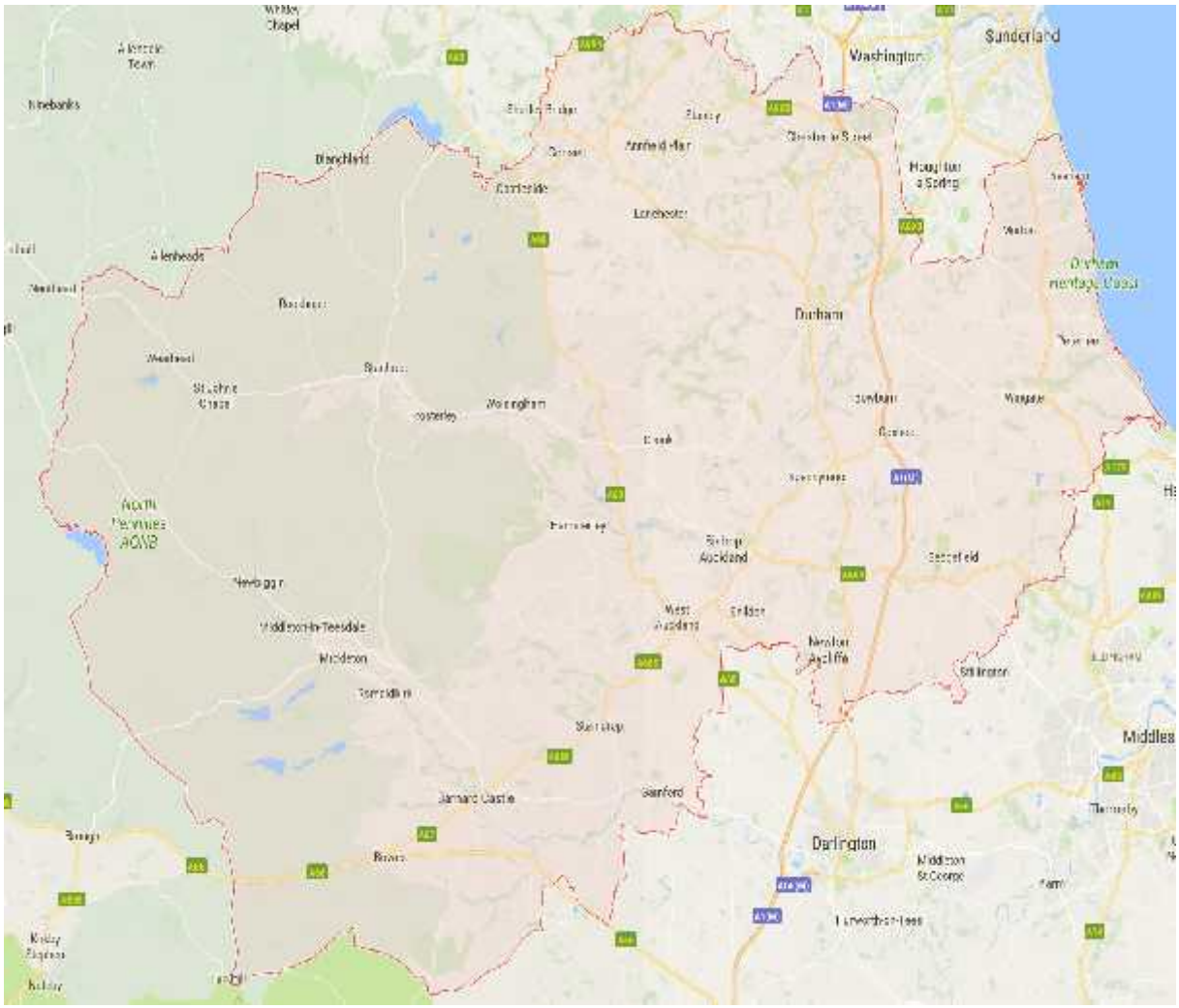
Local Plan Viability Testing

Completed on behalf of Durham County Council



June 2018

CP Viability Ltd

Independent Property Experts

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1. INTRODUCTION

1.1. Scope of work

1.1.1. Durham County Council ("the Council") is currently in the process of developing the County Durham Plan, which is proposed to cover the period up to 2035. To support this process, the Council requires independent viability testing of its policies to ensure deliverability. In particular, we are instructed to advise the Council regarding:

I. Appropriate affordable housing quantum and mix.

II. Appropriate levels of other Section 106 policy requirements (such as education contributions, open space provision, older person housing etc).

1.1.2. As part of this study we have reviewed viability assessments submitted as part of development management and will look to build on previous work undertaken and subsequent consultation on the "Issues and Options – Viability Assessments in County Durham, 2016" and "Residential Market Review" in reaching our conclusions.

1.1.3. Please note, County Durham has taken the decision not to progress with the implementation of the Community Infrastructure Levy ("CIL"). We understand various factors were considered in reaching this decision, including the draft proposals to remove the current S106 pooling restrictions. For clarity, CIL testing has therefore been excluded from this study.

1.2. CP Viability Ltd

1.2.1. CP Viability specialises in providing advice to local authorities on all matters related to housing and commercial development; including individual site assessments, area wide studies and also providing expert witness advice at planning appeals. The company's Director, David Newham, has extensive experience in undertaking development appraisals and market studies.

1.3. Report Structure

1.3.1. This report is structured as follows:

Chapter 2 - National Policy Context and Professional Guidance

Chapter 3 - Market Conditions

Chapter 4 - Methodology

Chapter 5 - Residential Viability Testing

Chapter 6 - Non-residential Viability Testing

Chapter 7 - Conclusions and recommendations

2. NATIONAL POLICY CONTEXT AND PROFESSIONAL GUIDANCE

2.1. National Planning Policy Framework ("NPPF")

2.1.1. The NPPF sets out the Government's planning policies and how these should be applied in plan making (albeit various changes to the NPPF are currently being proposed by central government – see below 2.2 for further details).

2.1.2. At the current time, the NPPF includes a short section entitled "Ensuring viability and deliverability" and can be summarised as follows:

Para 173 – states that plans should be deliverable, therefore policy obligations should not be set at unrealistic levels which could potentially undermine sites being brought forward for delivery. All Council policies should be at a level which still allows for a "competitive return" to a willing landowner and willing developer.

Para 174 – the Council's policy requirements should be clearly set out within the Local Plan. The cumulative impact of the Council policies should not "put implementation of the plan at serious risk and should facilitate development throughout the economic cycle". To achieve this an evidence-based approach should be adopted, albeit relying only on relevant data / information.

2.2. Proposed changes to NPPF (Consultation from March 2018)

2.2.1. As indicated above, the Government has published draft changes to the NPPF, which is currently being taken through a consultation process. Following the consultation, it is envisaged any changes will be formally confirmed during the summer 2018.

2.2.2. The proposed wording as put forward in the draft consultation document includes the following:

Para 34 – Plans should set out the contributions expected in association with particular sites and types of development. This should include setting out the levels and types of affordable housing provision required, along with other infrastructure (such as that needed for education, health, transport, green and digital infrastructure). Such policies should not make development unviable, and should be supported by evidence to demonstrate this. Plans should also set out any circumstances in which further viability assessment may be required in determining individual applications.

Para 58 – Where proposals for development accord with all the relevant policies in an up-to date development plan, no viability assessment should be required to accompany the application. Where a viability assessment is needed, it should reflect the recommended approach in national planning guidance, including standardised inputs, and should be made publicly available.

Para 68 – Strategic planning authorities should have a clear understanding of the land available in their area through the preparation of a strategic housing land availability assessment. From this, planning policies should identify a sufficient supply and mix of sites, taking into account their availability, suitability and likely economic viability.

2.2.3. The draft NPPF text therefore proposes to remove paragraphs 173, 174 and 175, as outlined above in 2.1. The key principles which drive viability, though, remain relatively similar. However, the draft text now explicitly refers to Planning Practice Guidance for a recommended approach to assessing viability (see below 2.3 and 2.4).

2.2.4. Aside from viability, the government is also proposing a number of other measures, including:

- Minimum densities for new housing in city centres and around transport hubs.

- Policy changes to support conversion of empty space above high street shops and convert retail and employment land into housing.

- Permitted development rights to allow demolition of commercial buildings where they are being replaced with new homes.

- Consultation on strengthening policy to ensure that land allocated in local plans that has no prospect of a planning application being made is deallocated.

- An expectation on Local Authorities to bring forward smaller sites (which should make up 20% of housing supply).

- Removal of restrictions to the 'pooling' of Section 106 contributions, in certain circumstances.

2.2.5. At this stage the above proposals are proposed for consultation. As and when further detail is provided, the methodology and approach to the viability testing will be revisited accordingly.

2.3. Planning Practice Guidance ("PPG")

2.3.1. This is an online tool, which has been regularly updated in recent years. This seeks to provide planning guidance in the context of the NPPF, covering a variety of areas including: CIL, Planning obligations, Housing – optional technical standards, self-build and custom housebuilding and Starter Homes (amongst others).

2.3.2. For the purposes of this study we would highlight the following (current) PPG wording:

Local Plans

National planning policy places Local Plans at the heart of the planning system, so it is essential that they are in place and kept up to date.
Paragraph: 001 Reference ID: 12-001-20170728

Appropriate and proportionate evidence is essential for producing a sound Local Plan
Paragraph: 014 Reference ID: 12-014-20140306

Viability

The PPG outlines 4 key underlying principles in relation to viability:

Evidence based judgement: assessing viability requires judgements which are informed by the relevant available facts. It requires a realistic understanding of the costs and the value of development in the local area and an understanding of the operation of the market.

Understanding past performance, such as in relation to build rates and the scale of historic planning obligations can be a useful start. Direct engagement with the development sector may be helpful in accessing evidence.

Collaboration: a collaborative approach involving the local planning authority, business community, developers, landowners and other interested parties will improve understanding of deliverability and viability. Transparency of evidence is encouraged wherever possible. Where communities are preparing a neighbourhood plan (or Neighbourhood Development Order), local planning authorities are encouraged to share evidence to ensure that local viability assumptions are clearly understood.

A consistent approach: local planning authorities are encouraged to ensure that their evidence base for housing, economic and retail policy is fully supported by a comprehensive and consistent understanding of viability across their areas. The National Planning Policy Framework requires local planning authorities to consider district-wide development costs when Local Plans are formulated, and where possible to plan for infrastructure and prepare development policies in parallel. A masterplan approach can be helpful in creating sustainable locations, identifying cumulative infrastructure requirements of development across the area and assessing the impact on scheme viability

Paragraph: 004 Reference ID: 10-004-20140306

2.4. Proposed changes to PPG (Consultation from March 2018)

2.4.1. The draft text for the proposed PPG changes covers a variety of topics, including viability, housing delivery, local housing need assessment, neighbourhood plans, plan-making and "Build-to-rent". For the purposes of this overview (and given the nature of this study) we have focused on the draft wording regarding viability.

2.4.2. The draft text on viability includes the following:

- Plan makers should engage with landowners, developers, infrastructure and affordable housing providers to secure evidence on costs and values to inform viability assessment at the plan making stage. In the absence of this evidence the site should not be allocated. Plan makers should indicate in plans where further evidence and viability assessment may be required. (Pg 6, Draft Planning Practice Guidance, Ministry of Housing, Communities and Local Government, March 2018)

- It is important that local authorities are sufficiently flexible to prevent planned development being stalled in the context of significant changes in costs and values that occur after a plan is adopted. Including policies in plans that set out when and how review mechanisms may be included in section 106 agreements will help to provide more certainty through economic cycles. (Pg 6/7, Draft Planning Practice Guidance, Ministry of Housing, Communities and Local Government, March 2018)

- For broad area-wide or site typology assessment at the plan making stage, average figures can be used, with adjustment to take into account land use, form, scale, location, rents and yields, having regard to outliers in the data. (Pg 7, Draft Planning Practice Guidance, Ministry of Housing, Communities and Local Government, March 2018)

- Plan makers can undertake individual site-specific viability assessments. (Pg 5, Draft Planning Practice Guidance, Ministry of Housing, Communities and Local Government, March 2018)

- The price paid for land is not relevant justification for a scheme being unviable. (Pg 6, Draft Planning Practice Guidance, Ministry of Housing, Communities and Local Government, March 2018)

- To define land value for any viability assessment, a benchmark land value ("BLV") should be calculated on the basis of the existing use value ("EUV") of the land, plus a premium for the landowner. The premium for the landowner should reflect the minimum price at which it is considered a rational landowner would be willing to sell their land. (Pg 8, Draft Planning Practice Guidance, Ministry of Housing, Communities and Local Government, March 2018)

- In all cases, benchmark land value should:

    - fully reflect the total cost of all relevant policy requirements including planning obligations and, where applicable, any Community Infrastructure Levy charge;

    - fully reflect the total cost of abnormal costs; site-specific infrastructure costs; and professional site fees;

    - allow for a premium to landowners (including equity resulting from those building their own homes); and

    - be informed by comparable market evidence of current uses, costs and values wherever possible. Where recent market transactions are used to inform assessment of benchmark land value there should be evidence that these transactions were based on policy compliant development. This is so that previous prices based on non-policy compliant developments are not used to inflate values over time. (Pg 8, Draft Planning

Practice Guidance, Ministry of Housing, Communities and Local Government, March 2018)

- Existing use value is not the price paid and should disregard hope value. Existing use values will vary depending on the type of site and development types. (Pg 9, Draft Planning Practice Guidance, Ministry of Housing, Communities and Local Government, March 2018)

- For the purpose of plan making an assumption of 20% of Gross Development Value (GDV) may be considered a suitable return to developers in order to establish viability of the plan policies. A lower figure of 6% of GDV may be more appropriate in consideration of delivery of affordable housing in circumstances where this guarantees an end sale at a known value and reduces the risk. Alternative figures may be appropriate for different development types e.g. build to rent. Plan makers may choose to apply alternative figures where there is evidence to support this according to the type, scale and risk profile of planned development. (Pg 10, Draft Planning Practice Guidance, Ministry of Housing, Communities and Local Government, March 2018)

2.5. Technical Housing Standards – nationally described space standard

2.5.1. This acts as an optional planning condition, to be potentially factored into a Council's Local Plan following a viability assessment (it is not therefore currently a statutory requirement). This deals with internal spaces of new dwellings, setting out the following aspirations:

Table 1 – Minimum gross internal floors areas and storage (sq m)

Number of bedrooms(b)	Number of bed spaces (persons)	1 storey dwellings	2 storey dwellings	3 storey dwellings	Built-in storage
1b	1p	39 (37) *			1.0
	2p	50	58		1.5
2b	3p	61	70		2.0
	4p	70	79		
3b	4p	74	84	90	2.5
	5p	86	93	99	
	6p	95	102	108	
4b	5p	90	97	103	3.0
	6p	99	106	112	
	7p	108	115	121	
	8p	117	124	130	
5b	6p	103	110	116	3.5
	7p	112	119	125	
	8p	121	128	134	
6b	7p	116	123	129	4.0
	8p	125	132	138	

2.5.2. Again, to ensure the viability testing is future-proofed as much as possible we have looked to model our viability testing in line with the above.

2.6. Viability Testing Local Plans – Local Housing Delivery Group ("Harman Review") – June 2012

2.6.1. This is a key document for providing technical guidance on how to undertake an area wide viability study.

2.6.2. This gives detailed commentary on various aspects of an area wide study, but has a particular focus on Threshold Land Value ("TLV"), stating:

Pg 29 – *"We recommend that the TLV is based on a premium over current use values and credible alternative use value…"*

Pg 30 – *"It is widely recognised that this approach [i.e. a percentage increase over the current use value] can be less straight forward for non-urban sites or*

urban extensions, where landowners are rarely forced or distressed sellers…This is particularly the case in relation to large greenfield sites…Accordingly, the uplift to the current use value sought by landowners will invariably be significantly higher than in an urban context and requires very careful consideration".

2.6.3. The guidance therefore recommends a clear methodology for determining the TLV, which is to apply a premium to the current use value of the land. The guidance recognises that this is more straight forward for urban / brownfield sites, where a premium (perhaps in the order of 10% – 50%) is deemed sufficient to incentivise a landowner to release the land for development. However, this would not be the case for non-urban / greenfield land where the current use value may only be a modest agricultural value (for example £10,000 per Ha). For this greenfield land, clearly an uplift of 50% (or £5,000 per Ha) would not be sufficient to release the land for development. The uplift would need to be considerably more.

2.6.4. In this regard, the guidance only highlights the recommended method for determining the TLV, it does not seek to fix parameters as to how the method is applied. Instead, the guidance is clear that the assessor should adopt an evidence based approach when seeking to establish the level of premium appropriate above a current use value:

Pg 30 – *"…local sources should be used to provide a view on market values (the 'going rate'), as a means of giving a further sense check on the outcome of the current use value plus premium calculation".*

Pg 30 – *"…for sites of this nature [i.e. greenfield], it will be necessary to make greater use of benchmarks, taking into account local partner views on market data and information on typical minimum price provisions used within developer / site promoter agreements for sites of this nature".*

2.6.5. In this regard, direct evidence of agreed TLV's should be the main focus of the assessor, with land transactional evidence acting only as a general 'sense check'.

2.7. Financial Viability In Planning – RICS Guidance Note 1 – Aug 2012

2.7.1. The purpose of this guidance note is more focused on individual viability assessments. However, there are still key principles discussed in the document which are to be adhered to when undertaking area wide viability assessments.

2.7.2. Again, there is a focus on site value, which is typically one of the most controversial elements of a viability assessment:

Para 2.3.2. Box 7 – *"Site value should equate to the market value subject to the following assumption: that the value has regard to the development plan policies and all other material planning considerations and disregards that which is contrary to the development plan".*

2.7.3. Site value therefore must reflect the plan policies and should not, therefore reflect the unrealistic requirements of a particular landowner.

