780,200	66,731,042
	per net ha	733,500	411,920
	per gross ha	330,300	185,364
25% AH	Scheme Total	105,438,600	54,621,099
	per net ha	650,700	337,167
	per gross ha	292,500	151,726
30% AH	Scheme Total	92,070,000	42,337,395
	per net ha	567,900	261,342
	per gross ha	255,600	117,604
Scenario 2 - 20k/unit opening up costs, 20k/unit S106 costs			
20% AH	Scheme Total	64,780,200	1,321,525
	per net ha	399,600	8,158
	per gross ha	180,000	3,671
25% AH	Scheme Total	51,438,600	-15,613,626
	per net ha	317,700	-96,381
	per gross ha	143,100	-43,371
30% AH	Scheme Total	38,070,000	-32,920,412
	per net ha	234,900	-203,213
	per gross ha	106,200	-91,445
Area B - Dunstable and Houghton Regis			
Scenario 1 - 15k/unit opening up costs, 15k/unit S106 costs			
20% AH	Scheme Total	54,216,000	6,558,467
	per net ha	334,800	40,485
	per gross ha	150,300	18,218
25% AH	Scheme Total	42,195,600	-7,227,217
	per net ha	260,100	-44,613
	per gross ha	117,000	-20,076
30% AH	Scheme Total	30,150,000	-22,833,912
	per net ha	186,300	-140,950
	per gross ha	83,700	-63,427
Scenario 2 - 20k/unit opening up costs, 20k/unit S106 costs			
20% AH	Scheme Total	216,000	-81,295,921
	per net ha	900	-501,827
	per gross ha	900	-225,822
25% AH	Scheme Total	-14,427,600	-96,870,645
	per net ha	-89,100	-597,967
	per gross ha	-39,600	-269,085
30% AH	Scheme Total	-29,150,000	-112,477,342
	per net ha	-180,400	-694,305
	per gross ha	-81,400	-312,437

Annex 8 – Non Residential Testing Assumptions

Non-residential Values and Costs

The table below sets out the costs and values used for the non-residential viability appraisals.

	Floorspace sqm	Rents £/sqm	Yield	Construction £/sqm	Allowance for S106
Office (Out of Centre)	1,500	£153	9%	£1,186	£20,000
Office (Town Centre)	2,000	£158	10%	£1,259	£0
Industrial	1,600	£62	9%	£569	£50,000
Warehouse	5,000	£68	7%	£429	£20,000
Comparison Retail Town Centre	800	£198	9%	£1,091	£0
Retail Warehouse	6,000	£158	8%	£581	£300,000
Small Convenience	300	£136	6%	£979	£0
Supermarket	1,100	£147	6%	£1,040	£100,000
Superstore	2,500	£192	5%	£1,177	£500,000
Large Superstore	6,000	£226	5%	£1,177	£2,000,000
Hotel	2,450	£136	7%	£943	£10,000
Cinema	3,800	£90	8%	£1,059	£20,000
Care Home	1,800	£119	6%	£1,148	£75,000

The rents in the table above include an premium allowance for BREEAM Excellent. The construction costs are also adjusted to take account of the 2013 Part L Building Regulations and the costs of achieving BREEAM Excellent.

In addition we have also taken account of the following:

- Purchaser costs – 5.8% of GDV
- External works – 10% of construction costs
- Professional fees – 12% of construction costs
- Sales and letting costs – 3% of GDV
- Finance costs – 7%
- Developer profit – 20% of GDV
- SDLT – 0%-4% depending on price of land
- Purchase costs – 2% of residual land value

The notional developments modelled have different site coverage and number of storeys:

Use	Storeys	Site Coverage
Office (Out of Centre)	2	40%
Office (Town Centre)	4	75%
Industrial	1	40%
Warehouse	1	40%
Comparison Retail Town Centre	2	80%
Retail Warehouse	1	40%
Small Convenience	1	40%
Supermarket	1	40%
Superstore	1	40%
Large Superstore	1	50%
Hotel	3	50%
Cinema	2	80%
Care Home	2	40%

Annex 9 – Non Residential detailed viability analysis

Non-residential Viability Assessment Model

Office development of two storeys out of town (a/c multiple units)

Size of unit (GIA)	1500	sq m
Ratio of GEA to GIA	100.0%	
GEA	1500	sq m
NIA as % of GIA	95%	
NIA	1425	sq m
Floors	2	
Site coverage	40%	
Site area	0.19	Hectares