2.7.4. However, the proposed changes to the PPG (as discussed above in 2.4) clearly states that for plan making a "EUV plus premium" approach should be adopted. For the purposes of this study, we have subsequently adopted the method outlined in the draft PPG.

3. MARKET CONDITIONS

3.1. Introduction

3.1.1. In reviewing local market conditions we have had regard to previous studies undertaken on behalf of the Council (including the Issues and Options Viability Assessment 2016 and the consultation responses). A number of these studies included stakeholder engagement, in the form of workshops and a questionnaire. We have subsequently used the feedback received from the stakeholder engagement to formulate our conclusions.

3.1.2. In addition, we have looked at market trends and analysed general economic conditions across County Durham, drawing on a variety of data sources; including the Land Registry, Zoopla / Rightmove (websites which specialise in residential sales and market trends), regional reports undertaken by property agents, FOCUS (a paid for service which provides data on commercial property markets) and viability appraisals submitted to the Council by applicants regarding individual planning applications.

3.2. Residential Market

3.2.1. According to the Zoopla Zed Index (an index which, using sales data from the Land Registry and asking prices, estimates the value of all residential dwellings across England and Wales) the value of residential property across County Durham has increased by 17.68% during the last 5 years. This compares with an average increase of 32.15% across England during the same period. This suggests house price inflation has been more modest across County Durham when compared to the national average. However, the average increase for the North East region during the same period equates to 14.07%.

3.2.2. County Durham has therefore outperformed the North East during this period, suggesting that demand levels for County Durham, relative to the region, are strong.

3.2.3. This is supported by data from the last 12 months. During this period house prices within County Durham have effectively remained static (with a small decrease of 0.32% recorded by Zoopla). In comparison, the North East region has seen an average fall of 1.37%. Again, this suggests that demand levels in County Durham are strong when considered at a regional level.

3.2.4. In terms of settlement values, County Durham covers a large geographical area therefore there is naturally scope for a wide variance in local market values. This is demonstrated through the Zoopla data, which shows average settlement values ranging from circa £50,000 to over £400,000.

3.2.5. The Zoopla data also shows significant variance in average values between settlements that lie within close proximity to one another. This 'granular' nature to the market is referenced in past studies undertaken on behalf of the Council and also comments received from stakeholders.

3.2.6. CP Viability undertook a detailed review of the County Durham housing market (a study titled "Residential Market Assessment of County Durham and the Likely Delivery of Suitable SHLAA Sites"). Some of the key conclusions from this study are considered to be relevant to plan viability testing. These include the following:

(i) The highest average values for new build detached dwellings equated to circa £2,500 per sq m. The lowest recorded equated to circa £1,600 to £1,700 per sq m. The 'mid' range values equates to approximately £1,900 per sq m.

(ii) The new-build residential market across County Durham is relatively stable, despite macro-economic factors such as Brexit.

(iii) Within the North East region, County Durham is regarded as being an attractive place to live with good access to key employment areas (especially from central and eastern areas of the County).

(iv) The Help to Buy: Equity Loan product has been an important tool for national housebuilders in driving sales, particularly in lower value locations. This has also helped underpin positive sales rates.

(v) There is a good level of development activity from national volume housebuilders across County Durham. Likewise, there is a healthy proportion of local builders delivering small schemes. However, there is a general lack of regional housebuilders active in the market, meaning 'mid-size' schemes (say 15 to 40 dwellings) are more limited.

3.2.7. In summary, the local market is naturally granular however demand levels throughout the County remain, in the context of the North East region, relatively strong in line with longer term trends.

3.2.8. In terms of dwelling type, based on comments received from stakeholders and following our research into the market, there remains a limited appetite from developers to bring forward apartment schemes. Prior to the market crash in 2008, demand for apartments was driven by a buoyant buy-to-let investor market. The collapse of the buy-to-let market post 2008 resulted in a sharp fall in values within the apartment sector and in many cases developers were left with apartment blocks that they were unable to sell unless heavily discounted. This lack of appetite from developers to build apartments is not, however, mirrored by demand information in the Council's Strategic Housing Market Assessment (SHMA). Unlike many other areas, County Durham did not experience a surge in flat construction during the housing boom, and only

around 3% of its private housing stock is apartments. The SHMA found that around 10% of those intending to move in the private market expected to move into a flat, significantly higher than the private stock available. The limited developer appetite for building flats therefore appears to reflect national trends and funding issues rather than local circumstances related to demand.

3.2.9. It is understood that evidence underpinning the SHMA particularly suggests a demand for apartments from older people. Throughout the UK, there is an established market for 'over 55s' apartment living, typically delivered by specialist providers and Registered Providers with a development arm. This includes McCarthy and Stone, Churchill Retirement Living, Pegasus and Anchor. We note, though, these specialist, national developers are not generally currently active in County Durham, although McCarthy and Stone do have an established presence in the North East (and are currently marketing schemes in Sunderland, South Shields, Newcastle and Darlington). Similarly, Anchor has schemes throughout the Region. An aging demographic, along with current evidence of demand, would suggest there is an opportunity for specialist providers, registered providers and house builders to provide 'over 55' apartment living within County Durham.

3.3. Commercial Market

3.3.1. Please also refer to the Employment Land Review (2018) and the Retail and Town Centre Study (2018)[1].

3.3.2. As part of our considerations we have reviewed regional commercial property market papers prepared by national property agents. One of these is Knight Frank's "North East Property Market Report" for 2017. This states the following:

[1] http://durhamcc-consult.limehouse.co.uk/portal/planning/cdpev/

- The North East is the only UK region to have a positive trade balance. The falling value of the pound post-Brexit has therefore had an overall positive effect on exports, which have become cheaper to purchasers.

- During 2016 there was a market imbalance growing through rising occupier activity and a lack of available space, which led to the re-emergence of speculative development in the industrial / logistics sector. However, at the current time there remains a shortage of good quality modern units in the industrial sector, which has resulted in upward pressure on rents.

- In comparison, the regional office market activity was mainly focused on Newcastle City centre. Out of town offices take up fell by 19% compared with 2015, continuing a longer term trend not just experienced in the North East, but also seen throughout the UK.

- Investment demand in the North East region continues to be strong, with prime yields holding firm. This is partly due to the North East offering a relative discount to neighbouring regions.

- Domestic purchasers dominated the investment market in the region during 2016. However, in light of the favourable exchange rate it is anticipated that the 'buyer's pool' will diversify in the future.

3.3.3. In May 2017 Costar published an article entitled "North East CRE markets shrug off Brexit concerns". This stated the following:

- According to Cushman and Wakefield's Newcastle Property Outlook for 2017 the North East has not been adversely impacted by Brexit.

- The North East's logistics market tops Cushman and Wakefield's 'Fair Value' ranking, offering the best value for investors across UK regions and sectors. This primarily due to the devaluation of Sterling, which is expected to boost trade in the region.

- 2017 saw the "start of a post-Brexit consensus as the key players get on with business in a market defined by under supply in the key industrial and office markets, and a real estate industry struggling to adapt to the pace of disruption in the retail sector".

- However, the article goes on to state, "the region will continue to suffer from the marginal viability of new development, which will hold back the supply of much-needed new space and with it the regional economy. We feel that as in past cycles, brave developers who commit to providing space will be rewarded with strong tenant demand."

3.3.4. In September 2017 Property Week[2] published an article relating to the take up of large logistics and industrial units (over 4,500 sq m). Quoting Knight Frank, the article refers to a limited amount of transactions in the North East for large logistical and industrial units. However, it states that this is not due to a lack of activity or demand, but instead a result of the limited modern stock available.

[2] https://www.propertyweek.com/markets/large-industrial-deals-dry-up-as-a-result-of-brexit-effect/5091196.article

3.3.5. The evidence above suggests that demand levels remain positive for good quality, modern industrial accommodation, if available. This suggests that new industrial development would be well received in the regional market place. The office market activity is mainly focused in major city locations (the most regionally dominate being Newcastle). There continues to be a general fall in demand for out of town offices, reflecting a wider trend experienced throughout the UK.

3.3.6. As for the retail market, Savills published a market report in May 2017[3] which focused on retail warehousing, stating the following:

- Weakening expectations for UK consumer spending, as well as an increasingly negative view amongst US retailers and investors about their markets at home has led to a slowdown in retailer demand for retail warehouse units over the last quarter. However, this slowdown should be taken in the context of record level of demand from bulky goods retailers recorded in 2015 and 2016.

- Nevertheless, for those retailers who are expanding supply continues to be problematic, with vacancy rates in the retail warehouse sector having fallen to their lowest ever levels. These low vacancy levels are putting an upward pressure on headline rents. That said, Savills comment that they expect rents to only marginally increase in the next few years. This, though, still suggests there are development opportunities to meet this pent up demand with good quality stock.

[3] http://www.savills.co.uk/research_articles/141285/217629-0

- Investor demand for retail opportunities is expected to grow in the short to medium term, primarily due to a rising demand from institutional investors (such as pension funds). The retail sector is deemed to be attractive due to the combination of the relatively attractive yields on offer and that retail warehousing is comparatively defensive against structural changes in the retail market.

- Whilst the ideal remains retail warehousing opportunities in London / the South East, Savills comment that these opportunities remain rare and as such they expect to see some institutional investors expanding their geographical focus further north. Regions like the North East offer comparatively strong returns, which are likely to be viewed as attractive where strong covenants are involved.

3.3.7. Finally, we would also comment that in recent years there has been a general fall in demand for large, new supermarkets, which has been experienced across the UK. Consumer spending habits have shifted since the market crash of 2008, which has seen a rise of discount brands such as Aldi and Lidl who have significantly increased their share of the market place. The knock-on effect on the development industry has been a significant fall in demand for large supermarkets facilities, but a sharp rise in requirements for smaller supermarket units typically in and around large villages or town settlements. This trend is anticipated to continue in the future with the discount brands looking to expand their businesses and increase their market share.

3.3.8. In summary, there remains macro-economic challenges for the commercial sector, with the uncertainty surrounding Brexit likely to impact on market conditions in the short to medium term. That said, demand levels for good quality, modern stock remains strong, particularly in the industrial and logistical sector and also retail warehousing. Furthermore, the discount supermarket brands continue to expand their operations. In this regard, there remains opportunities for new commercial development across County Durham, particularly, for industrial / logistical stock, around the A1(M) corridor.

4. METHODOLOGY

4.1. Introduction

4.1.1. For the purposes of our study we have adhered to the Guidance for plan viability testing as set in the Harman Review (referenced above in Section 2).

4.1.2. Central to undertaking viability testing is the residual method of valuation (sometimes referred to as a development appraisal).

4.2. The Residual Method

4.2.1. This is an established valuation approach, which can be illustrated by the following equation:

Completed Development Value

(i.e. Total Revenue)

Less

Development Costs

(Developer's Profit + Construction + Fees + Finance)

Equals

Residue for Land Acquisition

4.2.2. In other words, to arrive at the land value the assessor assumes the scheme has been completed, and from this income takes away all the costs associated with delivering that scheme. The remaining sum, or 'residual' (if any is left), equates to the value that could be paid for the land based on the development being proposed.

4.2.3. Whilst a simple concept, it is stressed that in reality the residual method often becomes a complicated and detailed approach. This is because the methodology inherently requires a wide variety of inputs to be factored into the assessment, all of which are subject to variance (e.g. sales values, build costs, professional fees, abnormal works, Council policies, profit, marketing, finance etc). All of these inputs need to be considered carefully, as potentially relatively small variances to one or two inputs could have a significant impact on the results of the assessment. This inherent flaw in the methodology is recognised by the RICS and wider industry, and as a result 'sensitivity' testing is recommended to try and minimise the impact of these potential variances. Nevertheless, the industry still considers this to be the most appropriate methodology for assessing development sites and appraising land value.

4.2.4. Furthermore, in undertaking a residual appraisal it is important to factor in the impact that the timings of payments and income can have on funding and cash flow. For this reason, and particularly for more complex developments it is appropriate to use a discounted cash-flow approach when preparing a residual appraisal.

4.2.5. The residual method can be applied to both residential and commercial development and is therefore applicable to Local Plan viability testing. We have subsequently utilised this approach.

4.2.6. The Harman Review and draft PPG changes are clear that the appraisal inputs (e.g. revenue, build costs, professional fees, developer's profit etc) should be evidence based and reflect the dynamics of the market being assessed. Stakeholders should be engaged to ensure the adopted inputs are as robust as possible.

4.3. Evidence

4.3.1. Primary data is crucial to ensuring the viability testing is robust. This can include a variety of sources, such as the Land Registry for residential and land sales, paid for services such as Costar SUITE (providing commercial property rents, yields and capital values), Essential Information Group property Auctions (giving details of land transactions), build cost databanks such as the Build Cost Information Service ("BCIS") part of the RICS, historic viability assessments undertaken within County Durham and the wider region giving parameters for appraisal inputs etc.

4.3.2. Likewise, appeal decisions and Examination in Public for local plans and CIL from the Planning Inspectorate can provide a useful indication of appraisal inputs, albeit the context of each case needs to be understood before conclusions are reached.

4.3.3. The Harman Review indicates that stakeholders should be engaged to ensure the appraisal inputs are reflective of market conditions and are deliverable.

4.3.4. As indicated above, in recent years the Council has commissioned an area wide study called the County Durham Residential Market Review and stakeholder engagement (involving landowners, developers, surveyors, planning consultants, house builders, Home Builder Federation representatives, Registered Providers and other development professionals), linked to the preparation of its Local Plan.

- In preparation for the Council's Issues and Options 2016 version of the plan DVS (on behalf of the Council) undertook 2 stakeholder workshops. We have taken into account the comments made during these workshop in forming our conclusions:

(i) Workshop 1 Sept 2015 – comprised a presentation from DVS on general appraisal inputs and a subsequent discussion (in an open forum) regarding the views of the stakeholders regarding these inputs. After this workshop stakeholders were given the opportunity to put their views in writing with the circulation of a questionnaire. However, only two parties responded to this.

(ii) Workshop 2 Oct 2015 – DVS gave a presentation detailing their draft conclusions on viability appraisal inputs, formed post Workshop 1. This gave stakeholders a further opportunity to raise any comments about the proposed appraisal inputs.

- These workshops inform an "Issues and Options" report, dated June 2016, which itself was subject to a 6 week consultation process. This document is available on the Council's "County Durham Plan" evidence library, part of the consultation portal[4]. This was written as a 'starting point' on viability testing to stimulate debate with key stakeholders. We have taken into consideration.

- CPV has also produced a report titled "Residential Market Assessment of County Durham and the Likely Delivery of Suitable SHLAA Sites". As part of this study, a number of stakeholder workshops were undertaken, including a Housebuilder Workshop, a Housing Developer Group workshop and a presentation / discussion with the County Durham Housing Forum. Furthermore, a questionnaire was circulated to key developer stakeholders, focusing on their involvement in the County Durham market and their feedback on current market conditions. Within our study we have taken into consideration the comments made by stakeholders through these various points of engagement.

[4] http://durhamcc-consult.limehouse.co.uk/portal/planning/cdpev/

4.3.5. Given the wide-ranging stakeholder engagement that has already taken place through the Council's past consultation process, we do not consider it necessary to undertake any further workshops / questionnaires specifically for this study. Instead, we have utilised the comments received during past consultation and factored these into our evidence base (attaching the most weight to tangible evidence put forward by stakeholders) and will seek further views at the Preferred Options stage of the local plan making process.

4.3.6. Finally, we also consider it appropriate to review other area wide studies undertaken on behalf of neighbouring authorities. These provide a useful insight into plan viability testing in the regional market. The studies identified include the following:

- Richmondshire: CIL Viability Study (Peter Brett Associates Jan 16)
- Stockton on Tees: Affordable Housing Viability Study (3 Dragons Oct 16)
- Sunderland: Whole Plan Viability Assessment (HDH Planning Aug 17)
- Gateshead & Newcastle: Viability and Deliverability Report (Feb 16)
- Northumberland: Core strategy and community infrastructure levy draft viability assessment (Oct 15)

Please note, Darlington Borough Council and Hartlepool Borough Council (both neighbouring authorities to County Durham) are currently at different stages of implementing a Local Plan. However, we have been unable to identify any viability assessments for these authorities.

4.3.7. Our evidence base is outlined in further detail in the appendices.

4.4. Threshold Land Value

4.4.1. Having established the residual land value of a particular development, to determine viability, this is then compared to the Threshold Land Value ("TLV"). The Harman Review defines the TLV as follows:

Pg 28 – *The value at which a typical willing landowner is likely to release land for development, before payment of taxes (such as capital gains tax).*

4.4.2. The draft PPG changes defines the TLV (same as the Benchmark Land Value or BLV) as follows:

The premium for the landowner should reflect the minimum price at which it is considered a rational landowner would be willing to sell their land.

4.4.3. In other words, it is the land price that a *hypothetical* landowner would be willing to accept to release the land for development. This is important, as the TLV looks to determine what the 'average' land value should be to incentivise releasing the land, not the specific circumstances of individual parties.

4.4.4. To test viability, the TLV is then compared with the residual land value. If the residual land value falls under the TLV, a landowner would not be incentivised to release the land, therefore the scheme is deemed to be unviable. If the residual land value is above the TLV the landowner would be incentivised, therefore under these circumstances the scheme is regarded as being viable.

4.4.5. However, the 'cut off' point for determining whether a scheme is viable or not should be considered carefully. The Harman Review states that "it is important to avoid assuming that land will come forward at the margins of viability". To guard against this, the Harman Review recommends a suitable 'viability cushion' is applied to testing, therefore the TLV should be arrived at with this in mind.