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£145	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 153	
Annual rent for assesment (total) - NIA			£ 217,345	
Yield			9.00%	
(Yield times rent)			**£ 2,414,948**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 2,282,559**
SCHEME COSTS				
Build costs	£ 1,138	per sq m	£ 1,707,000	
Allowance for Part L 2013	£ 20	per sq m	£ 30,000	
BREEAM Excellent	2.50%	of base build costs	£ 42,675	
External costs	10%	of base build costs	£ 170,700	
Total construction costs				***£ 1,950,375***
Professional fees	12.00%	of construction costs	£ 234,045	
Sales and lettings costs	3%	of GDV	£ 68,477	
S106 costs (not covered by CIL)			£ 20,000	
Total 'other costs'				***£ 322,522***
Finance costs	7.0%	Interest rate		
Build period	10	Months		
Finance costs for 100% of construction and other costs			£ 132,586	
Void finance period (in months)	3	Months	£ 33,146	
Total finance costs				***£ 165,732***
Developer return	20%	Scheme value		***£ 456,512***
Total scheme costs				**£ 2,895,141**
RESIDUAL VALUE				
Gross residual value				-£ 612,582
Less purchaser costs	0.00	% Stamp duty land tax		£ -
	2.00	% Agent/legal purchase fees		£ -
Residual value	For the scheme			-£ 624,833
	Equivalent per hectare			-£ 3,332,444
		Not viable		
Potential for CIL				
Benchmark land value (per hectare)				£ 500,000
Equivalent benchmark land value for site				£ 93,750
Potential for CIL for the scheme				-£ 718,583
Potential per sq m				NONE

Non-residential Viability Assessment Model

Office development of four storeys town centre (a/c)

Size of unit (GIA)	2000	sq m
Ratio of GEA to GIA	100.0%	
GEA	2000	sq m
NIA as % of GIA	95%	
NIA	1900	sq m
Floors	4	
Site coverage	75%	
Site area	0.07	Hectares

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£151	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 158	
Annual rent for assesment (total) - NIA			£ 300,527	
Yield			9.50%	
(Yield times rent)			**£ 3,163,440**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 2,990,019**

SCHEME COSTS				
Build costs	£ 1,209	per sq m	£ 2,418,000	
Allowance for Part L 2013	£ 20	per sq m	£ 40,000	
BREEAM Excellent	2.50%	of base build costs	£ 60,450	
External costs	10%	of base build costs	£ 241,800	
Total construction costs				***£ 2,760,250***
Professional fees	12.00%	of construction costs	£ 331,230	
Sales and lettings costs	3%	of GDV	£ 89,701	
S106 costs (not covered by CIL)			£ -	
Total 'other costs'				***£ 420,931***
Finance costs	7.0%	Interest rate		
Build period	14	Months		
Finance costs for 100% of construction and other costs			£ 259,796	
Void finance period (in months)	3	Months	£ 64,949	
Total finance costs				***£ 324,746***
Developer return	20%	Scheme value		***£ 598,004***
Total scheme costs				**£ 4,103,930**

RESIDUAL VALUE			
Gross residual value			-£ 1,113,911
Less purchaser costs	0.00	% Stamp duty land tax	£ -
	2.00	% Agent/legal purchase fees	£ -
Residual value	For the scheme		-£ 1,136,189
	Equivalent per hectare		-£ 17,042,838
		Not viable	

Potential for CIL		
Benchmark land value (per hectare)	£	617,742
Equivalent benchmark land value for site	£	41,183
Potential for CIL for the scheme	-£	1,177,372
Potential per sq m		NONE

Non-residential Viability Assessment Model

Four industrial units in a block of 1,600 sqm edge of town

Size of unit (GIA)	1600	sq m	
Ratio of GEA to GIA	100.0%		
GEA	1600	sq m	
NIA as % of GIA	95%		
NIA	1520	sq m	
Floors	1		
Site coverage	40%		
Site area	0.40	Hectares	

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£59	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 62	
Annual rent for assesment (total) - NIA			£ 94,451	
Yield			8.50%	
(Yield times rent)			**£ 1,111,192**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 1,050,276**
SCHEME COSTS				
Build costs	£ 541	per sq m	£ 865,600	
Allowance for Part L 2013	£ 20	per sq m	£ 32,000	
BREEAM Excellent	1.50%	of base build costs	£ 12,984	
External costs	10%	of base build costs	£ 86,560	
Total construction costs				***£ 997,144***
Professional fees	12.00%	of construction costs	£ 119,657	
Sales and lettings costs	3%	of GDV	£ 31,508	
S106 costs (not covered by CIL)			£ 50,000	
Total 'other costs'				***£ 201,166***
Finance costs	7.0%	Interest rate		
Build period	8	Months		
Finance costs for 100% of construction and other costs			£ 55,921	
Void finance period (in months)	3	Months	£ 13,980	
Total finance costs				***£ 69,901***
Developer return	20%	Scheme value		***£ 210,055***
Total scheme costs				**£ 1,478,266**
RESIDUAL VALUE				
Gross residual value				-£ 427,990
Less purchaser costs	0.00	% Stamp duty land tax		£ -
	2.00	% Agent/legal purchase fees		£ -
Residual value	For the scheme			-£ 436,550
	Equivalent per hectare			-£ 1,091,376
		Not viable		
Potential for CIL				
Benchmark land value (per hectare)				£ 494,193
Equivalent benchmark land value for site				£ 197,677
Potential for CIL for the scheme				-£ 634,228
Potential per sq m				NONE

Non-residential Viability Assessment Model

Warehouse unit of 5,000 sqm edge of town, accessible location

Size of unit (GIA)	5000	sq m
Ratio of GEA to GIA	100.0%	
GEA	5000	sq m
NIA as % of GIA	95%	
NIA	4750	sq m
Floors	1	
Site coverage	40%	
Site area	1.25	Hectares

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£65	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 68	
Annual rent for assesment (total) - NIA			£ 321,993	
Yield			7.00%	
(Yield times rent)			**£ 4,599,900**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 4,347,732**
SCHEME COSTS				
Build costs	£ 403	per sq m	£ 2,015,000	
Allowance for Part L 2013	£ 20	per sq m	£ 100,000	
BREEAM Excellent	1.50%	of base build costs	£ 30,225	
External costs	10%	of base build costs	£ 201,500	
Total construction costs				***£ 2,346,725***
Professional fees	12.00%	of construction costs	£ 281,607	
Sales and lettings costs	3%	of GDV	£ 130,432	
S106 costs (not covered by CIL)			£ 20,000	
Total 'other costs'				***£ 432,039***
Finance costs	7.0%	Interest rate		
Build period	8	Months		
Finance costs for 100% of construction and other costs			£ 129,676	
Void finance period (in months)	3	Months	£ 32,419	
Total finance costs				***£ 162,095***
Developer return	20%	Scheme value		***£ 869,546***
Total scheme costs				**£ 3,810,405**
RESIDUAL VALUE				
Gross residual value				£ 537,327
Less purchaser costs	4.00	% Stamp duty land tax		£ 21,493
	2.00	% Agent/legal purchase fees		£ 10,747
Residual value	For the scheme			£ 506,912
	Equivalent per hectare			£ 405,530
		Go to next stage		
Potential for CIL				
Benchmark land value (per hectare)				£ 617,742
Equivalent benchmark land value for site				£ 772,177
Potential for CIL for the scheme				-£ 265,265
Potential per sq m				NONE

Non-residential Viability Assessment Model

Town centre comparison retail 800 sqm

Size of unit (GIA)	800	sq m
Ratio of GEA to GIA	100.0%	
GEA	800	sq m
NIA as % of GIA	95%	
NIA	760	sq m
Floors	2	
Site coverage	80%	
Site area	0.05	Hectares

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE			
Headline annual rent (in £s per sq m)		£188	
BREEAM premium (% uplift on headline rent)		5%	
Headline annual rent (in £s per sq m) with BREEAM premium		£ 198	
Annual rent for assesment (total) - NIA		£ 150,263	
Yield		8.70%	
(Yield times rent)		**£ 1,727,166**	
Less purchaser costs	5.80 % of yield x rent		
Gross Development Value			**£ 1,632,482**

SCHEME COSTS				
Build costs	£ 1,050	per sq m	£ 840,000	
Allowance for Part L 2013	£ 20	per sq m	£ 16,000	
BREEAM Excellent	2.00%	of base build costs	£ 16,800	
External costs	10%	of base build costs	£ 84,000	
Total construction costs				***£ 956,800***
Professional fees	12.00%	of construction costs	£ 114,816	
Sales and lettings costs	3%	of GDV	£ 48,974	
S106 costs (not covered by CIL)			£ -	
Total 'other costs'				***£ 163,790***
Finance costs	7.0%	Interest rate		
Build period	12	Months		
Finance costs for 100% of construction and other costs			£ 78,441	
Void finance period (in months)	8	Months	£ 52,294	
Total finance costs				***£ 130,736***
Developer return	20%	Scheme value		***£ 326,496***
Total scheme costs				**£ 1,577,822**

RESIDUAL VALUE			
Gross residual value			£ 54,659
Less purchaser costs	0.00	% Stamp duty land tax	£ -
	2.00	% Agent/legal purchase fees	£ 1,093
Residual value	For the scheme		£ 53,588
	Equivalent per hectare		£ 1,071,750
		Go to next stage	

Potential for CIL		
Benchmark land value (per hectare)	£	1,853,225
Equivalent benchmark land value for site	£	92,661
Potential for CIL for the scheme	-£	39,074
Potential per sq m		NONE

Non-residential Viability Assessment Model

Out of centre comparison retail multiple units totalling 6,000 sqm

Size of unit (GIA)	6000	sq m
Ratio of GEA to GIA	100.0%	
GEA	6000	sq m
NIA as % of GIA	95%	
NIA	5700	sq m
Floors	1	
Site coverage	40%	
Site area	1.50	Hectares