4.4.6. The TLV is therefore not assessed as part of the residual method described above, instead it is arrived at separately. In order to establish an appropriate TLV the Harman Review recommends the following:

- First, the assessor should identify the existing use value ("EUV") of the site. This is because the TLV cannot fall below the EUV, otherwise there would be no financial benefit to releasing the land for development.

- Secondly, a level of premium should be applied to the EUV. This follows the principle that in reality a landowner would want some level of uplift over the EUV in order to incentivise a release of the land (if there was no uplift, the landowner would be better selling the land 'as is'). The Harman Review suggests this should be a fixed percentage uplift.

- Thirdly, in addition to identifying the EUV, the assessor should consider any alternative use value ("AUV"), other than a residential use. For example, a brownfield site on the edge of a city centre may have a limited EUV as a temporary car park. However, given its location it may be suitable to provide a variety of uses, including office development, industrial, retail or leisure. In these circumstances, the AUV is likely to be higher than the EUV, in which case it takes precedent for the purposes of determining the TLV.

- Fourthly, the Harman Review indicates that reviewing land transactional evidence can be used as a broad 'sense check'. However, it cautions that historic land sales evidence can be misleading, as it will take into account out of date policy costs. The Harman Review is clear that the TLV needs to take into account future plan policy requirements and how these will impact on land values, not land values achieved under different planning policy regimes. The Harman Review therefore concludes that market values are useful as a broad overview, *"but it is not recommended that these are used as the basis for the input to a model".*

4.4.7. The Harman Review also discusses the differences between land in an urban context and edge of settlement farmland. For farmland, the EUV is likely to be modest (based on agricultural rates) when compared to sites in more urban locations. For this reason, the level of uplift between these types of sites is likely to be different. The Harman Review does not provide specific figures regarding the level of uplift. However, from our experience, for agricultural land we typically see TLV's circa 15 to 25 times higher than the CUV. For sites in an urban context, the uplift tends to be a percentage, somewhere in the order of 10% to 30% higher than the EUV.

4.4.8. The draft PPG proposes a similar approach, supporting the "EUV plus premium" method. However, the text goes one step further by suggesting a method of arriving at the premium above an EUV. The draft wording states the following:

- An appropriate premium to the landowner above EUV should be determined by plan makers in consultation with developers and landowners for the purpose of assessing the viability of plans.

- When undertaking any viability assessment, an appropriate minimum premium to the landowner can be established by looking at data from comparable sites of the same site type that have recently been granted planning consent in accordance with relevant policies. The EUV of those comparable sites should then be established.

- The price paid for those comparable sites should then be established, having regard to outliers in market transactions, the quality of land, expectations of local landowners and different site scales. This evidence of the price paid on top of existing use value should then be used to inform a judgement on an appropriate minimum premium to the landowner.

4.4.9. In other words, market transactional evidence should be considered when looking at premiums above the EUV, however it should be focused on recent schemes that have achieved a planning consent, adjusted to reflect key factors such as abnormal costs, infrastructure works, density ratios etc.

4.4.10. For the purposes of our viability testing we have adhered to the principles regarding TLV as set out in the Harman Review and the draft PPG wording. We note this was discussed in past workshops and stakeholders agreed that this was the appropriate method for plan making viability testing.

4.5. Site Types

4.5.1. The Harman Review states that the types of sites assessed as part of the viability testing should reflect the likely supply of development of the plan period. Once identified, these are then tested using the residual method, with comparisons to the separately identified TLV, as outlined above.

4.5.2. The Harman Review indicates that site testing can either be based on real 'live' sites or hypothetical site typologies, drawing upon historic completions and planning permissions.

4.5.3. In either case, a reasonably wide variety of sites should be considered. Appendix A of the Harman Review indicates a number of factor which could be considered when assessing hypothetical site typologies, including

- Varying levels of infrastructure dependent on the size of the scheme.

- The potential for 'abnormal' costs such as remediation and decontamination.

- Different TLV's dependent on the nature of the land (e.g. greenfield verses previously developed land in an urban area).

- Geographical locations impacting on revenue and sales rates.

4.5.4. The Harman Review goes on to say that a balance needs to be struck between key viability considerations and ensuring there are a manageable number of site typologies to ensure the testing is as robust as possible. In other words, for the purposes of whole plan testing, it is acknowledged that all variations will not be able to be fully tested. However, what is important is that key fluctuations are reflected through the viability modelling as much as possible.

4.6. Iterative Approach

4.6.1. Having identified appropriate sites for the purposes of the modelling (whether real sites or hypothetical), the residual method is then used, which generates a land value that can be compared to the TLV. As indicated above, if the land value is above the TLV, the scheme is deemed to be viable, if it is below the scheme is unviable.

4.6.2. Once it has been determined whether a scheme is viable or not, adjustments can be made to the planning policy contributions to adjust the outcome of the viability. For example, if the full aspirational policy provisions are applied and the scheme is shown to be unviable, this would demonstrate that the policy provisions are unlikely to be deliverable (therefore failing to meet the requirements of the NPPF). In this scenario, the policy provisions can be reduced and the scheme re-tested. This can be done on an iterative basis up to the point where the scheme is deemed to be viable. Alternatively, it may be that the aspirational policy provisions are tested and the scheme is comfortably viable, generating a surplus of income. Under this scenario, the policy provision could be increased and the scheme re-tested (again on an iterative basis) until there is a pre-set position of viability reached.

4.6.3. In adopting an iterative approach, it is therefore important to identify 'base' appraisals, from which adjustments can be made. This can either be on the basis of the full policy aspirations being excluded, and then added back in on an iterative basis up to a pre-determined point of viability. Or alternatively the base appraisals could include the full policy aspirations from the outset, and if the testing shows there is significant viability pressure the policy provisions could be adjusted down again up to a pre-determined point of viability.

4.7. Our Approach

4.7.1. On the basis of the above we have adopted the following approach for the purposes of the viability testing:

- We have identified hypothetical site types for majority of the viability testing, which we consider to best reflect the future supply of sites across the County (both for residential and commercial development sites).

- However, for large strategic development sites (say 500 dwellings or more) we consider it appropriate to undertake site specific testing on 'real' identified schemes.

- For each hypothetical site type or real site we have modelled a base development appraisal, inputting the revenue and costs associated with that scheme. This has been modelled in accordance with the residual method, whereby the outcome is the land value (with all other inputs fixed costs). The same approach has also been applied to commercial site testing.

- Initially, we look to test base appraisals, which exclude the planning policies. If the residual land value is above the TLV, the scheme is deemed to be viable.

- Using the base appraisals, on an iterative basis we then test the impact on viability of the Council's emerging draft policies.

- Finally, we also undertake sensitivity testing, where key appraisal inputs are varied to test the impact on viability. This aids the overall analysis and ensures that the conclusions reached are as robust as possible.

- In forming our recommendations, a holistic approach is taken to all testing results, stakeholder comments and also past policy contributions made by developers.

5. RESIDENTIAL DEVELOPMENT VIABILITY

5.1. Introduction

5.1.1. This section looks at the appraisal testing for residential development, with a view to providing recommendations regarding affordable housing provisions, S106 obligations and any other relevant policy.

5.1.2. For the purposes of this study, we have tested hypothetical sites:

Site type 1	5 dwellings
Site type 2	20 dwellings
Site type 3	50 dwellings
Site type 4	80 dwellings
Site type 5	125 dwellings
Site type 6	200 dwellings
Site type 7	350 dwellings

5.1.3. As discussed in Section 3, there is a general lack of activity within the apartment sector across County Durham, due to limited appetite from funders/developers to bring these sites forward. Whilst the Council's SHMA identifies continuing demand for apartments across the County, it is clear that developers are not currently responding to these local circumstances, instead reflecting perceived risk and funding issues evident in a national context. For the purposes of this study, we have therefore tested a very modest option which involves minimum risk: a single apartment scheme comprising 45 apartments on a 0.5 ha site located in a higher value location. It is understood that a recent planning application in a high value location in County Durham at Lambton near Chester le Street includes a proposal for 33 flats, which supports this approach.

5.1.4. Furthermore, and again as discussed, we anticipate that, in the context of an aging demographic, there will be an increasing demand for suitably designed apartments from older households. This might be general apartment schemes or schemes aimed specifically at the over 55s. These could be delivered by a range of developers including: specialist providers operating in this field like McCarthy and Stone, Churchill and Pegasus; by Registered Providers with a development arm like Anchor, Housing 21 or ISOS; and by general housebuilders.

5.1.5. With an aging population, there is also likely to be increasing demand from older households for housing offering some level of care or support. For example, McCarthy and Stone predominantly offer 2 products, the first being 'retirement Living' where some shared common rooms are provided and some limited on-site staff/nursing, a model which assumes those living in the block have a greater level of independence. The second is 'Assisted Living', which provides more on site services (such as café and hair salons) as well as more on-site staff, often able to provide specialist care as needed. The Assisted Living model is more costly, which means the overall value of the apartments is higher when compared to the Retirement Living model.

5.1.6. Given the nature of specialist over 55s apartment living, 'on-site' affordable housing is not considered practicable within these types of apartment blocks (due to issues with management), however it may be the case that an off-site affordable housing commuted sum could be payable, if viability can be demonstrated. To explore this more fully, we have subsequently tested the following site types:

Over 55s Type 1 (similar to "Retirement Living" as described above) – 0.50 Ha, 45 apartments. Average flat size 65 sq m.

Over 55s Type 2 (similar to "Assisted Living" as described above) – 0.50 Ha, 45 apartments. Average flat size 65 sq m.

5.1.7. In terms of residential values, from past reports undertaken on behalf of the Council, stakeholder comments received during past engagement and through our own research it is clear that values can fluctuate significantly across County Durham (and in places the variations can be significant across small geographical distances).

5.1.8. In recognition of the granular nature to the local residential market, we have used settlements as a reference point for determining value fluctuations, considering average sales values (utilising the Zoopla data) before allocating this within one the following "value bandings": low, medium, high and highest.

5.1.9. Please see Appendix A for a map of the value bandings allocation, as well as list of broad locations for each banding.

5.1.10. However, and in addition, for larger scale strategic projects we consider it appropriate to test 'real' sites known to the Council. This will complement the hypothetical site testing. The following have been identified:

- Sniperley Park, Durham City 1,900 dwellings (set out within the 'Exceptional Circumstances Note'
- High West Road, Crook 350 dwellings (set out within Appendix E)
- Low Copelaw, Newton Aycliffe 700 dwellings (set out within Appendix E)

5.1.11. As this study relates to whole plan and testing our assessments separately consider affordable housing and S106 contributions.

5.1.12. In accordance with the guidance we have looked to ensure our appraisals are not at the margins of viability, and therefore included suitable 'buffers' to help ensure the assessments are robust.

5.2. Emerging Policies

5.2.1. The Council has confirmed the following emerging policies (limited in this study to those identified as potentially having an impact on viability):

Affordable Housing – in terms of a tenure mix, this is to be provided as 75% affordable rented units and 25% shared ownership / intermediate. In addition, we are aware of the Government's Starter Homes initiative, as outlined in the Housing White Paper (which we understand is likely to be regarded as a new affordable housing tenure base). The full details of this requirement have yet to be confirmed therefore the full extent of its impact on viability is unknown. Nevertheless, for the purposes of this study we consider it appropriate to factor in some testing of Starter Homes and as such have undertaken sensitivity analysis using this new tenure base.

Open Space – the Council has indicated a contribution equivalent to £3,478 per dwelling.

Sustainable Urban Drainage Systems (SUDS) – the Council has indicated a cost to the developer equivalent to £25,000 per gross Ha.

Older Person Housing (OPH) on site provision – the Council's emerging policy requires all schemes to provide 10% of the on-site dwellings as private and intermediate OPH. House types deemed to meet the OPH criteria include bungalows, extra care and sheltered housing, level access flats, and multi-generational housing. All of these dwellings would need to be constructed in accordance with Building Regulations Requirement M4(2) 'Category 2 – accessible and adaptable dwellings'.

For the purpose of testing, we have assumed the full 10% private and intermediate OPH provision would be provided as bungalows. This is due to a combination of established demand across the County for bungalows, and also the limited appetite from developers to build flats. Furthermore, it is difficult to include extra care/sheltered housing within all scheme types as these tend to be delivered by specialist developers, charities and Registered Providers, such as McCarthy and Stone, Anchor, and Churchill on stand alone sites, although this is not always the case. Whilst there is clear potential for such schemes to be delivered as part of larger housing developments, there is a limited evidence base related to this at the present time. Similarly, multi-generational housing is a popular product in other countries but, to date, has not been used on a widespread basis in the UK, which limits the evidence base. Given that there is a proven demand for bungalows, which are an established product in the UK, we consider it appropriate for the purposes of modelling to assume the 10% would be delivered as bungalows.

Furthermore, we have assumed that private and intermediate OPH would be provided in addition to affordable housing provision (some affordable housing provision already includes older persons housing and will continue to do so). It is also assumed that bungalows are intrinsically likely to be able to meet Building Regulations Requirement M4(2) 'category 2- accessible and adaptable dwellings' at no extra cost. For the purposes of testing this is considered to be an appropriate approach.

Enhanced specification – the Council is proposing that a proportion of market value / affordable housing would meet Building Regulations Requirement M4(2) "Category 2 – accessible and adaptable dwellings". In addition, a further proportion of the affordable dwellings would meet Building Regulations Requirement M4(3) "Category 3 – wheelchair user dwellings". The Council is proposing that up to 40% of the market value dwellings meet Category 2, 90% of the affordable units meet Category 2 and 10% of the affordable units meet Category 3.

Education – the Council has indicated that for 2017 the cost per additional primary pupil place will be £14,516 and for additional secondary pupil place it will be £16,344. These costs will be reviewed on an annual basis, increasing in line with the BCIS all-in Tender Price. The number of pupil places calculated for each scheme will be offset against any existing surplus places identified. It may be that not all development sites trigger an education contribution. Furthermore, it is also stressed that the aforementioned figures are calculated on 'a per school place' basis, not per new dwelling on a residential scheme. From past contributions collected throughout the County it is highly unlikely that the 'per school place' figure would equal the number of dwellings on a new scheme (which would serve to reduce the overall contribution). The

Council has indicated that, on average, education contributions have usually been below £2,500 per dwelling. However, the Council has also indicated, that in certain cases where primary and secondary places are required, the contribution could be in the region of £5,000 per dwelling. In this context, we have run sensitivity testing based on education contributions equivalent to £2,500 and £5,000.

Habitat Regulations Assessment (HRA) – the Council has indicated that for schemes sub 10 dwellings the cost will be equivalent to £324 per dwelling, whilst for over 10 dwellings it will increase to £659 per dwelling. This policy will only apply to developments within 6km of the County Durham coastline (the main settlements impacted being Peterlee and Seaham).

Space Standards – a separate policy to the Category 2 / Category 3 items discussed above. This relates specifically to the internal areas of dwellings, providing minimum requirements for room sizes, in-built storage and minimum heights for areas deemed to be part of the gross internal area calculations. National costs estimates equate to an average of £2,500 per dwelling. However, North Tyneside Council have recently looked at the costs and suggested £2,000 per dwelling as being appropriate for its market place. Notwithstanding this, it could be argued that building a slightly larger product would be cost neutral, as the corresponding sales values would also increase. However, for the purposes of this assessment we have tested a cost equivalent to £2,000 per dwelling.

Embedded energy – this relates to the energy rating of buildings in the context of carbon emissions. Policy proposals to minimise carbon outputs include the House of Standards Review, at a cost of £2,000 per dwelling for 10% of on-site dwellings. Separately, there is also a policy proposal for the Home Quality Mark, at a cost of £45 per dwelling.

5.2.2. For indicative purposes, we calculate the cost of providing the open space, SUDS, space standards, embedded energy, Habitat Regulations Assessment and Category 2 / Category 3 standards as being equivalent to circa £7,900 per dwelling. However, we would stress that this is a worst case scenario and in reality there is likely to be some overlap between these costs. The education cost (assessed on a site by site basis) would need to be provided in addition to this figure (with our assumed range being £2,500 to £10,000 per dwelling).

5.3. Greenfield and previously developed land

5.3.1. Greenfield (or undeveloped) sites are typically more straightforward propositions for house builders / developers than previously developed land. This is because previously developed land, particularly where there is a former industrial use, can often be subject to remediation and contamination issues.

5.3.2. Furthermore, the underlying current use value will be significantly different for a greenfield site compared to previously developed land (as discussed in the Harman Review). A greenfield site will typically have an underlaying agricultural land value, being relatively modest compared to development land. In comparison, previously developed land will usually have a value based on its existing planning consent, which is likely to be higher than an agricultural land value. It may also have an alternative commercial use, which would need to be factored into any assessment of value.

5.3.3. In summary, greenfield and previously developed land offer different development propositions for house builders / developers. In recognition of these differences we therefore consider it appropriate to model each site type

on the basis of both a greenfield site and separately as previously developed land.

5.4. Density and gross to net ratios

5.4.1. Density rates will fluctuate from scheme to scheme and are usually expressed as a rate per net or gross Ha. We have considered this on the basis of dwellings per net Ha.

5.4.2. Housing density can depend on a variety of factors, for example higher value locations tend to attract larger homes, therefore lower density rates per net Ha (and vice versa). Furthermore, if a scheme has a high proportion of bungalows (which tend to have larger plots) this can also reduce the density of a scheme.

5.4.3. In arriving at suitable density rates we have taken into account the 10% Older Person Housing policy (which we have assumed, for the purposes of this testing only, would be delivered through bungalows).

5.4.4. As for gross to net ratios, again this will fluctuate from site to site. Factors which can impact include the amount of public open space required, amount of on-site infrastructure, flood mitigation requirements etc. However, and based on the evidence identified, generally speaking smaller sites will usually have a higher gross to net ratio.