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£151	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 158	
Annual rent for assesment (total) - NIA			£ 901,580	
Yield			8.00%	
(Yield times rent)			**£ 11,269,755**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 10,651,942**
SCHEME COSTS				
Build costs	£550	per sq m	£ 3,300,000	
Allowance for Part L 2013	£ 20	per sq m	£ 120,000	
BREEAM Excellent	2.00%	of base build costs	£ 66,000	
External costs	10%	of base build costs	£ 330,000	
Total construction costs				***£ 3,816,000***
Professional fees	12.00%	of construction costs	£ 457,920	
Sales and lettings costs	3%	of GDV	£ 319,558	
S106 costs (not covered by CIL)			£ 300,000	
Total 'other costs'				***£ 1,077,478***
Finance costs	7.0%	Interest rate		
Build period	14	Months		
Finance costs for 100% of construction and other costs			£ 399,634	
Void finance period (in months)	8	Months	£ 266,423	
Total finance costs				***£ 666,057***
Developer return	20%	Scheme value		***£ 2,130,388***
Total scheme costs				**£ 7,689,924**
RESIDUAL VALUE				
Gross residual value				£ 2,962,019
Less purchaser costs	5.00	% Stamp duty land tax		£ 148,101
	2.00	% Agent/legal purchase fees		£ 59,240
Residual value	For the scheme			£ 2,768,242
	Equivalent per hectare			£ 1,845,495
		Go to next stage		
Potential for CIL				
Benchmark land value (per hectare)				£ 1,235,483
Equivalent benchmark land value for site				£ 1,853,225
Potential for CIL for the scheme				£ 915,017
Potential per sq m				£ 153

Non-residential Viability Assessment Model

Small Convenience Store 300 sqm

Size of unit (GIA)	300	sq m	
Ratio of GEA to GIA	100.0%		
GEA	300	sq m	
NIA as % of GIA	95%		
NIA	285	sq m	
Floors	1		
Site coverage	40%		
Site area	0.08	Hectares	

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£129	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 136	
Annual rent for assesment (total) - NIA			£ 38,639	
Yield			6.10%	
(Yield times rent)			**£ 633,429**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 598,704**
SCHEME COSTS				
Build costs	£ 940	per sq m	£ 282,000	
Allowance for Part L 2013	£ 20	per sq m	£ 6,000	
BREEAM Excellent	2.00%	of base build costs	£ 5,640	
External costs	10%	of base build costs	£ 28,200	
Total construction costs				***£ 321,840***
Professional fees	12.00%	of construction costs	£ 38,621	
Sales and lettings costs	3%	of GDV	£ 17,961	
S106 costs (not covered by CIL)			£ -	
Total 'other costs'				***£ 56,582***
Finance costs	7.0%	Interest rate		
Build period	6	Months		
Finance costs for 100% of construction and other costs			£ 13,245	
Void finance period (in months)	0	Months	£ -	
Total finance costs				***£ 13,245***
Developer return	20%	Scheme value		***£ 119,741***
Total scheme costs				**£ 511,407**
RESIDUAL VALUE				
Gross residual value				£ 87,297
Less purchaser costs	0.00	% Stamp duty land tax		£ -
	2.00	% Agent/legal purchase fees		£ 1,746
Residual value	For the scheme			£ 85,585
	Equivalent per hectare			£ 1,141,131
		Go to next stage		
Potential for CIL				
Benchmark land value (per hectare)				£ 600,000
Equivalent benchmark land value for site				£ 45,000
Potential for CIL for the scheme				£ 40,585
Potential per sq m				£ 135

Non-residential Viability Assessment Model

Supermarket of 1,100 sqm

Size of unit (GIA)	1100	sq m
Ratio of GEA to GIA	100.0%	
GEA	1100	sq m
NIA as % of GIA	95%	
NIA	1045	sq m
Floors	1	
Site coverage	40%	
Site area	0.28	Hectares