5.4.5. For our hypothetical testing we have subsequently adopted the following density rates and gross to net ratios:

Table 2 – Density and gross to net ratios

Site type (dwellings)	Density (units per net Ha)	Gross to net ratio %
5	30 per net Ha	90%
20	30 per net Ha	90%
50	32.5 per net Ha	85%
80	32.5 per net Ha	85%
125	35 per net Ha	80%
200	35 per net Ha	80%
350	35 per net Ha	80%

5.5. Dwelling sizes

5.5.1. As with density / gross to net ratios, dwelling sizes will vary from site to site. In higher value, semi-rural locations it may be that the local purchaser market expects larger detached housing, which would increase the overall average on a per unit basis. Conversely, in lower market areas, to meet market demand it may be more appropriate to have a higher proportion of smaller semi-detached / terraced dwellings, which would serve to reduce the overall average.

5.5.2. For the purposes of this study, and to ensure consistency in testing across different sub-regional markets, we have adopted the following average dwelling sizes:

Market value - **95 sq m**

Affordable housing - **80 sq m**

Older Person Housing (assumed to be bungalows) - 80 sq m

5.6. Revenue

5.6.1. For market value housing we have reviewed previous studies undertaken across County Durham, in particular our recent assessment of new-build market conditions (which included a review of transactional evidence through the Land Registry, stakeholder engagement in the form of workshops and a questionnaire and interviews with house builder representatives at a variety of marketing suites for ongoing schemes).

5.6.2. In addition, as shown in Appendix B, we have updated the sales evidence from across the County, utilising the Land Registry and the EPC register to present the data as a rate per £ sq m (as is typical within the industry).

5.6.3. In light of the wide range of values shown within our identified data, and taking into account past comments from stakeholders, it is clear that there are different sub-regional markets within the County and across these locations revenue is likely to fluctuate. To ensure these variations in value are captured within this study we have subsequently identified four value bands: highest, high, medium and low setting different rates accordingly.

5.6.4. Furthermore, we recognise that bungalows tend to generate a higher value per sq m than 2/2.5 storey dwellings, which reflects the shortage of supply relative to demand. For this reason we have therefore adopted one rate for 2/2.5 storey dwellings and a separate, uplifted figure for bungalows.

5.6.5. Having considered the various evidence, and taking into account our assumptions regarding the average dwelling sizes, we have arrived at the following average values for each of the value bandings:

Table 3 – Market value average sales values (£ per sq m)

Value banding	Average value 2/2.5 storey (£ per sq m)	Average value bungalows (£ per sq m)
Highest	£2,500	£2,700
High	£2,150	£2,350
Medium	£1,900	£2,150
Low	£1,750	£2,000

5.6.6. For the affordable housing, we have reviewed the evidence identified, including comments made by stakeholders and in particular Registered Providers. We have subsequently adopted the following rates (expressed as a percentage of the market value):

Table 4 – Affordable housing transfer values

Tenure	Average transfer value
Affordable rent	50% of market value
Shared ownership / intermediate	67.50% of market value
Starter Homes	80% of market value

5.7. Plot construction costs

5.7.1. With regard to 'plot construction' costs (the cost of constructing a house from foundations up, but excluding any external works) we have considered a variety of evidence, including reviewing past appraisals received by the Council (which remain commercially sensitive, although the average across the sample can be disclosed), comments from stakeholders, regional area wide studies taken on behalf of neighbouring Councils and data sources, in particular the Build Cost Information Service ("BCIS") of the RICS.

5.7.2. The BCIS is a favoured tool in the industry, particularly for the purposes of an area wide study. This is because the data, which is based on voluntary tender information submitted to the RICS, gives a rate per sq m to apply to an assessment. Furthermore, it also can be rebased to particular locations, and can also be adjusted dependent on the size of your dwellings (for example a rate is given for 2 storey housing and a separate rate for single storey dwellings), therefore giving greater accuracy.

5.7.3. However, we would stress that, like any data source, it does have weaknesses which can often be overlooked. Firstly, the 'rate per sq m' shown in the BCIS includes the plot construction cost, site preliminary costs and the contractor's overhead allowance. However, it excludes external costs, contingency allowance and all abnormal works. If the BCIS is adopted the items excluded therefore need to be added back in. Likewise, it is important that items such as preliminaries are not 'double counted'.

5.7.4. Secondly, it is important to understand the context of the data. From our analysis, between January 2012 and March 2017 there were 137 separate housing schemes across the UK which were used for 'elemental' analysis in determining the various BCIS rates. Of this sample, the size of schemes ranged from 1 house to 68 houses, with an average of 12.52 houses per scheme submitted into the data. 85% of the sample comprised schemes consisting of 20 houses or less and only 1.46% of the sample (2 schemes) comprised 50 or more dwellings. In other words, the vast majority of the data used for analysis when determining the various BCIS rates was derived from small schemes implemented by either local or relatively small contractors. We note that no volume house builder contributed to the aforementioned sample.

5.7.5. It is generally accepted that volume house-builders are able to construct houses at a cheaper rate than smaller building firms (owing to their ability to bulk-buy materials and their ability to offer more regular work, therefore negotiate cheaper contracts with sub-contractors etc). The BCIS acknowledges this through a note on "Economies of Scale" it published on 25th Oct 2016 (see Appendix C), which states the following:

Pricing levels on building contracts tend to fall as the size of the project increases.

The latest BCIS Tender Price Study, based on project tender price indices analysed by contract sum, shows that pricing levels fall by as much as 20% between small contracts and multimillion pound schemes.

Compared to the mean value of projects in the study of £1.7million projects, pricing on small projects is 10% higher, while pricing on projects over £40million can be 10% lower.

5.7.6. As indicated above, the sample used in the elemental analysis does not include data from larger scale projects, it is mostly derived from schemes comprising 20 or less houses. As the cheaper volume house-builder costs are not reflected within this sample, the data can be regarded as being inherently high, at least when trying to determine the construction costs for a large scheme (in excess of say 50 units). For this reason, the BCIS is considered to be less reliable for larger developments (particularly those which would require implementation by a large volume house builder). To account for this, the BCIS lower quartile figure is often deemed a more appropriate benchmark for larger scale projects.

5.7.7. In summary, the BCIS is a useful tool, particularly for undertaking area wide assessments (and has been used in numerous other viability studies for adopted local plans). In this regard, we consider it to be an appropriate database for the purposes of this assessment. However, there are weaknesses in the data sampling, particularly when assessing larger scale projects. As such, adjustments are needed to ensure appropriate build costs are applied.

5.7.8. Having considered all of the above, we conclude that the median rate is appropriate for smaller schemes, but for larger schemes we consider the lower quartile to be a more accurate reflection.

5.7.9. In addition, we are also conscious that 2 / 2.5 storey dwellings and bungalows will typically generate different construction rates when expressed as a 'rate per sq m'. This is evidenced by the BCIS data, which shows different rates for different dwelling types. In our modelling it is therefore appropriate to apply different construction costs for 2 / 2.5 storey dwellings and bungalows.

5.7.10. A further consideration relates to required standards. The Council's emerging Older Person Housing policy requires all dwellings which qualify (which we have assumed to be bungalows in the modelling) to meet the requirements of Building Regulation M4 (2) 'Category 2 – Accessible and Adaptable Dwellings'. We have subsequently looked to determine whether meeting this standard would increase the build costs or not.

5.7.11. From our research, there is little available primary data within the industry on this, as the Category 2 standards are voluntary. For this reason, we have utilised the EC Harris "Housing Standards Review – Cost Impacts" report from Sept 2014 (see Appendix C). Table 45 of that report estimates an additional cost of around £525 per dwelling when constructing terraced, semi-detached and detached dwellings to meet the standard (or somewhere in the order of £5 per sq m based on average dwelling sizes). However, no costs are given for new build bungalows. Having considered this, we are of the view that bungalows can be regarded as inherently meeting the requirements of Category 2, as the single storey structure naturally provides easy access. Furthermore, demand for this type of product tends to be from older persons, therefore a developer is more likely to cater the construction to meet the needs of the purchaser, which would mean the Category 2 standards are more likely to already be reflected within the BCIS data. In other words, we consider that the uplift in build costs associated with bungalows as shown in the BCIS data is a sufficient increase to ensure the construction meets the Category 2 standard.

5.7.12. Having considered the above, and using the appropriate BCIS figures, we have arrived at the following build cost rates (expressed as a £ per sq m).

Table 5 – Plot construction costs (£ per sq m)

Site type (dwellings)	Average value 2/2.5 storey (£ per sq m)	Average value bungalows (£ per sq m)
5	£1,054	£1,190
20	£1,054	£1,190
50	£938	£1,058
80	£938	£1,058
125	£938	£1,058
200	£938	£1,058
350	£938	£1,058
500 or over	£938	£1,058

5.7.13. In addition, in line with Council's emerging Enhanced Specification policy, we have also given consideration to potential cost increases associated with:

(i) Meeting Building Regulations Requirement M4(2) "Category 2 – accessible and adaptable dwellings" standards specifically for a proportion of the 2 / 2.5 storey dwellings (unlike with bungalows, as discussed above, we do not consider the BCIS rates to be sufficient to meet the Category 2 standards for 2 / 2.5 storey dwellings, therefore an additional allowance is deemed appropriate).

(ii) Meeting Building Regulations Requirement M4(3) "Category 3 – wheelchair user dwellings". Again, the BCIS rate is not considered sufficient to meet these standards, therefore an additional allowance is required.

5.7.14. For 2 / 2.5 storey dwellings to meet Category 2 standards we have again referred to the EC Harris report from Sept 2014. We calculate the suggested uplift as being equivalent to circa £5 per sq m, which we have allowed for in our testing.

5.7.15. To meet the Category 3 standards the cost is more significant, as shown within the EC Harris report (see Appendix C), which we calculate to be equivalent to an uplift of circa £370 per sq m.

5.7.16. For the Council's emerging space standard policy we have allowed an additional £2,000 per dwelling.

5.7.17. For the Council's embedded energy policy we have allowed an additional £2,000 per dwelling for the House of Standards Review, plus a further £45 per dwelling for the Home Quality Mark.

5.8. External costs / site infrastructure

5.8.1. Based on the evidence identified, external / infrastructure costs can typically fluctuate from circa 10% to 20% of the plot construction cost. However, not all housebuilders / developers allocate the same costs under the same labels (for example some parties may consider flood risk mitigation works to be an abnormal cost, whilst others may allocate it as a standard external allowance). It is therefore important to ensure a 'like for like' comparison is made to ensure there is no double-counting.

5.8.2. For the purposes of this study we have taken external costs / site infrastructure to include 'standard' requirements for roadways, drainage, all

services, parking, footpaths, landscaping and any other typical construction costs that falls outside the curtilage of the dwellings.

5.8.3. Based on the evidence identified, including stakeholder comments and other area wide viability studies undertaken on behalf of neighbouring authorities, we conclude that a 15% allowance (applied to the plot construction cost) is sufficient for the purposes of the testing exercise.

5.8.4. In addition to the above general allowance, to meet the Council's emerging Sustainable Urban Drainage Systems policy we have factored in an additional allowance of £25,000 per gross Ha.

5.8.5. Likewise, a further allowance equivalent to £3,478 per dwelling has been included to meet the Council's emerging open space policy.

5.9. Contingency

5.9.1. It is common practice in the housebuilding industry to include a contingency allowance when determining construction costs. This is designed to help mitigate unknown delays in construction, additional unforeseen costs etc.

5.9.2. Based on the evidence identified, we consider it appropriate to adopt separate rates for greenfield (undeveloped) sites and previously developed land. For greenfield sites, typically regarded as being more straight forward propositions than previously developed land, we consider an allowance of 3% (applied to the plot construction and external costs) to be appropriate. For previously developed land, we have increased the rate to 5%.

5.10. Abnormal costs

5.10.1. These can be defined as construction costs which are over and above the standard requirements of a housing scheme. This can include a variety of

costs, such as remediation works, decontamination, demolition, enhanced foundation solutions, flood mitigation works, 'opening' infrastructure works etc.

5.10.2. Again, it is important to recognise that different parties will define different costs as being 'abnormal' works. This has been understood during our research.

5.10.3. There is a relationship between land value and abnormal costs, the general principle being that if 2 identical sites are next to one another, the site with higher abnormal costs will have a lower site value and vice versa. This follows the way the market works, as a housebuilder / developer would look to negotiate a reduced price if abnormal costs were identified. Likewise, it is reasonable to assume that, if abnormal costs have been identified on a site, and these abnormal costs will always need to be incurred to bring that site forward for housing (for example identified land contamination), a landowner would need to readjust their expectations and lower their requirements regarding the site value.

5.10.4. In theory, there should therefore be a direct corresponding relationship between the level of abnormal costs and site value. However, there remains a minimum requirement below which landowners may not be incentivised to release the land for development, even if there appears to be a justification to the reduction based on the level of abnormal costs. The market is imperfect in this respect and therefore landowners may look to negotiate a compromise, rather than simply accepting that all the abnormal costs should be deducted from the land price.

5.10.5. For this reason, we consider it appropriate to make some allowance within the appraisal testing for abnormal costs. From our research this has tended to be the approach adopted with neighbouring authority assessments. However,

there is no consensus as to the best approach, and as summarised below allowances can vary:

Stockton on Tees – affordable housing viability study Oct 2016. In the viability testing abnormal / infrastructure 'opening up' costs ranged from £50,000 per net Ha to £200,000 per net Ha (depending on the size of the scheme).

Sunderland – whole plan viability assessment Aug 2017. In the viability testing abnormal costs were assumed on brownfield sites only, equating to 10% of the adopted BCIS rate.

Gateshead & Newcastle – viability and deliverability report Feb 2014. In the viability testing abnormal costs were assumed at 5% of build costs.

Richmondshire – Community Infrastructure Levy viability study report Jan 2016. No specific allowance for abnormal costs.

5.10.6. Taking into account the evidence identified, including past stakeholder comments, to cover general abnormal costs we have included in our assessment an allowance of £75,000 per net Ha for greenfield sites, increasing to £150,000 per net Ha for previously developed land.

5.11. Professional fees

5.11.1. This includes costs for architects, quantity surveyors, engineers, project management etc. This is usually expressed as a percentage of the plot construction and standard external costs.

5.11.2. Having reviewed the identified evidence, and based on our experience within the industry, we consider it appropriate to adopt higher rates for smaller

schemes. This recognises the fact that regional and national housebuilders will tend to use 'standard' design templates, applied to multiple schemes, therefore there is less requirement for original thought in the design process resulting in lower fees.

5.11.3. For small schemes providing 5 dwellings we have adopted an allowance of 10%. For schemes delivering 20 dwellings, we have decreased the rate to 8%. For schemes providing between 50 and 125 this has been decreased further to 6%. A final reduction to 5% has been applied to schemes providing in excess of 200 dwellings.

5.12. Marketing and legal costs

5.12.1. These are normally expressed as a percentage of revenue, plus an allowance on a 'per dwelling' basis to cover legal costs.

5.12.2. For smaller schemes it is likely a local estate agent would be engaged to facilitate the sale. For schemes providing 5 and 20 dwellings, we have subsequently adopted an allowance equivalent to 2% of the market value revenue. However, for large projects additional costs would be incurred associated with a marketing suite and central marketing overheads. For schemes providing 50 or more dwelling we have subsequently increased the rate to 3%.

5.12.3. With regards to legal costs, we consider an allowance of £600 per dwelling to be reasonable, reducing to £300 per dwelling for the affordable units (as the affordable units would be transferred in bulk to a Registered Provider, reducing the associated legal costs).

5.13. Finance

5.13.1. For debit interest charges we have adopted 5.5% for schemes providing 50 or more dwellings (as these would most likely be delivered by regional or national volume house builders, who would have easier access to funding). For schemes providing 20 dwellings or less, more likely to be delivered by local builders / developers we have increased the rate to 6.5%.

5.13.2. We consider it appropriate to include some level of credit interest within the modelling. This is more applicable to the largest schemes, where there will come a point in the lifetime of the development where revenue outweighs expenditure. It is reasonable to assume that a developer would adopt a sophisticated approach to any surplus generated (and would not simply input this money into a low interest bank account). Instead, we anticipate that any surplus would either be used to fund other schemes (i.e. reflecting an opportunity cost) or the money would be invested elsewhere (i.e. shares, property, bonds etc) in order to ensure better return than a savings account. Within our appraisals, we have subsequently allowed a 3% credit.

5.14. Developer Profit

5.14.1. In our experience profit margins fluctuate depending on the nature of the scheme and the type of developer implementing the project. For example, a small local developer will have a different expectation on profit compared with a national volume housebuilder (with the latter potentially looking to meet the requirements of shareholders in the company). Likewise, a developer implementing a scheme in a low value area on a heavily contaminated parcel of land is likely to regard this as a higher risk than developing a 'clean' greenfield opportunity in a high value area. With a higher risk, the developer would subsequently expect a higher return. Furthermore, for large scale projects, where a housebuilder is investing capital over many years, again the level of risk would be greater than a short-term project where the financial investment is only over a period of months.

5.14.2. For these reasons, we do not therefore consider that a single, fixed profit margin is appropriate to apply to all of the modelling, as this would not reflect the workings of the market. For the purposes of this study we have subsequently adjusted the profit margin to reflect the type of developer and nature of the scheme.

5.14.3. As a broad guide, the evidence suggests profit margins will typically fall in between 15% to 20% of revenue (with the higher end of the range appropriate to larger schemes or schemes with greater complexities). For small schemes comprising 5 dwellings we have applied a profit margin of 15% of revenue. For the largest schemes, in excess of 200 dwellings we have increased this to 20%. The remaining schemes fall in between 15% and 20%.

5.14.4. In assessing previously developed land we have narrowed the range to 17.5% to 20% of revenue.

5.14.5. However, it is also the case that affordable housing carries a different risk profile to market value dwellings. This is because market value dwellings are sold speculatively in the market, whereas affordable housing is transferred in bulk often to a pre-identified Registered Provider. For this reason, and in line with the evidence, we consider it appropriate to adopt a reduced profit margin for the affordable housing. We have adopted a return equivalent to 6% of the revenue generated by the affordable housing.

5.15. Threshold Land Value ("TLV")

5.15.1. The principles behind this concept are discussed briefly above in section 2.5 and 2.6. In short, the TLV represents the minimum land value that a hypothetical landowner would accept to release their land for development,

in the context of the prevalent planning policies. A TLV does not therefore attempt to identify the market value, it is a distinct concept.

5.15.2. The Harman Review advises caution in simply basing TLV's on land transactions in the market place, because of two key factors:

- There can be a confusion between headline values associated with a fully serviced site, as opposed to net values which take into account infrastructure costs, Section 106, CIL and costs of complying with existing planning policies. In particular, the assessor should recognise that past land transactions (prior to the implementation of the Local Plan) will reflect different policy requirements, which would skew the land values paid. It is therefore important for the assessor to determine an appropriate TLV within the context of the merging policies (pg 29 of the Harman Review states that the TLV "needs to take account of the fact that future plan policy requirements will have an impact on land values and landowner expectations").

- Furthermore, there are a range of other factors which affect land value, including gross to net ratios, scheme density, existing uses, abnormal costs, financial circumstances of the vendor and purchaser, location etc. These factors ensure it is difficult to compare land on a 'like for like' basis, as in practice every site is unique. Land transactional evidence can therefore be misleading.

5.15.3. In the context of the above., the Harman Review adds:

Pg 37 – *What ultimately matters for housing delivery is whether the value received by the land owner is sufficient to persuade him or her to sell their land for development. This can be very different to the headline value one*

developer might pay another developer for a fully serviced, permissioned parcel of land on a large strategic site.

5.15.4. The Harman Review concludes:

Pg 29 – *…using a market value approach as the starting point carries the risk of building in assumptions of current policy costs rather than helping to inform the potential for future policy…Reference to market values can still provide a useful 'sense check' on the threshold values…but it is not recommended that these are used as the basis for the input to a model.*

5.15.5. The Harman Review (and the proposed PPG changes, as discussed above in 2.4) subsequently recommends using a premium over existing use value ("EUV") and credible alternative values as a means of determining the TLV. We have followed this approach within this study.

5.15.6. However, a differential should be made between assessing previously developed land and agricultural (greenfield) land. This is because the underlying EUV of an agricultural field will typically be significantly lower when comparted to previously developed land. This means that different premiums will need to be applied to encourage landowners to sell.

5.15.7. The Harman Review and proposed PPG changes are each silent on the precise level of premium. However, based on our experience and the available evidence a premium in the region of 10% to 30% above the EUV is typically expected for previously developed land (dependent on the nature of the land). For agricultural land, where values will be relatively consistent regardless of locational factors, the level of premium will be significantly higher.

5.15.8. In the DVS "Issues and Options" report, dated June 2016, the following TLV's were proposed:

Greenfield – low value area sub £250,000 per gross Ha, medium value area £250,000 to £400,000 per gross Ha and high value area over £400,000 per gross Ha.

Previously developed land – a range between £125,000 and £400,000 per gross Ha was suggested.

5.15.9. Furthermore, Appendix 7 of CP Viability's "Residential Market Assessment of County Durham and the Likely Delivery of Suitable SHLAA sites" provided 36 land transactions from across the County. These are summarised below:

Table 6 – County Durham land transactions (greenfield)

Settlement	Pcode	Type	Gross Land area (Ha)	Sale Price	Sold (price per Ha)	Sale Date
Stanhope	DL13	Greenfield	0.52	£ 31,500	£ 60,810	26/02/2014
Peterlee	SR8	Greenfield	0.93	£ 85,000	£ 91,320	01/06/2015
Newton Aycliffe	DL5	Greenfield	3.80	£ 544,578	£ 143,307	29/11/2013
Durham	DH1	Greenfield	33.40	£ 5,000,000	£ 149,703	14/06/2013
Sedgefield	TS21	Greenfield	14.30	£ 2,600,000	£ 181,794	30/06/2014
Stanley	DH9	Greenfield	3.20	£ 730,000	£ 228,044	06/02/2014
Chilton	DL17	Greenfield	3.88	£ 1,200,000	£ 309,197	04/11/2014
New Brancepeth	DH7	Greenfield	0.80	£ 250,000	£ 311,995	04/12/2015
Browney	DH7	Greenfield	11.17	£ 3,500,000	£ 313,351	12/12/2014
Ushaw Moor	DH7	Greenfield	5.52	£ 2,000,000	£ 362,583	01/12/2014
Barnard Castle	DL12	Greenfield	2.63	£ 1,000,000	£ 380,154	19/12/2014
Chester-le-St	DH2	Greenfield	1.91	£ 733,755	£ 384,133	03/08/2016
Coxhoe	DH6	Greenfield	0.82	£ 325,000	£ 395,603	30/04/2015
Newton Aycliffe	DL5	Greenfield	2.16	£ 1,225,000	£ 566,849	17/07/2015
Barnard Castle	DL12	Greenfield	5.90	£ 3,500,000	£ 593,176	19/08/2013
Newton Aycliffe	DL5	Greenfield	4.17	£ 2,560,000	£ 614,151	20/11/2015
Bishop Auckland	DL14	Greenfield	2.73	£ 1,829,534	£ 669,745	26/06/2015
Gilesgate Moor	DH1	Greenfield	1.49	£ 2,400,000	£ 1,611,522	11/09/2014
				Average	**£ 409,302**	

5.15.10. As shown above, there is a wide range of land values achieved. However, bar 3 exceptions, from the sample of 18 sales all fell within the broad range of £140,000 to £670,000 per gross, with an overall average of just over

£400,000 per gross Ha (albeit it is acknowledged that some the above deals identified dated back several years, therefore adjustments need to be made in the analysis).

Table 7 – County Durham land transactions (previously developed land)

Settlement	Pcode	Type	Gross Land area (Ha)	Sale Price	Sold (price per Ha)	Sale Date
Consett	DH8	PDL	1.49	£ 79,000	£ 52,902	25/02/2014
Annfield Plain	DH9	PDL	2.10	£ 200,000	£ 95,222	01/04/2016
Newton Aycliffe	DL5	PDL	0.62	£ 110,000	£ 177,654	16/05/2016
Stanley	DH9	PDL	0.29	£ 74,500	£ 255,680	01/10/2013
Esh Winning	DH7	PDL	0.92	£ 265,905	£ 289,450	29/04/2016
Bishop Auckland	DL14	PDL	0.26	£ 80,000	£ 308,875	30/01/2015
Chester-le-St	DH2	PDL	0.41	£ 140,000	£ 342,515	22/08/2016
Crook	DL15	PDL	1.63	£ 700,000	£ 429,206	29/06/2016
Bishop Auckland	DL14	PDL	0.12	£ 55,000	£ 453,017	28/06/2013
Stanley	DH9	PDL	0.29	£ 172,500	£ 592,010	03/03/2015
Peterlee	SR8	PDL	0.83	£ 550,000	£ 662,951	01/04/2012
Langley Park	DH7	PDL	0.45	£ 300,000	£ 673,909	03/03/2015
Chester-le-St	DH3	PDL	0.17	£ 115,666	£ 697,099	07/10/2016
Peterlee	SR8	PDL	0.14	£ 114,000	£ 804,840	06/07/2015
Durham	DH1	PDL	0.55	£ 541,950	£ 977,488	29/01/2016
Durham	DH1	PDL	1.43	£ 3,052,500	£ 2,130,714	09/04/2013
Durham	DH1	PDL	6.07	£ 15,000,000	£ 2,471,000	01/06/2016
Framwellgate Mo	DH1	PDL	2.00	£ 5,210,202	£ 2,606,156	22/07/2015
				Average	**£ 778,927**	

5.15.11. For the previously developed land, the range was wider, principally due to a number of transactions in DH1 which generated values in excess of £2million per gross Ha. However, excluding the values achieved in DH1, the majority of the sample generated values in between £175,000 to circa £800,000 per gross Ha, with an overall average across the whole sample of around £780,000 per gross Ha.

5.15.12. As a further 'sense check' we have looked to update land transactional evidence. We have considered the TLV's adopted by neighbouring authorities in their own respective viability studies, as summarised below:

Stockton on Tees – affordable housing viability study Oct 2016. High value areas range of £350,000 to £400,000 per gross Ha. Low value areas £250,000 to £300,000 per gross Ha.

Sunderland – whole plan viability assessment Aug 2017. Greenfield sites TLV range from £500,000 to £900,000 per net Ha (a gross figure would be below this). Industrial land £480,000 per net Ha.

Gateshead & Newcastle – viability and deliverability report Feb 2014. Non-urban £321,000 to £672,000 per gross Ha. Urban area £100,000 to £2,000,000 per gross Ha.

Richmondshire – CIL viability study report Jan 2016. 1Ha site, TLV range £400,000 to £900,000 per gross Ha. 5Ha site, TLV range £380,000 to £855,000 per gross Ha.

5.15.13. The above show a variety of approaches and value ranges adopted. This highlights not only the difficulties associated with determining a TLV, but also the fact that the values should take into specific local market conditions.

5.15.14. Having considered the evidence, including comments raised by stakeholders during the engagement process, and in line with the Harman Review guidance which states that a TLV should be assessed in the context of the emerging policies (not the past policy regime), we have looked to ensure landowners are suitably incentivised to release land for development. These adopted values are summarised as follows:

Table 8 – Threshold Land Value Assumptions

Value area	Site type	Adopted TLV (per gross Ha)
Low	Greenfield	£200,000
Medium	Greenfield	£325,000
High	Greenfield	£500,000
Highest	Greenfield	£900,000
Low	Previously Developed Land	£175,000
Medium	Previously Developed Land	£275,000
High	Previously Developed Land	£450,000
Highest	Previously Developed Land	£800,000

5.16. Base appraisals

5.16.1. The results for the base appraisals (Test 1) are shown in Appendix D1.

5.16.2. The base appraisals exclude any affordable housing provision and S106 contributions. The appraisals therefore seek to determine the viability of various site iterations without the impact of Council's policies.

5.16.3. There are 56 appraisals in total, made up of the following:

- Sites types 1 to 7 (being 5, 20, 50, 80, 125, 200 and 350 dwellings).
- Each of the site types is tested based on whether it is situated in a low, medium, high or highest value area.
- Each site type, together which each value location, is tested dependent on whether it is a greenfield site or previously developed land.

5.16.4. Of the 56 appraisals, the majority return a surplus and can be regarded as being viable (and therefore able to provide some level of contributions towards Council policies).

5.16.5. However, there are a small number of schemes, being smaller projects providing either 5 or 20 dwellings in low and medium value locations where, even without the application of Council policies, viability is marginal. For these sites there is therefore likely to be the greatest pressure on viability, which should be considered when policies are brought forward.

5.17. Testing of emerging draft policies

Test 2 – Affordable Housing and Older Person Housing

5.17.1. The results are shown in Appendix D2.

5.17.2. This builds on the base appraisals for each of the 56 sites and adds in older person housing at around 10% (as indicated above all of the OPH is provided as bungalows for the purposes of the modelling). Affordable housing is tested at 5%, 15% and 25%, with a target of 75/25 between affordable rent and intermediate. Please note, and as indicated above, a 'worst case' is adopted whereby the OPH is provided separately to the AH (there is no overlap between the two, which in reality could be the case). Furthermore, Starter Homes are not factored into this testing (and is subject to separate sensitivity analysis).

5.17.3. Please note, for site type 1 we have not factored in any affordable housing, as this falls below the national threshold of 10 dwellings.

5.17.4. At 5% affordable housing, the majority of the sites are shown to be viable. As with the base appraisals, only a small number of sites (mainly low value locations on previously developed land) show a negative return.

5.17.5. At 15% affordable housing, around 65% of the sites tested are shown to be viable. All greenfield sites within the high and highest value locations are able

to support 15% affordable housing and 10% OPH (and also the majority of previously developed land sites). Most medium sites show a viable position, particularly larger scale projects. Only 1 low value site is shown to be viable with this level of policy provision.

5.17.6. At 25% affordable housing, around 45% of the sites tested are shown to be viable. Most of the sites within the high and highest value locations give a viable return. The only other site able to support this level of provision are larger scale, greenfield medium value sites.

Test 3 – AH, OPH, Open Space and SUDS

5.17.7. The results are shown in Appendix D3.

5.17.8. This builds on the appraisals undertaken in Test 2, adding in an average charge of £3,478 per dwelling for open space contribution plus a further £25,000 per gross Ha relating to Sustainable Urban Drainage Systems.

5.17.9. At 5% affordable housing the majority show a surplus, therefore are regarded as viable. However, some of the sites, particularly small sites in low value locations on previously developed land, give a negative return, suggesting there will be viability pressure on these types of sites even with a relatively modest affordable housing provision of 5%.

5.17.10. At 15% affordable housing around half of the sites are viable, including the majority of sites within high and highest value locations as well as a number of sites in the medium value locations.

5.17.11. At 25% affordable housing the majority of sites in the highest value location and most in the high value location are shown to be viable.

Test 4 – AH, OPH, Open Space and SUDS plus education

5.17.12. The results are shown in Appendix D4.

5.17.13. This builds on the appraisals undertaken in Test 3, undertaking sensitivity testing of an education contribution. As education contribution will vary from site to site (and will depend on need) we have tested the impact on viability based on contributions equivalent to £2,500 and £5,000 per dwelling.

5.17.14. A provision of £2,500 per dwelling has a relatively marginal impact on viability. At 5% affordable housing, around 57% are viable, similar to the results in Test 3. Likewise, at 15% affordable housing, just over 40% of the sites were shown to be viable without an education contribution. If the education contribution is factored in this reduces only slightly to just under 40%. Finally, at 25% affordable housing the number of viable schemes reduces from around 34% to circa 27% when an education contribution of £2,500 per dwelling is applied.

5.17.15. As expected, the impact on viability is more pronounced when a contribution of £5,000 per dwelling is applied. At 5% affordable housing, the number of viable schemes reduces from around 60% to circa 45%. We note that the only viable schemes under this scenario are in the high and highest value locations. At 15% affordable housing the number of viable schemes reduces from circa 40% to 30%. At 25% affordable housing, only schemes in the highest value locations return a viable scheme (around 16% of the total sites).

Test 5 – AH, OPH, Open Space and SUDS plus space standards

5.17.16. The results are shown in Appendix D5.

5.17.17. This builds on the appraisals undertaken in Test 3, undertaking sensitivity testing of enhanced space standards, with an average additional cost of £2,000 per dwelling applied in the modelling.

5.17.18. As with the education contribution of £2,500 per dwelling, if taken in isolation the impact of this policy has only a marginal impact on overall viability. For example, at 5% affordable housing, just over 60% of the schemes are viable, which is the same as the results from Test 3.

5.17.19. However, and whilst in isolation this policy appears to have only a small impact on viability, on a cumulative basis, applied together with other policy asks, this could have a significant impact on viability and in particular serve to reduce the level of affordable housing a scheme could provide.

Test 6 – AH, OPH, Open Space and SUDS plus embedded energy

5.17.20. The results are shown in Appendix D6.

5.17.21. This builds on the appraisals undertaken in Test 3, undertaking sensitivity testing of embedded energy, applying a Home Mark costs equivalent to £45 per dwelling and House Standards Review at £2,000 per dwelling (applied to 10% of the dwellings).

5.17.22. If taken in isolation the effect of this policy is minimal in that it has no impact on the viability outcomes of the schemes tested. The same number of schemes shown to be viable in Test 3 are also shown to be viable in Test 6.

5.17.23. However, and whilst in isolation this policy appears to have no impact on viability, on a cumulative basis, applied together with other policy asks, this could have a significant impact on viability and in particular serve to reduce the level of affordable housing a scheme could provide.

Test 7 – As Test 3, plus education, space standards and embedded energy

5.17.24. The results are shown in Appendix D7.

5.17.25. This builds on the appraisals undertaken in Test 3, but includes all of the additional elements applied in Tests 4, 5 and 6 (being education, space standards and education). Please note, for the purposes of this modelling we have assumed an education contribution equivalent to £5,000 per dwelling. The overall S106 contributions in this model equates to around £11,600 per dwelling (which covers the open space, SUDS, space standards, education and embedded energy).

5.17.26. For 5% affordable housing, around 44% of the sites are shown to be viable. This compares with over 60% as recorded in Test 3. All of the viable sites are either located within the high or highest value location. At 15% affordable housing the proportion of viable sites reduces to 25% (compared with over 40% under Test 3). Only a small number of schemes within the high value location return a viable output. Finally, at 25% affordable housing, only 3 schemes are shown to be viable, all being greenfield sites in the highest value location.

5.17.27. Combined, the impact of the education, space standards and embedded energy policies has a significant impact on scheme viability. Including these contributions results in only a handful of sites being able to provide 25% affordable housing. It also serves to narrow the number of sites able to deliver 5% or 15% affordable housing.

Test 8 – AH, OPH, Open Space and SUDS plus Habitat Regulations Assessment

5.17.28. The results are shown in Appendix D8.

5.17.29. This builds on the appraisals undertaken in Test 3, and includes the Habitat Regulations Assessment charge (£324 per dwelling for 5 unit schemes and £659 per dwelling for all other developments).