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£140	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 147	
Annual rent for assesment (total) - NIA			£ 153,483	
Yield			5.80%	
(Yield times rent)			**£ 2,646,264**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 2,501,195**
SCHEME COSTS				
Build costs	£ 1,000	per sq m	£ 1,100,000	
Allowance for Part L 2013	£ 20	per sq m	£ 22,000	
BREEAM Excellent	2.00%	of base build costs	£ 22,000	
External costs	10%	of base build costs	£ 110,000	
Total construction costs				***£ 1,254,000***
Professional fees	12.00%	of construction costs	£ 150,480	
Sales and lettings costs	3%	of GDV	£ 75,036	
S106 costs (not covered by CIL)			£ 100,000	
Total 'other costs'				***£ 325,516***
Finance costs	7.0%	Interest rate		
Build period	8	Months		
Finance costs for 100% of construction and other costs			£ 73,711	
Void finance period (in months)	0	Months	£ -	
Total finance costs				***£ 73,711***
Developer return	20%	Scheme value		***£ 500,239***
Total scheme costs				**£ 2,153,466**
RESIDUAL VALUE				
Gross residual value				£ 347,729
Less purchaser costs	3.00	% Stamp duty land tax		£ 10,432
	2.00	% Agent/legal purchase fees		£ 6,955
Residual value	For the scheme			£ 331,171
	Equivalent per hectare			£ 1,204,258
		Go to next stage		
Potential for CIL				
Benchmark land value (per hectare)				£ 600,000
Equivalent benchmark land value for site				£ 165,000
Potential for CIL for the scheme				£ 166,171
Potential per sq m				£ 151

Non-residential Viability Assessment Model

Superstore

Size of unit (GIA)	2500	sq m
Ratio of GEA to GIA	100.0%	
GEA	2500	sq m
NIA as % of GIA	95%	
NIA	2375	sq m
Floors	1	
Site coverage	40%	
Site area	0.63	Hectares

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£183	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 192	
Annual rent for assesment (total) - NIA			£ 456,157	
Yield			5.20%	
(Yield times rent)			**£ 8,772,245**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 8,291,347**

SCHEME COSTS					
Build costs	£ 1,134	per sq m	£ 2,835,000		
Allowance for Part L 2013	£ 20	per sq m	£ 50,000		
BREEAM Excellent	2.00%	of base build costs	£ 56,700		
External costs	10%	of base build costs	£ 283,500		
Total construction costs				**£**	***3,225,200***
Professional fees	12.00%	of construction costs	£ 387,024		
Sales and lettings costs	3%	of GDV	£ 248,740		
S106 costs (not covered by CIL)			£ 500,000		
Total 'other costs'				**£**	***1,135,764***
Finance costs	7.0%	Interest rate			
Build period	12	Months			
Finance costs for 100% of construction and other costs			£ 305,268		
Void finance period (in months)	0	Months	£ -		
Total finance costs				**£**	***305,268***
Developer return	20%	Scheme value		**£**	***1,658,269***
Total scheme costs				**£**	**6,324,501**

RESIDUAL VALUE				
Gross residual value			£	1,966,846
Less purchaser costs	5.00	% Stamp duty land tax	£	98,342
	2.00	% Agent/legal purchase fees	£	39,337
Residual value	For the scheme		£	1,838,174
	Equivalent per hectare		£	2,941,078
		Go to next stage		

Potential for CIL			
Benchmark land value (per hectare)		£	1,800,000
Equivalent benchmark land value for site		£	1,125,000
Potential for CIL for the scheme		£	713,174
Potential per sq m		£	285

Non-residential Viability Assessment Model

Large Superstore

Size of unit (GIA)	6000	sq m	
Ratio of GEA to GIA	100.0%		
GEA	6000	sq m	
NIA as % of GIA	95%		
NIA	5700	sq m	
Floors	1		
Site coverage	50%		
Site area	1.20	Hectares	

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£215	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 226	
Annual rent for assesment (total) - NIA			£ 1,287,972	
Yield			4.90%	
(Yield times rent)			**£ 26,285,143**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 24,844,180**

SCHEME COSTS				
Build costs	£ 1,134	per sq m	£ 6,804,000	
Allowance for Part L 2013	£ 20	per sq m	£ 120,000	
BREEAM Excellent	2.00%	of base build costs	£ 136,080	
External costs	10%	of base build costs	£ 680,400	
Total construction costs				***£ 7,740,480***
Professional fees	12.00%	of construction costs	£ 928,858	
Sales and lettings costs	3%	of GDV	£ 745,325	
S106 costs (not covered by CIL)			£ 2,000,000	
Total 'other costs'				***£ 3,674,183***
Finance costs	7.0%	Interest rate		
Build period	16	Months		
Finance costs for 100% of construction and other costs			£ 1,065,369	
Void finance period (in months)	0	Months	£ -	
Total finance costs				***£ 1,065,369***
Developer return	20%	Scheme value		***£ 4,968,836***
Total scheme costs				**£ 17,448,868**

RESIDUAL VALUE			
Gross residual value			£ 7,395,313
Less purchaser costs	5.00	% Stamp duty land tax	£ 369,766
	2.00	% Agent/legal purchase fees	£ 147,906
Residual value	For the scheme		£ 6,911,507
	Equivalent per hectare		£ 5,759,589
		Go to next stage	

Potential for CIL		
Benchmark land value (per hectare)		£ 1,800,000
Equivalent benchmark land value for site		£ 2,160,000
Potential for CIL for the scheme		£ 4,751,507
Potential per sq m		£ 792