5.17.30. If taken in isolation the effect of this policy is minimal in that it has no impact on the viability outcomes of the schemes tested. The same number of schemes shown to be viable in Test 3 are also shown to be viable in Test 8.

5.17.31. However, we are advised that this policy will only effect locations close to the Durham Heritage Coast. Based on our analysis, locations within this area tend to fall within the low and medium value banding. It should therefore be noted that only the largest low value locations and medium value locations are able to viably support 5% and 15% affordable housing and the Habitat Regulations Assessment.

Test 9 – Category 2 and Category 3 construction

5.17.32. The results are shown in Appendix D9.

5.17.33. In terms of the modelling, as discussed above (see section 5.7) we have already adopted a higher build costs for the Older Person Housing (modelled as bungalows), which is assumed to inherently cover Category 2 requirements. For the 2 / 2.5 storey dwellings we have used the EC Harris Category 2 figure (see Appendix C), which we calculate as being equivalent to £5 per sqm (and have applied to 40% of the 2 / 2.5 storey dwellings). For the Category 3 costs (applied to 10% of the affordable housing only), we calculate the build costs increase as being equivalent to £370 per sq m.

5.17.34. Based on the above assumptions, the modelling shows only a minor change in the outcome of the appraisals. As such we have only tested a small sample of the sites (each showing only a marginal change in the appraisal outcome).

5.17.35. Based on the modelling assumptions, and taken in isolation, we do not therefore anticipate that the proposed policy relating to Category 2 and Category 3 requirements would have a significant impact on viability.

5.18. Sensitivity testing

Test 10 – Starter Homes

5.18.1. The results are shown in Appendix D10.

5.18.2. This seeks to determine the impact on Starter Homes on viability, building on the results shown in Test 2. We have looked to include Starter Homes as being part of the overall affordable housing provision (not in addition to). Within the modelling, we have looked to achieve a target of between 25% to 30% of the affordable housing as Starter Homes.

5.18.3. With 5% affordable housing, around 86% of the sites tested are shown to be viable. When Starter Homes are not factored in, the number of viable schemes reduces slightly to 84%. At 15% affordable housing, the ratio of viable schemes increases to circa 68%, uplifted from circa 61%. Finally, at 25% affordable housing, just over half of the schemes are shown to be viable, which compares to around 46% when Starter Homes are not included.

5.18.4. In this regard, Starter Homes are shown to have a positive impact on viability. In other words, including Starter Homes as part of the affordable housing tenure bases will help improve viability.

Test 11 – 25% uplift on site value

5.18.5. The results are shown in Appendix D11.

5.18.6. During stakeholder engagement some parties commented on site values, indicating that there is a significant level of fluctuation across the market, whereby landowner expectations on values can be above market 'norms'. To assess the impact inflated land values could have on viability, we have

subsequently run a sensitivity test whereby land values have been uplifted by 25%.

5.18.7. For the purposes of this modelling we have adopted the same assumptions as Test 3, but with a 25% increase on the land value.

5.18.8. Based on 5% affordable housing, the number of viable schemes equates to around 57% (reduced from around 64% in Test 3). When the affordable housing is increased to 15%, the number of viable schemes reduces from around 48% to 34% (with only schemes located in high and highest value locations showing a viable return). At 25% affordable housing, only 3 schemes show a viable return, all of which are based on the highest value locations.

5.18.9. Changes in land values will clearly haven impact on viability. The impact of a 25% increase in the site value will be to reduce the level of affordable housing a scheme can provide. The most significant impact shown through this is the sharp reduction of medium and high value sites being able to provide 15% to 25% affordable housing.

Test 12 – Average S106 contribution £5,000 - £7,000 per dwelling

5.18.10. The results are shown in Appendix D12.

5.18.11. Certain policies will not apply to all locations and could vary significantly from site to site. For example, the education provision is based on an assessed need, therefore some sites may not incur any charge, whereas others may require a significant contribution.

5.18.12. As not all policies will apply to all sites, and for the purposes of scenario testing, we have therefore looked to determine an overall S106 contribution, assessed on a 'per dwelling basis'. In light of the site testing and the various iterations, as well as past S106 delivery, we have adopted an average S106

contribution / cost of £5,000 to £7,000 per dwelling (excluding Older Person Housing, which is included separately).

5.18.13. This shows that most schemes in the highest value locations are able to support a 25% affordable housing provision. For sites in high value locations, nearly all are comfortably able to support 15% affordable housing some, with some also able to support a 25% provision. A number of sites in medium value locations are able to support 15% affordable housing. Some low value sites are able to support a 5% provision.

Test 13 – 5% increase in revenue

5.18.14. The results are shown in Appendix D13.

5.18.15. Our initial assessment of value bands adopts a relatively cautious approach, and as such there is potential for increases in value. This is particularly the case for the low and medium value bandings, in part due to the popularity of the Help to Buy product, which is helping drive sales in lower value areas (as detailed in the recent study we undertook on behalf of the Council titled "Residential Market Assessment of County Durham and Likely Delivery of Suitable SHLAA sites"). The increased levels of purchasers now able to buy homes through Help to Buy (that previously were unable to find sufficient deposits / funding) has increased competition, which is conducive to house price growth.

5.18.16. Furthermore, there is some anecdotal evidence that transfer values for affordable housing has also increased in recent months, with an increased level of HCA support and grant availability. This mirrors our own experiences in the wider regional market, where firstly demand from Registered providers has increased and likewise transfer values have started to see some improvements. This may be a continuing trend and it is something we would recommend the Council monitors going forward.

5.18.17. In light of the above, and for the purposes of this sensitivity testing, we have therefore re-run a sample of the appraisals based on a 5% uplift in revenue. For the purposes of the testing, we have limited this to schemes in low and medium value areas (because we anticipate these bandings are most likely to see potential 'spikes' in values owing to the continuing demand for Help to Buy). Please note, our testing also includes a £5,000 per dwelling allowance for general S106 policy contributions / costs.

5.18.18. At 5% affordable housing, the majority of low and medium values site types (both greenfield and previously developed land) are viable. At 15% affordable housing most medium value locations (plus one low value location) give a viable return (but it is noted that these are comfortably viable based on the assumptions made). Please note, testing was not undertaken at 25% affordable housing as, in light of previous results, it was anticipated no scheme in the low and medium value areas would be viable with this level of affordable housing, even allowing for a 5% increase in revenue.

5.19. Conclusions from hypothetical, residential site testing on S106 policy

5.19.1. As indicated in the Harman Review, plan-level appraisal testing can only provide a general overview on viability at a specific point in time. Individual site testing will still be appropriate to take into account site specific circumstances and fluctuations in market conditions.

5.19.2. Within this context, our appraisals show that, if Council policies are removed, the majority of the site types are viable. However, once policy provisions are factored in this puts a downward pressure on the viability of the schemes, to the extent where some adjustments in policy are necessary so as to minimise as much as possible the impact on delivery. Some of this 'flex' in policy could

be through a reduction in required affordable housing provisions or through the removal / reduction of other policy provisions.

5.19.3. We would stress that our appraisals, in accordance with the Harman Review, are modelled so as to not be at the 'margins of viability', for example:

- By not allowing any cross over between older person housing and affordable housing, which in practice is likely to be acceptable to meet the respective policies.

- By adopting BCIS figures, which are considered to be typically above the build costs incurred in reality by regional / national volume house builders.

- Density rates are cautious and in reality there will be scope for particular schemes in particular locations to increase the amount of accommodation provided on a per net Ha basis.

- An education provision of £5,000 per dwelling is considered to be at the 'top end' of expectations. The Council has confirmed that, typically, where there is a requirement, the contributions are usually closer to £2,500 per dwelling.

- Initial sales values are cautious, particularly in low and medium value areas.

- The inclusion of Starter homes will have a positive impact on viability. Only one of our iterations factors in Starter Homes, at a relatively modest level.

5.19.4. Through our iterative process, and on the broad assumption of policy contributions costs equivalent to £5,000 to £7,000 per dwelling, we conclude the following broad affordable housing provisions as being appropriate (allowing for a 'buffer' on viability, in accordance with the Harman Review):

Affordable housing provision

Highest value location	**-**	**25% affordable housing**
High value location	**-**	**20% affordable housing**
Medium value location	**-**	**15% affordable housing**
Low value location	**-**	**5% affordable housing**

5.19.5. As indicated above in 5.2.2, we calculate the emerging draft policy costs / contributions as being equivalent to £7,907 per dwelling (before any education contributions are factored in). This is therefore above our broad allowance of £5,000 to £7,000 per dwelling, which has been assumed in formulating the above affordable housing provisions. This suggests that there may need to be some 'flex' in either the above affordable housing provisions or the other draft policies to help ensure scheme deliverability. If the Council is willing to adjust the affordable housing provision (as opposed to the other policies), we would suggest a reduction of say 5% in the figures quoted above.

5.20. 'Real' site testing

5.20.1. As indicated above, in addition to the hypothetical site testing, we have also looked to assess 'real' sites (being larger scale projects) identified by the Council for future development. The sites tested are as follows:

- Sniperley Park, Durham City — 1,900 dwellings (see 'Exceptional Circumstances Note'
- High West Road, Crook — 350 dwellings (see Appendix E)
- Low Copelaw, Newton Aycliffe — 700 dwellings (see Appendix E)

5.21. Apartments / Over 55s Living

5.21.1. As indicated above, the apartment market is likely to provide only a small proportion of the new-build stock across County Durham, at least over the short to medium term. We have subsequently limited our testing to the following:

Market value scheme – 0.50 Ha, 45 apartments. Average flat size 65 sq m. Total flat sq m equates to 80% of the apartment block gross internal area. Highest value locations only.

Over 55s Type 1 (similar to "Retirement Living" as described above) – 0.50 Ha, 45 apartments. Average flat size 65 sq m. Total flat sq m equates to 80% of the apartment block gross internal area.

Over 55s Type 2 (similar to "Assisted Living" as described above) – 0.50 Ha, 45 apartments. Average flat size 65 sq m. Total flat sq m equates to 80% of the apartment block gross internal area.

5.21.2. For the market value scheme, we have adopted an average sales value equivalent to £2,800 per sq m, plus ground rent income (equivalent to £250 per flat per annum, capitalised at 5%). For build costs we consider the BCIS median rate to be appropriate, rebased to County Durham and for 3 – 5 storey blocks. This is currently £1,305 per sq m. In addition, we have applied a 7.5% external allowance, 3% contingency, 8% professional fees and £75,000 per net Ha to cover abnormal costs. For marketing we have allowed 3% of sales revenue, plus £600 per unit for legal costs. Given the risks associated with apartment schemes, a 20% profit on revenue is considered appropriate. For the highest value location we have applied a TLV equivalent £900,000 per gross Ha, equating to £450,000. Based on these assumptions, even before any

Council policies are applied, the scheme only returns a land value of £395,521. As this is slightly below the TLV, the scheme is regarded, at best, as only being marginally viable. Adding Council policies would serve to make the scheme unviable. On this basis, we do not anticipate that market value apartment schemes will be able to support any Council policies.

5.21.3. For Over 55s Type 1, it is assumed that this would be provided in a higher value location (as tends to be the case with schemes of this nature). We have adopted the same assumptions as the market value scheme, bar the following adjustments based on our experience of appraising these types of schemes:

Gross to net ratio	- 75%
Sales revenue	- £3,200 psm
Build costs	- BCIS for supported housing £1,319 psm
Marketing	- 4%
Profit	- 18.5% (pent up demand reduces risk)

5.21.4. The test returns a land value of £802,459, therefore a surplus of £352,459 (equivalent to £90 per sq m, based on the gross internal area of the apartment block). Allowing for an appropriate 'buffer' this would equate to a an off-site affordable housing commuted sum equivalent to £4,300 per dwelling.

5.21.5. We have also run a sensitivity tests, the first of which assumes a 5% reduction in the sales value. Under this scenario, the surplus reduces to only £30,583, which is not considered sufficient to justify an off-site commuted sum. Our second test assumes a 5% uplift, which generates a surplus of £674,336. Allowing for a buffer, this gives a commuted sum of £7,350 per dwelling.

5.21.6. For Over 55s Type 2, the nature of the accommodation is typically different, with a larger proportion of common facilities, plus more specialist on-site equipment. We have subsequently made the following adjustments:

Gross to net ratio	- 60%
Sales revenue	- £4,500 psm
Build costs	- BCIS for supported housing £1,519 psm

5.21.7. The test returns a land value of £742,350, therefore a surplus of £292,350 (equivalent to £60 per sq m, based on the gross internal area of the apartment block). Allowing for an appropriate 'buffer' this would equate to a an off-site affordable housing commuted sum equivalent to £3,250 per dwelling.

5.21.8. Having considered the above, we have concluded the following:

- **Market value apartment scheme are unlikely to be able to support any policy contributions / costs.**

- **Over 55's living is likely to be able to viably support some level of provision, being a commuted sum of circa £3,000 to £4,000 per dwelling.**

5.22. Self-build

5.22.1. The Government has introduced a number of measures to support the self and custom build sector and remove barriers which prevent people from building or commissioning their own home. The Council is required to establish demand for serviced plots for self/custom build and ensure there is the opportunity for this demand to be met. It is statutorily required to grant sufficient planning permissions to match the level of demand for serviced plots evident from its self/custom build register, with these being capable of providing serviced plots within the lifetime of the permission.

5.22.2. At the present time the Council have sufficient planning permissions in place to more than meet demand for serviced plots evident from their Register and is therefore not including requirements relating to this in the plan. However, it is continuing to explore additional ways in which self-building and custom building can be encouraged in appropriate locations, including through encouraging the delivery of plots with services in place. Serviced plots for self build/custom build have proved popular in the best locations, like Ramside. Agents have advised they have sold quickly and for high prices of between £250,000 and £550,000, depending on size and location. Demand for more modest serviced plots in less prime locations is not yet clear as only a limited number of serviced schemes have come forward over recent years in County Durham. Front end investment and developer engagement rather than viability appears to be an issue in this sector.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1. The overwhelming majority of our hypothetical tests show that development across the region is viable and able to deliver some level of policy contribution.

6.2. The nature of viability, and in particular the relationship between sales values and build costs, means that, generally speaking, sites in lower value locations will typically have a greater pressure on viability than sites in higher value locations. This is supported through our appraisal testing, which demonstrates that not all site locations will be able to support the same level of policy contributions / costs. Adjustments should therefore be made to policy levels dependent on locational factors. Our approach suggests that 4 locational categories (low, medium, high and highest) would be appropriate for the County Durham market and enable robust policies to be reflective of value fluctuations across the region.

6.3. Having adopted a rigorous appraisal testing approach, where each policy has been tested plus sensitivity analysis, we conclude that, based on general policy contributions / costs equivalent to £5,000 to £7,000 per dwelling plus onsite 10% Older Person Housing, the following affordable housing figures provisions are appropriate:

Highest value location	**-**	**25%**
High value location	**-**	**20%**
Medium value location	**-**	**15%**
Low value location	**-**	**10%**

6.4. The above figures are also supported by our testing of 'real' sites (Appendix E and 'Exceptional Circumstances Note', being larger scale developments (providing 350 or more dwellings).

6.5. It is stressed, however, that the above is based on other policy contributions totalling in the region of £5,000 to £7,000 per dwelling. The emerging draft policies (before education contributions are factored in) equate to closer to £8,000 per dwelling. So as to avoid undermining scheme deliverability, we would recommend that there is therefore a 'trade-off' in policy requirements. This can either be in the form of reducing the affordable provisions suggested above, or by adjustments to other policies. If the Council prefers to reduce the level of affordable housing provision, we would suggest a reduction by 5% based on the figures stated above.

6.6. Please note, the testing undertaken found that market value apartment schemes were only marginally viable in high value locations, even without any policies applied. The Council should therefore consider adjusting its policy requirements for apartment schemes.

6.7. However, it was found that specialist 'over 55s' retirement living was viable and could provide some level of provision. This could be provided as a commuted sum, with a range of £3,000 to £4,000 per dwelling recommended.