Non-residential Viability Assessment Model

70 bedroom budget hotel out of town

Size of unit (GIA)	2450	sq m	
Ratio of GEA to GIA	100.0%		
GEA	2450	sq m	
NIA as % of GIA	95%		
NIA	2327.5	sq m	
Floors	3		
Site coverage	50%		
Site area	0.16	Hectares	

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£129	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 136	
Annual rent for assesment (total) - NIA			£ 315,553	
Yield			7.30%	
(Yield times rent)			**£ 4,322,646**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 4,085,677**
SCHEME COSTS				
Build costs	£ 900	per sq m	£ 2,205,000	
Allowance for Part L 2013	£ 20	per sq m	£ 49,000	
BREEAM Excellent	2.50%	of base build costs	£ 55,125	
External costs	10%	of base build costs	£ 220,500	
Total construction costs				***£ 2,529,625***
Professional fees	12.00%	of construction costs	£ 303,555	
Sales and lettings costs	3%	of GDV	£ 122,570	
S106 costs (not covered by CIL)			£ 10,000	
Total 'other costs'				***£ 436,125***
Finance costs	7.0%	Interest rate		
Build period	12	Months		
Finance costs for 100% of construction and other costs			£ 207,603	
Void finance period (in months)	0	Months	£ -	
Total finance costs				***£ 207,603***
Developer return	20%	Scheme value		***£ 817,135***
Total scheme costs				**£ 3,990,488**
RESIDUAL VALUE				
Gross residual value				£ 95,188
Less purchaser costs	0.00	% Stamp duty land tax		£ -
	2.00	% Agent/legal purchase fees		£ 1,904
Residual value	For the scheme			£ 93,322
	Equivalent per hectare			£ 571,359
		Go to next stage		
Potential for CIL				
Benchmark land value (per hectare)				£ 444,774
Equivalent benchmark land value for site				£ 72,646
Potential for CIL for the scheme				£ 20,676
Potential per sq m				£ 8

Non-residential Viability Assessment Model

Edge of centre 7 screen leisure development

Size of unit (GIA)	3800	sq m
Ratio of GEA to GIA	100.0%	
GEA	3800	sq m
NIA as % of GIA	95%	
NIA	3610	sq m
Floors	2	
Site coverage	80%	
Site area	0.24	Hectares

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£86	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 90	
Annual rent for assesment (total) - NIA			£ 326,286	
Yield			7.50%	
(Yield times rent)			**£ 4,350,483**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 4,111,988**
SCHEME COSTS				
Build costs	£ 1,014	per sq m	£ 3,853,200	
Allowance for Part L 2013	£ 20	per sq m	£ 76,000	
BREEAM Excellent	2.50%	of base build costs	£ 96,330	
External costs	10%	of base build costs	£ 385,320	
Total construction costs				***£ 4,410,850***
Professional fees	12.00%	of construction costs	£ 529,302	
Sales and lettings costs	3%	of GDV	£ 123,360	
S106 costs (not covered by CIL)			£ 20,000	
Total 'other costs'				***£ 672,662***
Finance costs	7.0%	Interest rate		
Build period	12	Months		
Finance costs for 100% of construction and other costs			£ 355,846	
Void finance period (in months)	0	Months	£ -	
Total finance costs				***£ 355,846***
Developer return	20%	Scheme value		***£ 822,398***
Total scheme costs				**£ 6,261,755**
RESIDUAL VALUE				
Gross residual value				-£ 2,149,767
Less purchaser costs	1.00	% Stamp duty land tax		-£ 21,498
	2.00	% Agent/legal purchase fees		£ -
Residual value	For the scheme			-£ 2,214,260
	Equivalent per hectare			-£ 9,323,201
		Not viable		
Potential for CIL				
Benchmark land value (per hectare)				£ 617,742
Equivalent benchmark land value for site				£ 146,714
Potential for CIL for the scheme				-£ 2,360,974
Potential per sq m				NONE

Non-residential Viability Assessment Model

Care home 60 bedrooms

Size of unit (GIA)	1800	sq m
Ratio of GEA to GIA	100.0%	
GEA	1800	sq m
NIA as % of GIA	95%	
NIA	1710	sq m
Floors	2	
Site coverage	40%	
Site area	0.23	Hectares

	User input cells
	Produced by model
	Key results
GEA	*Gross external area*
GIA	*Gross internal area*
NIA	*Net internal area*