Appendix A: Viability Areas

N

Stanley
Consett
Chester-le-Street
Seaham
Durham City
Peterlee
Crook
Spennymoor
Bishop Auckland
Newton Aycliffe
Barnard Castle

Legend

- Highest
- High
- Medium
- Low

Appendix B- New build residential sales values

Street	Pcode	Developer	Det Bung 60 - 70 sq m	Semi Bung 60 - 70 sq m	Detached - < 80 sq m	Detached - 80-90 sq m	Detached - 90-100 sq m	Detached - 100-110 sq m	Detached - 110-120 sq m	Detached - 120-130 sq m	Detached - 130-140 sq m	Detached - 140-150 sq m	Detached - 150-170 sq m	Detached - > 170 sq m	Semi - 60-70 sq m	Semi - 70-80 sq m	Semi - 80-90 sq m	Semi - 90-100 sq m	Semi - 100-110 sq m	Semi - 110-120 sq m	Semi - 120-130 sq m	Semi - > 130 sq m	Terrace - 50 - 60 sq m	Terrace - 60 - 70 sq m	Terrace - 70 - 80 sq m	Terrace - 80 - 90 sq m	Terrace - 90 - 100 sq m	Terrace - 100 - 110 sq m	Terrace - > 110 sq m	Flat 50 - 55 sq m	Flat 55 - 60 sq m	Flat 65 - 75 sq m	Flat > 75 sq m
Hornbeam Close	DH11	Avant Homes						£ 2,557		£ 2,444	£ 2,500			£ 2,054																			
St Lukes Mews	DH11	Local																		£ 2,262									£ 2,078				
Hill Top Farm	DH12	Dere St Homes									£ 3,615										£ 3,010												
River Court	DH13	Hedley Park																												£ 4,314			£ 4,513
Chevallier Court	DH13	Charles Church												£ 3,011																			
Coupland Way	DH13	Gentoo Homes					£ 2,351		£ 2,228	£ 2,188	£ 2,043						£ 2,309							£ 1,425									
Richardby Crescent	DH13	Barratt David Wilson											£ 3,036	£ 2,833																			
The Bowers	DH14	Gentoo Homes																				£ 2,502							£ 2,567				
Hutton Way	DH15	Miller Homes	£ 2,158							£ 2,246			£ 1,974	£ 1,892	£ 2,319				£ 2,020	£ 2,071	£ 1,879	£ 1,932			£ 2,254				£ 1,943	£ 2,437			
Aykley View	DH15	Avant Homes				£ 2,653			£ 2,834	£ 2,727			£ 2,482	£ 2,624																			
Aykley Woods	DH15	Persimmon			£ 3,243			£ 3,050	£ 3,000								£ 2,588																
Twizel Burn Walk	DH22	Bellway Homes				£ 1,777											£ 1,682								£ 1,583					£ 1,228			
Sandringham Way	DH22	Persimmon			£ 2,078	£ 2,131	£ 1,931		£ 1,807		£ 1,828				£ 1,992	£ 1,889	£ 2,349	£ 1,886		£ 1,830				£ -		£ -							
Chester Burn Close	DH22	Bellway Homes				£ 1,800				£ 1,749							£ 1,738															£ 1,722	
Greenland Mews	DH22	AA Construction															£ 1,626																
Kirkfields	DH61	Keepmoat			£ 2,253	£ 1,790	£ 1,697	£ 1,632							£ 1,726	£ 1,644		£ 1,444						£ 1,360	£ 1,474		£ 1,469						
Hallgarth Street	DH61	Local																											£ 1,354				
Buttercup Close	DH62	Persimmon			£ 1,750	£ 1,714		£ 1,714	£ 1,647						£ 1,357	£ 1,658	£ 1,452						£ 1,578	£ 1,319		£ 1,406							
Hanover Crescent	DH62	Keepmoat			£ 2,253	£ 1,541	£ 1,465	£ 1,481								£ 1,418		£ 1,173						£ 1,224	£ 1,341		£ 1,211						
Henderson Avenue	DH63	Gleeson			£ 1,370										£ 1,245	£ 1,261																	
Foundry Close	DH64	Barratt David Wilson			£ -	£ 2,035		£ 1,888								£ 1,791	£ -							£ 1,738									
Carlin Close	DH65	Durham Village Regen					£ 1,845	£ 1,667							£ 1,806	£ 1,816	£ 1,207							£ 1,774									
Bell Avenue	DH65	Persimmon						£ 1,832	£ 1,801						£ 1,449	£ 1,681							£ 1,400	£ 1,463		£ 1,477	£ 1,255						
Cranson Close	DH65	Persimmon??			£ 2,042			£ 1,903	£ 1,867								£ 1,784																
Lynwood House	DH70	Unknown																												£ 2,500			
Scholar's Court	DH77	Unknown														£ 1,338																	
Lindsay Rd	DH77	Taylor Wimpey				£ 1,903		£ 1,812		£ 1,794					£ 1,912																		
Northwood Drive	DH78	Avant Homes					£ 2,218	£ 2,253		£ 2,125	£ 2,204		£ 2,145				£ 1,875			£ 1,681													
Witton Station Court	DH79	Shepherd Homes																		£ 1,739								£ 1,924					
Mason Avenue	DH80	Story Homes					£ 2,042		£ 2,113	£ 2,198			£ 2,132					£ 1,886								£ 1,765					£ 1,306		
Elliot Way	DH85	Barratt David Wilson			£ 2,292	£ 1,898	£ 1,673	£ 1,846		£ 1,648	£ 1,613					£ 1,683		£ 1,557	£ 1,316	£ 1,435	£ 1,478			£ 1,801		£ 1,674		£ 1,505		£ 1,453			
Dewhirst Close	DH86	Gleeson			£ 1,654			£ 1,494							£ 1,540	£ 1,536																	
The Chequers	DH87	Amethyst Homes			£ 1,666		£ 1,421	£ 1,581		£ 1,518	£ 1,513					£ 1,592		£ 1,250															
Arkless Grove	DH88	Barratt David Wilson																															
Wooler Drive	DH96	Persimmon				£ 1,919		£ 1,764	£ 1,677						£ 1,449		£ 1,572						£ 1,536	£ 1,440	£ 1,502	£ 1,491	£ 1,250						
Hedley Close	DH97	Gleeson			£ 1,653		£ 1,502	£ 1,474							£ 1,594	£ 1,552																	
Bishops Close	DH97	Derwentside Home	£ 1,956	£ 1,926																													
Oaklands	DH98	Meadowcroft Homes				£ 1,669	£ 1,904													£ 1,228													
Ashtree Drive	DL12 8	Taylor Wimpey				£ 2,578		£ 2,373	£ 2,364	£ 2,371			£ 2,306				£ 2,275																
Grangefields	DL12 9	Taylor Wimpey				£ 2,179	£ 2,071								£ 2,053								£ 1,945										
Liddell Way	DL14 8	Keepmoat				£ 1,896	£ 1,806	£ 1,733								£ 1,727		£ 1,602							£ 1,817		£ 1,623						
Hutchinson Close	DL14 8	Unknown						£ 1,448	£ 1,465																£ 1,268								
Hazelbank	DL14 8	Persimmon			£ 1,962			£ 1,787	£ 1,872							£ 1,835	£ 1,529									£ 1,530							
Clement Way	DL15 0	Charles Church					£ 1,666	£ 1,656		£ 1,554	£ 1,545			£ 1,568				£ 1,583															
Woodfield Hill	DL15 9	Unknown									£ 2,139																						
Wooley Meadows	DL15 9	Persimmon			£ 1,603		£ 1,611	£ 1,497	£ 1,607						£ 1,460	£ 1,621								£ 1,323									
Abbey Green	DL16 6	Persimmon				£ 1,756		£ 1,734	£ 1,749	£ 1,722				£ 1,737		£ 1,788								£ 1,377		£ 1,236	£ 1,197	£ 1,423					
Charhill Close	DL16 7	Taylor Wimpey						£ 1,500	£ 1,538	£ 1,417	£ 1,415																						
Woodward Road	DL16 7	Barratt David Wilson			£ 1,851	£ 1,876	£ 1,985	£ 1,753	£ 1,809	£ 1,784	£ 1,646	£ 1,633	£ 1,694	£ 1,629	£ 1,773	£ 1,724	£ 2,135	£ 1,557			£ 1,425				£ 1,815	£ 1,764	£ 1,718	£ 1,569	£ 1,472	£ 1,562			£ 1,415		
St Aindan's Way	DL17 0	Gleeson			£ 1,755		£ 1,644								£ 1,644	£ 1,598									£ 1,529								
Rushyford Drive	DL17 0	Bett Homes			£ 2,310			£ 2,176	£ 1,834	£ 1,880	£ 1,908					£ 1,818				£ 1,513			£ 1,930									
Raby Chase	DL2	Unknown						£ 2,380					£ 2,388						£ 1,623		£ 2,368							£ 2,066				
Gresley Drive	DL4	Persimmon				£ 1,714	£ 1,711	£ 1,702	£ 1,617				£ 1,360			£ 1,731	£ 1,529	£ 1,432							£ 1,549	£ 1,431	£ 1,250	£ 1,286					
Wellhouse Rd	DL5 4	Keepmoat				£ 2,148	£ 1,775	£ 1,657	£ 1,609						£ 1,954	£ 1,612	£ 1,548	£ 1,547						£ 1,748	£ 1,708		£ 1,556						
Trinity Court	SR7 7	David Barlow Homes						£ 2,227							£ 2,088										£ 2,107		£ 1,765	£ 1,596					
Springbank	SR8 1	Persimmon			£ 2,088			£ 1,939	£ 1,739							£ 1,835	£ 1,411							£ 1,666		£ 1,409						
Oxford Close	SR8 2	Persimmon			£ 1,785	£ 1,734		£ 1,800								£ 1,611	£ 1,354							£ 1,519		£ 1,361						
Whitehouse Court	SR8 3	Persimmon			£ 1,954	£ 1,903		£ 1,940	£ 1,711						£ 1,606	£ 1,865	£ 1,654						£ 1,373	£ 1,642		£ 1,631							
Dormand Court	TS28 5	Unknown													£ 1,258	£ 1,228																	
																																	Average
		Highest	£ 2,158	£ 1,926	£ 3,243	£ 2,653	£ 2,351	£ 3,050	£ 3,000	£ 2,727	£ 3,615	£ 1,633	£ 3,036	£ 3,011	£ 2,319	£ 1,889	£ 2,588	£ 2,020	£ 2,071	£ 1,879	£ 2,262	£ 3,010	£ 1,945	£ 1,815	£ 2,254	£ 1,765	£ 1,765	£ 1,924	£ 2,567	£ 4,314	£ 2,500	£ 1,415	£ 4,513	£ 2,340
		Average	**£ 2,057**	**£ 1,926**	**£ 1,878**	**£ 1,934**	**£ 1,806**	**£ 1,856**	**£ 1,899**	**£ 1,960**	**£ 1,997**	**£ 1,633**	**£ 2,169**	**£ 2,169**	**£ 1,696**	**£ 1,648**	**£ 1,681**	**£ 1,578**	**£ 1,670**	**£ 1,615**	**£ 1,722**	**£ 2,453**	**£ 1,652**	**£ 1,427**	**£ 1,638**	**£ 1,388**	**£ 1,423**	**£ 1,540**	**£ 1,860**	**£ 3,376**	**£ 1,864**	**£ 1,361**	**£ 3,118**	**£ 1,871**
		Lowest	£ 1,956	£ 1,926	£ 1,370	£ 1,541	£ 1,421	£ 1,448	£ 1,465	£ 1,417	£ 1,415	£ 1,633	£ 1,360	£ 1,568	£ 1,245	£ 1,228	£ 1,207	£ 1,173	£ 1,316	£ 1,228	£ 1,425	£ 1,932	£ 1,373	£ 1,224	£ 1,268	£ 1,236	£ 1,197	£ 1,286	£ 1,354	£ 2,437	£ 1,228	£ 1,306	£ 1,722	£ 1,361

Appendix C1- RICS economies of scale October 2016

Economies of scale

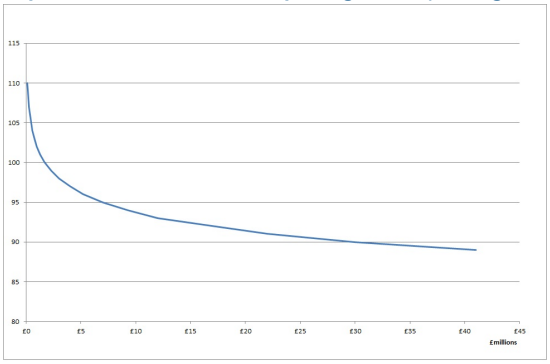
25-Oct-2016

Pricing levels on building contracts tend to fall as the size of the project increases.

The latest BCIS Tender Price Study, based on project tender price indices analysed by contract sum, shows that pricing levels fall by as much as 20% between small contracts and multi-million pound schemes.

Compared to the mean value of projects in the study of £1.7million projects, pricing on small projects is 10% higher, while pricing on projects over £40million can be 10% lower.

Impact of contract value on pricing levels (Pricing level – log of project indices, BCIS Tender Price Study, Base £1.7million = 100)



Source: BCIS

The graph shows a clear relationship, with larger contracts having a lower price level than smaller contracts - as would be expected from economies of scale. In reality the project cost varies for many reasons and the relationship is not clear until a large sample of schemes is analysed.

It is not clear that the relationship continues at either end of the scale. There is an insufficient sample of large projects to tell whether larger projects continue to gain from economies of scale with ever falling price levels; maintain similar pricing levels (prices 'level out'); or whether pricing levels rise because of additional complexity. However, the indications are that the average price level of larger projects does not fall significantly beyond about £40million while the smallest projects appear to be more variable (and therefore break the homogeneous assumption underlying the analysis).

The Contract Sum study is intended to measure the effect of contract size on price level. The contract sum was chosen rather than the floor area because it is always available from the BCIS indexing process and is a better measure of the total 'volume' of building work as it includes external works, etc.

The price level of individual building projects varies widely for all sorts of reasons. The BCIS Tender Price Studies show how, on average, price levels change relative to ten variables. There are many more variables that will affect the price level of a building project and so professional judgment should always be used when applying the study results.

1. Date – when it was built
2. Location – where it was built
3. Regional trend – interaction between where and when it was built
4. Selection of contractor competitive tender, negotiated, etc.
5. Contract sum – volume of work *
6. Building function – office, factory, hospital, etc.
7. Building height – number of storeys
8. Type of work – new build, refurbishment, etc.
9. Site working space
10. Site access

* Note: the volume of work affects the cost of a building directly but it also has an effect on the price levels of the work.

The Contract Sum study is based on a least squares linear regression with the natural logarithm of the adjusted project index as the dependant variable and the logarithm (base 10) of the contract sum (adjusted to 1985 prices) as the independent variable.

Appendix C2- EC Harris Housing Standards Review

Department for Communities and Local Government

Housing Standards Review

Cost Impacts

September 2014

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Version control

Issue	Revision No.	Date Issued	Description of Revision: Page No.	Description of Revision: Comment	Reviewed by:
1 – DRAFT	-	-	-	-	BS
2 - DRAFT	-	4th July 2014	-	-	RW
3 – DRAFT	-	25th July 2014	-	-	RW
4 – DRAFT	-	6th August 2014	-	-	RW
5 – FINAL	-	9th September 2014	-	-	RW

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Appendix A2 – Counterfactual, Energy

Appendix A3 – Counterfactual, Space

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Appendix B1 – Proposed, Security

Appendix B2 – Proposed, Energy

Appendix B3 – Proposed, Space

Appendix B4 – Proposed, Access

Appendix B5 – Proposed, Water

Appendix C1 – Process and Transition

1 Executive Summary

1.1.1 In June 2013 EC Harris prepared a report on the costs of a number of current and proposed housing standards. The Department for Communities and Local Government (DCLG) issued a consultation document in August 2013 and received feedback responses, including points relating to the cost work.

1.1.2 Revised costs for the current and proposed housing standards have been prepared incorporating input from the consultation responses and adding more detail in various areas. The costs for the proposed standards also incorporate revisions to the standards, which have now been worked up into draft approved documents, or in the case of space standards a nationally described standard.

1.1.3 Table 1 below summarises the revised costs for the current and proposed standards along with the process costs (for example design time or commissioning of specialist reports) associated with the standards. The figures are for a medium size scheme of 50 dwellings. Other scheme sizes are included within Sections 3 and 4 of this report.

Table 1 – Summary Costs

	Current Standards		Proposed Standards	
	Standard	**Range of cost / dwelling**	**Standard**	**Range of cost / dwelling**
Security	Secured by Design	£299 to £352	Security	£40 to £107
Energy	Code for sustainable homes	£0 to £31,435	Building regulations	£0
	Renewable energy	£1,027 to £4,726		
Access	Lifetime homes*	£1,082 to £1,100*	Category 2 access*	£520 to £940*
	Wheelchair housing standards*	£10,552 to £25,282	Category 3 access	£7,764 to £23,052
Water	Water efficiency	£0 - £2,697	Single standard (110 ltrs / day)	£0 - £9
Process costs**	£16 - £159		£0.4 - £57	

* *figures exclude costs of additional space associated with requirements of the access standards – see later sections of this report for costs in this respect.*

** *process costs relate to general needs dwellings, additional costs are incurred for homes for wheelchair users*

1.1.4 In addition to the above standards a new space standard was considered which local authorities could choose to implement dependent on suitability for their local housing market. This standard would replace a range of different current standards and as such would reduce process costs. The standard would also permit “type approval” allowing house builders to gain approval of standard house types, avoiding scheme by scheme assessment.

1.1.5 For the space standard to be adopted within an area an assessment of viability impacts would need to be made in line with national planning policy, so avoiding implementation where this would impact on housing delivery. Given this point, any negative impacts of the new standard would be limited – the calculations undertaken in relation to this point are further explained within this report and the separate DCLG Housing Standards Review Evidence Report by Adroit Economics.

1.1.6 The following sections of this report explain the basis of the above costs, movements since the last cost report, and append full details of the calculations.

2 Approach

2.1 Purpose of Report

2.1.1 In June 2013 EC Harris prepared a report on the costs of a number of current and considered housing standards. The Department for Communities and Local Government (DCLG) issued a consultation document in August 2013 and received feedback responses, including points relating to the cost work. This report seeks to:

- Increase the level of detail of the cost work, reflecting that required for a final stage Impact Assessment.
- Consider feedback received in relation to the earlier work and amend costs as necessary.

2.2 Relation to Other Work

2.2.1 In addition to this cost report, two further elements of work have been undertaken:

- Local Authority Policy Survey – A survey by EC Harris to establish the current extent of application of the various housing standards.
- DCLG Housing Standards Review, Evidence Report – A report and model by Adroit Economics to identify the impact of the change from current to proposed standards.

2.2.2 This report does not therefore include issues relating to the extent of application of standards or scale up (i.e. the objective is to establish the cost data per dwelling type which will form an input to the scale up / impact assessment model).

2.3 Basis of Report

2.3.1 All costs within this report are identified at:

- Quarter 2 2014 prices.
- UK mean location.

2.3.2 The impact assessment model makes adjustments to the costs to reflect the timing and location of estimated housing delivery.