SCHEME REVENUE				
Headline annual rent (in £s per sq m)			£113	
BREEAM premium (% uplift on headline rent)			5%	
Headline annual rent (in £s per sq m) with BREEAM premium			£ 119	
Annual rent for assesment (total) - NIA			£ 202,856	
Yield			6.30%	
(Yield times rent)			**£ 3,219,930**	
Less purchaser costs	5.80	% of yield x rent		
Gross Development Value				**£ 3,043,412**
SCHEME COSTS				
Build costs	£ 1,100	per sq m	£ 1,980,000	
Allowance for Part L 2013	£ 20	per sq m	£ 36,000	
BREEAM Excellent	2.50%	of base build costs	£ 49,500	
External costs	10%	of base build costs	£ 198,000	
Total construction costs				***£ 2,263,500***
Professional fees	12.00%	of construction costs	£ 271,620	
Sales and lettings costs	3%	of GDV	£ 91,302	
S106 costs (not covered by CIL)			£ 75,000	
Total 'other costs'				***£ 437,922***
Finance costs	7.0%	Interest rate		
Build period	12	Months		
Finance costs for 100% of construction and other costs			£ 189,100	
Void finance period (in months)	0	Months	£ -	
Total finance costs				***£ 189,100***
Developer return	20%	Scheme value		***£ 608,682***
Total scheme costs				**£ 3,499,204**
RESIDUAL VALUE				
Gross residual value				-£ 455,792
Less purchaser costs	1.00	% Stamp duty land tax		-£ 4,558
	2.00	% Agent/legal purchase fees		£ -
Residual value	For the scheme			-£ 469,466
	Equivalent per hectare			-£ 2,086,516
		Not viable		
Potential for CIL				
Benchmark land value (per hectare)				£ 617,742
Equivalent benchmark land value for site				£ 138,992
Potential for CIL for the scheme				-£ 608,458
Potential per sq m				NONE

Annex 10 Briefing Note – s106 and CIL payments

Central Bedfordshire Council

Purpose of note

The council asked Three Dragons for their comments on the relationship between the operation of s106 agreements and CIL, especially in connection with large-scale greenfield development.

A telecon was held on the 6th November and this note provides a follow up to that discussion – setting out a series of questions and answers.

Can the council seek a CIL payment from a scheme if it has an outline planning permission?

If a scheme has an outline planning permission prior to the implementation of a CIL charging schedule, the council cannot seek CIL payments when subsequent reserved matters are given permission.

Draft regulations published earlier this year will mean that, if an applicant wants to vary a condition attached to the permission (a s73 application) the council will only be able to charge a levy on the net additional floor space permitted. However, if there is a new application (e.g. changes to the application cannot be achieved through changed conditions), this will be liable to CIL if permission is granted after the CIL came into force.

What happens if s106 negotiations are underway when the CIL schedule is adopted?

It is worth bearing in mind that, even if negotiations towards a signed s106 are well underway when the council adopts its CIL, if the date of the planning permission is after the CIL adoption date, then the development is liable to pay CIL. For large scale sites this may be important as the amount of time to the actual date of planning permission can add up - with pre application discussions, the time to determine the application and s106 negotiations.

What are the benefits of treating large scale developments differently and using the s106 route to achieve necessary planning obligations (and setting a £0 CIL?)

The first point is that a £0 CIL has to be justified on viability grounds and not because the council prefers the s106 route for such schemes as a matter of policy. But, assuming that a £0 CIL is justified by the viability evidence – what are the consequences?

The main advantage is that there is a clear link between the development and mitigation measures to deal with the scheme's impact.

From the developer's perspective, they have more control over the timing, cost etc of the facility provided (e.g. a school) – although the s106 agreement is likely to give guidance on these sorts of issues.

But s106 agreements can be renegotiated (in line with legislation) and so the 'shopping list' agreed when the permission is granted might be reduced later on e.g. to help with a viability

problem because costs or values have changed over the course of the development. This is a major difference with the operation of a CIL.

Are there drawbacks in using the s106 route to achieve necessary planning obligations (and setting a £0 CIL?)

The advantages of the opportunity to renegotiate s106 agreement can also be seen as a potential disadvantage – a lower contribution from a scheme than anticipated.

After April 2014, councils will only be able to pool contributions from up to 5 planning obligations for an item of infrastructure. For a very large development this may not be relevant – although it would be if the scheme was split up into a 10 outline applications!

The other situation in which the '5 rule' could still be an issue is if several schemes (large and small) could be asked to contribute to a 'shared facility' – a secondary school with a wide geographic catchment might be such an example.

If CIL is not to fund any infrastructure within a large scale development –the council's 'Regulation 123 list' will need to be very carefully drawn up to exclude everything that might be required through a s106 agreement.

What does CIL offer large scale development?

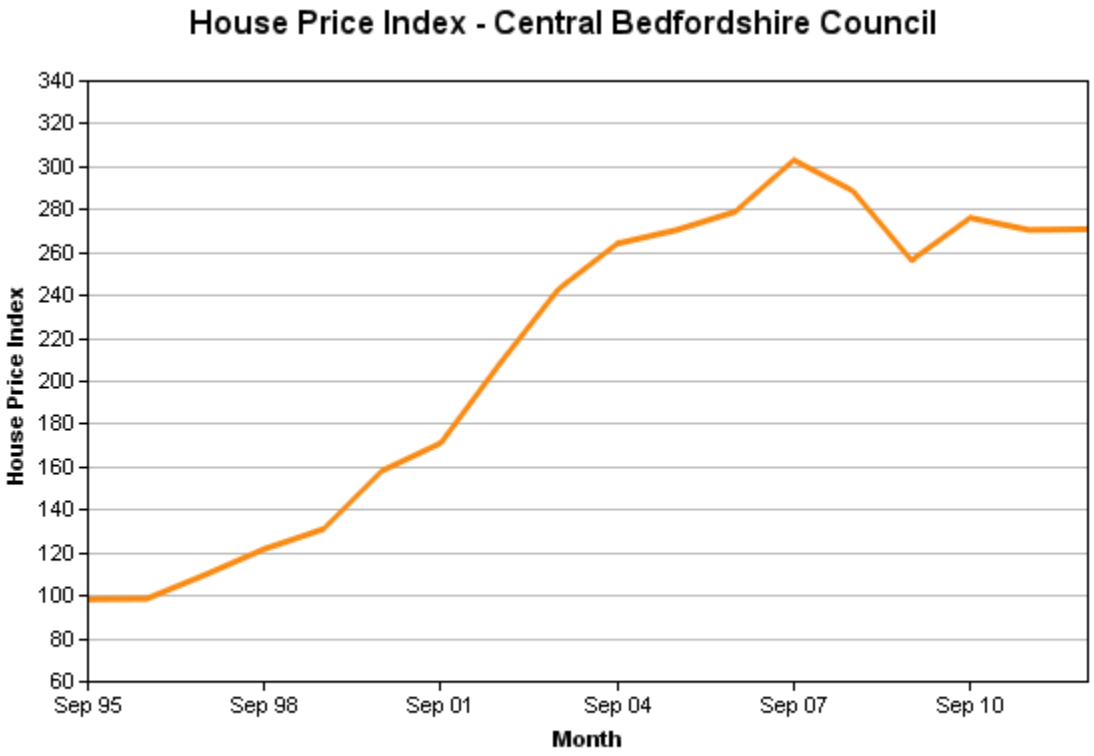
CIL does offer a mechanism for the council to direct 'investment' in infrastructure to help meet the council's development priorities. If the council chooses to invest CIL money in crucial enabling infrastructure, it can influence the pace and direction of development in its area (this would need to be linked to other planning mechanisms to ensure development proceeded post the spending of CIL money.

Annex 11: Note on Newbuild House Prices in Central Bedfordshire

Newbuild House Prices

House prices have been taken from Land Registry data since January 2011 covering all transactions, new and existing properties. House prices in Central Bedfordshire, in line with house prices throughout the East of England, have been broadly flat during 2011 and 2012. In August 2012 the average house price was £171,371 compared with £171,249 in August 2011.

The Land Registry House price index shown below highlights that house prices in Central Bedfordshire have not moved significant in the last 3 years so the time period covered by the data represents a stable period in houses prices.



The use of data on existing properties provides information across the whole of the district and enables us to provide estimated house prices for all locations and dwelling types and not just for those locations where new development is currently taking place.

The house prices used have been validated at the developer workshop and tested with local estate agents. They therefore have a robust pedigree for presentation to an Inspector and to depart from these house prices would require further consultation with the development industry.

We have compared newbuild house prices with existing house prices and there is no identifiable premium for newbuild. Valuers are in fact discouraged from setting a newbuild premium because of potential problems with resales. We would also note that newbuild

dwellings are normally at higher density than second hand dwellings. Therefore, while they benefit from being new, the size and area occupied by the property tends to be smaller than many second hand homes.

Actual selling prices are substantially below asking prices, particularly for newbuild schemes where the developer is offering First Buy. First Buy prices are typically 15% below asking prices and analysis of Land Registry data for individual transactions suggests that on sites where First Buy is offered more than half of all sales are at a FirstBuy discount or a figure close to it. This is more likely to be an issue on lower value schemes with a preponderance of flats and terraced properties than it is for lower density schemes with a preponderance of detached properties.

The house price data used for modelling for policy purposes is an average and will not exactly replicate house prices on any individual site, which will be influenced by location, site layout and the type of housing provided by the individual developer. Comparison of modelled house prices with achieved house prices on Bloor Homes schemes in Area A and Area B (which may well vary from those sought by other developers) suggests that modelled prices for terraced units are slightly low, whilst modelled prices for detached units are slightly high. A typical development contains more detached units for sale than terraced ones so this discrepancy will produce a higher residual value than the developer might actually receive. Therefore, using asking prices to assess the price of newbuild dwellings will overstate prices