2.3.3 This report should be read in conjunction with the earlier June 2013 EC Harris report. The report can be found on the following link: https://www.gov.uk/government/consultations/housing-standards-review-consultation

2.4 Structure of Report

2.4.1 The main bulk of the report has been spilt into two sections:

- Counterfactual – Section 3 of the report details all of the costs associated with the 'current' housing standards. The section is separated out into the five housing standards under review and details the current policies and costs that fall within those standards.
  - Security – Secured by Design
  - Energy – Code for Sustainable Homes
  - Space – HCA, London Housing SPG and English Housing Survey
  - Access – Lifetime Homes, Wheelchair Design Guide, Bespoke Higher Wheelchair Housing Standards
  - Water – Code related and Greywater / Rainwater Harvesting
- Proposed – Details all of the costs associated with the 'proposed' housing standards review policies. The section follows the same order as the counterfactual section i.e. Section 3.1 Counterfactual Security - Section 4.1 Proposed Security.
  - Security – Single proposed level
  - Energy – No proposed standard
  - Space – Single proposed level

- Access – Category 1, Category 2 and Category 3
- Water – Single proposed level

2.5 Key Changes

2.5.1 The key general areas in which this report amends / develops costs from the June 2013 work are:

- Dwelling types – A further typology has been added for a 1 bed apartment. The dwelling typologies considered are therefore now 1 bed apartment, 2 bed apartment, 2 bed terraced house, 3 bed semi-detached house and 4 bed detached house.
- Methods of compliance – A number of areas include alternative methods of compliance with a standard, for example differing approaches to achieving code credits.

2.5.2 Further points specific to each housing standard are identified within the relevant sections of this report.

2.6 Proposed Standards

2.6.1 For the avoidance of doubt, the versions / references for the proposed standards are listed below.

- Security – Approved Document Q May 2014 DRAFT
- Water – Approved Document G2 Regulation 36
- Energy – No Approved Document
- Space – Space Standard C4
- Access – Approved Document M June 2014 DRAFT

2.7 Quality Assurance

2.7.1 EC Harris is a leading international built asset consultancy with over 100 years of experience across all sectors of the construction and property industry. EC Harris is seen as a leading cost consultant within the UK, working on circa £750m of recently tendered schemes and over half of all residential projects within London.

2.7.2 Internal peer reviews and quality checks were carried out throughout the costing and report writing process. Reviews were carried out at each key stage of the project and upon the receipt of updated information.

2.7.3 All costing work was carried out and reviewed by a team of chartered surveyors and other accredited professionals working within the industry. Internal and external sources of data, (examples listed below), were used to acquire accurate and up to date costs.

- Recent tenders which reflects tendered prices across circa £750m of recent residential projects.
- Consultation of industry professionals e.g. house builders, consultants and suppliers.
- Internal EC Harris cost databases
- Current industry practice based on experience of relevant schemes

2.7.4 Full detailed workings and assumptions of all costing's can be found within the appendices.

2.8 Time costs

2.8.1 Most of the standards considered within this report incur a "process" cost related to professionals' time spent dealing with the standard, for example architects time working on designs to comply with Lifetime Homes. The DCLG Housing Standards Review Evidence Report by Adroit, further explains the basis of the cost applied to such professionals' time. Briefly the approach has been to use a blended average between market rates (i.e. what a client could expect to pay for a professional's time) and the Annual Survey of Hours and Earnings (ASHE) reflecting wages with 30% added for overheads. The two sets of rates and resultant average adopted are indicated below. Market rates are derived from EC Harris' cost database.

Table 2 – Process Costs Rates

Profession	Market Hourly Rate	ASHE + 30% (2014)	Blended Hourly Rate Adopted
Architect	£80	£24	£52
Building Control Surveyor	£70	£23	£46
Building Surveyor	£70	£23	£46
Quantity Surveyor	£90	£25	£57
Construction Energy Assessors	£70	£26	£48
Building Service Engineer	£70	£23	£46
Civil Engineer	£70	£24	£47
Mechanical Engineer	£70	£28	£49
Construction Manager	£90	£25	£57
Project Manager	£90	£23	£57
Town Country Planner	£100	£23	£61
Skilled Trades	£20	£15	£18

2.9 Scheme Typologies

2.9.1 It is recognised that costs, and in particular process costs, differ dependent on the scale of development. This is particularly true where largely fixed cost items exist such as a report required under Code for Sustainable Homes which may cost the same for a 5 dwelling scheme as a 50 dwelling scheme and as such is a much greater cost per dwelling for the smaller scheme. For this reason all process costs are indicated for a 5, 50 and 100 dwelling scheme.

2.10 Process costs

2.10.1 Process costs are costs not directly associated with the building works to comply with a standard but arising from the process of compliance. These include additional design time incorporating requirements and commissioning of specialist reports. Process costs have been split into three key categories:

- Direct project costs to house builders – These are costs which the house builder would incur in complying with the standard, for example paying for additional design work to incorporate requirements of Lifetime Homes or spending time sourcing components to comply with Secured by Design. These costs are indicated for each current and proposed standard under sections 3 and 4 of this report.
- Recipient costs - In addition to the above there is a further current process cost, typically to planning authorities, in receiving and reviewing evidence of compliance. These costs are indicated for each current and proposed standard under sections 3 and 4 of this report.
- Overhead costs - Following consultation it has been identified that for many firms, there is a further process cost where in-house experts or consultants are retained on a more general basis. An example is a developer employing a “compliance” expert with a remit to ensure each site team comply with the various code for sustainable homes obligations to ensure there are no costly problems at completion. These costs are indicated under section 5 of this report.

3 Counterfactual

3.1 Security

Introduction

3.1.1 By far the most common current security standard is Secured by Design (SBD). This standard can be required under planning consents or adopted to achieve credits under the Code for Sustainable Homes. Section 2 of the SBD standard relates to physical security and is more commonly specified as well as being required via Code for Sustainable Homes and Homes & Communities Agency standards. Section 1 of the SBD standard relates to site layout and design and has been confirmed as being outside the scope of the Housing Standards Review.

Key Changes

3.1.2 Aside from general updates and the additional dwelling typology, the following key changes have been made since the June 2013 EC Harris report:

- Upper floor apartments – costs have been differentiated for ground and upper floor apartments reflecting the difference in requirements where windows are not accessible. The typical costs below relate to an apartment block of 12 dwellings over 3 floors with only ground floor apartments including the enhanced window specification.
- Garages – a separate cost has been identified for security arrangements in relation to garages where these are present.
- PAS 23/24 costs – further market testing and cost data analysis has been undertaken in relation to the cost of PAS23/24 doors and windows in comparison to those specified in usual industry practice.
- Updated figures – since consultation the requirements of Building Regulations Part L were updated, therefore our base case cost has been updated to reflect this. There has also been a reduction in the cost of renewable technology and Secured by Design following market testing and industry data received.

Updated Costs

3.1.3 The following tables indicate the cost of complying with SBD as an extra over usual industry practice.

Table 3 – Secured by Design flat cost summary

	Typical (3 story block)	Ground Floor Flats	Upper Floor Flats
1B Flat	£336	£410	£299
2B Flat	£342	£416	£305

Table 4 – Secured by Design house cost summary

	Small Developer	Large Developer
2B Terrace	£315	£299
3B Semi Detached	£315	£299
4B Detached	£352	£337
Additional Garage Cost		
All Typologies	£203	£203

3.1.4 The following points are noted in relation to the above costs. A full breakdown of the costs and supporting notes is included at appendix A1.

- Costs for apartments include an apportionment of communal door costs
- EC Harris have obtained market quotations for the door and window assumptions included within the schedule for both the Base Case and PAS 24 compliant doors/windows based on a recent specification.
- The range of costs received indicated the variety of products on the market. Following discussion with various stakeholders it was agreed that the lowest cost scenario for the 'small developer' option was agreed as the most competitive quotation received. The 'large developer' option cost is based on aggregated figures supplied by leaders in the market, and represents a discounted rate though bulk buying scenarios.
- Window costs are based on basic UPVC double glazed units, excluding any additional specification options i.e acoustic requirements etc.
- Cost included with the EO figures are based on additional security requirements for ground floor windows only. No allowance has been made for windows at first floor level which may be required to have additional security i.e where accessible from a flat roof.

Process Costs

3.1.5 As noted within the previous report, SBD Section 2 was generally agreed to be one of the more straightforward standards. Common issues contributing to process costs were identified as:

- Sourcing appropriate components and managing certification / evidence of compliance.
- An element of non-linear process due to some subjectivity in judging compliance (i.e. the design team would make a proposal, receive comment, make a revised proposal and possibly repeat these steps).
- Some checks / calculations / measurements which would not be required within the normal design process.
- Typically several written / telephone exchanges plus one meeting.

3.1.6 The process costs per dwelling for security standards are summarised below in tables 5-7 for each scheme size typology. Table 8 indicates the process cost for the recipient.

Table 5 – Secured by Design process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Design Team	12.5	£52	£650
Total	12.5		**£650**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£325
		£/dwelling	£130

Table 6 – Secured by Design process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Design Team	15	£52	£780
Total	15		**£780**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£156
		£/dwelling	£16

Table 7 – Secured by Design process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Design Team	20	£52	£1,040
Total	20		**£1,040**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£104
		£/dwelling	£10

Table 8 – Secured by Design recipient process costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	4	£184	£37
Medium	50	£46	6	£276	£6
Large	100	£46	12	£552	£6

3.2 Energy

Introduction

3.2.1 Under the Energy work stream the Code for Sustainable Homes was considered. Requirements associated with the Planning and Energy Act (2008) were not part of the scope of the report.

3.2.2 The Code for Sustainable Homes is commonly required via planning consents at varying levels, most typically level 3 or 4. Level 4 must be achieved for all schemes in London under the Housing SPG.

Key Changes

3.2.3 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Photovoltaic (PV) panel costs – Further market testing and cost data analysis has been undertaken in relation to the cost of PV panel installations. In particular the fixed and variable costs of the installation have been considered (i.e. those which are diluted, driving down the cost for larger schemes). Costs have reduced reflecting an ongoing trend of falling prices for PV panels.
- Photovoltaic (PV) panel costs – The costs for PV panels compare with the work carried out by Parsons Brinkerhoff. The figures shown in the tables below are within the range of costs produced by the Parsons Brinkerhoff report, however are below the central estimate figure.
- Code for Sustainable Homes – Two methods of achieving code levels have been included. This reflects the fact that, whilst the central assumption will still be most commonly encountered, certain schemes will have characteristics which drive a lower or higher cost.
- Building Regulations – The June 2013 work adopted the then current Part L as the base case for calculating extra over costs. The base case has now been revised to the new Part L which came into effect from 6th April 2014.
- Greywater and rainwater harvesting – Further market testing and cost data analysis has been undertaken in relation to the costs of greywater and rainwater harvesting systems and the need to include these systems at Code for Sustainable Homes levels 5 and 6. This has resulted in a reduction to the earlier costs. Section 3.5.2 of this report states how potential double counting has been considered.

Updated Costs

3.2.4 The following tables indicate the costs of compliance with the standards in excess of the Building Regulations. For the avoidance of doubt the base position in respect of Part L is 2013 (i.e. the new Part L which came into effect from 6th April 2014).

3.2.5 Table 9 indicates the total costs to comply with the Code for Sustainable Homes. Tables 10 and 10a apportion this total cost between the energy part of the code and other areas.

3.2.6 The costs for Lifetime Homes, Secured by Design and Water have been included within the tables below. These figures however have not been double counted within the Impact Assessment Model.

Table 9 – Total Code for Sustainable Homes costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Cost central compliance method (extra over usual industry practice, medium scheme size)					
Code for Sustainable Homes Level 1	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 2	£40	£40	£40	£40	£40
Code for Sustainable Homes Level 3	£46	£46	£46	£49	£49
Code for Sustainable Homes Level 4 (renewable primary heating source)	£287	£662	£631	£790	£1,103
Code for Sustainable Homes Level 5 (renewable primary heating source)	£5,303	£6,297	£15,025	£17,688	£22,713
Code for Sustainable Homes Level 6 (renewable primary heating source)	£10,103	£15,247	£21,566	£25,939	£31,435
Alternative method of compliance					
Code for Sustainable Homes Level 4 (fabric first + PVs)	£441	£574	£865	£978	£1,315
Code for Sustainable Homes Level 5 (fabric first + PVs)	£6,103	£9,247	£15,566	£19,939	£25,435
Code for Sustainable Homes Level 6 (fabric first + PVs)	£10,103	£15,247	£21,566	£25,939	£31,435

Table 10 – Code for Sustainable Homes costs summary (Energy credits only)

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Cost central compliance method (extra over usual industry practice, medium scheme size)					
Code for Sustainable Homes Level 1	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 2	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 3	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 4 (renewable primary heating source)	£241	£616	£585	£741	£10,054
Code for Sustainable Homes Level 5 (renewable primary heating source)	£2,495	£3,441	£10,760	£12,855	£17,764
Code for Sustainable Homes Level 6 (renewable primary heating source)	£2,495	£12,391	£17,301	£21,106	£26,486
Renewable energy, 10% (via PVs)	£1,027	£1,253	£1,499	£1,950	£2,523
Renewable energy, 20% (via PVs)	£1,643	£2,005	£2,399	£3,120	£4,037
Alternative method of compliance					
Code for Sustainable Homes Level 4 (fabric first + PVs)	£395	£528	£819	£929	£1,266
Code for Sustainable Homes Level 5 (fabric first + PVs)	£3,295	£6,391	£11,301	£15,106	£20,486
Code for Sustainable Homes Level 6 (fabric first + PVs)	£7,295	£12,391	£17,301	£21,106	£26,486

Table 10a - Code for Sustainable Homes costs summary (Non Energy credits)

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Cost central compliance method (extra over usual industry practice, medium scheme size)					
Code for Sustainable Homes Level 1	£0	£0	£0	£0	£0
Code for Sustainable Homes Level 2	£40	£40	£40	£40	£40
Code for Sustainable Homes Level 3	£46	£46	£46	£49	£49
Code for Sustainable Homes Level 4	£46	£46	£46	£49	£46
Code for Sustainable Homes Level 5	£2,809	£2,857	£4,265	£4,833	£4,949
Code for Sustainable Homes Level 6	£2,809	£2,857	£4,265	£4,833	£4,949

3.2.7 The following points are noted in relation to the Code for Sustainable Homes costs:

- In line with feedback received 2 alternative methods of achieving the standards for ENE1 and ENE2 have been assessed. Alternative 1 is a renewables approach, using a combination of fabric enhancement and PV panels to achieve the Dwelling Emission Rate and Dwelling Fabric rate required under the standard. Alternative 2 looks to use the Dwelling fabric to achieve the DER/TER improvement required under ENE1, and equally to meet the fabric efficiency targets under ENE2.
- Additional work was carried out to ascertain whether code 5 was achievable through a renewable first approach. It was concluded that circa 50m2 of roof space would be required for a 4 bed dwelling, over 80% of the total roof space, which although technically possible would not be a realistic approach across an entire scheme as other factors such as orientation and location would come into play. This aligns with the work carried out by the Zero Carbon Hub report which concluded a maximum installed panel area is 40% of the roof area.
- As part of the exercise EC Harris has reviewed alternative wall, floor and roof construction methodologies and materials to achieve the fabric efficiencies required, and from this exercise taken the most cost effective solution to achieve the required U Values.
- Code 5/6 costs assume the incorporation of additional costs associated with the inclusion of renewable technologies. For the purpose of the costing exercise an air source heat pump has been assumed to all houses.
- Where fabric enhancements are included to achieve both ENE1 and ENE2 all costs are included within ENE1.
- Costs are based on achieving the points detailed within the 'Point Allocation' table included within the appendix, which assumes (with the exception of mandatory elements) the lowest cost solution to achieve the points required will be incorporated.
- Fixed and variable costs have been taken into account with regards to renewable costs. Parsons Brinkerhoff report concluded 20% of costs were fixed which aligned with industry data received.

3.2.8 A full breakdown of the costs and supporting notes is included at appendix A2.

3.2.9 The saving in energy arising from enhanced fabric performance and / or renewable energy technologies is included within the Impact Assessment Model

Process Costs

3.2.10 As previously identified process costs associated with Code for Sustainable Homes can be extensive and can include:

- Undertaking technical calculations, for example related to energy or water use.
- Collating and reviewing compliance evidence, for example light fitting specifications, materials traceability.
- Specialist consultant reports, for example relating to daylighting and ecology.
- The cost to achieve certification for each dwelling charged by the Building Research Establishment.

3.2.11 The process costs per dwelling for energy standards are summarised in table 11 for each scheme size. The table below indicates the costs for the 3 bed house typology, other types are included within Appendix A2.

3.2.12 It is noted that, in addition to the general costs incurred by the house builder, a fee of £37 per dwelling (minimum charge £370), needs to be paid to the Building Research Establishment for Code for Sustainable Homes certification. This fee is indicated within table 11.

Table 11 – Code for Sustainable Homes and planning and energy act process costs summary

	Small scheme	Medium Scheme	Large Scheme
Code for Sustainable Homes Level 1	£593	£117	£92
Code for Sustainable Homes Level 2	£593	£117	£92
Code for Sustainable Homes Level 3	£645	£125	£96
Code for Sustainable Homes Level 4	£686	£136	£107
Code for Sustainable Homes Level 5	£1,118	£228	£193
Code for Sustainable Homes Level 6	£1,118	£228	£193
Code BRE Fees	£74	£37	£37

3.3 Space

Introduction

3.3.1 A single, cross-tenure, nationally applied space standard does not currently exist. The counterfactual position in respect of space is therefore as follows:

- Affordable housing – The Homes & Communities Agency Housing Quality Indicators (HQI) minimum space standards. It is noted that historically many Registered Providers adopt the middle of the range set within the HQI system (rather than the minimum) and the impact assessment allows for this variation. The counterfactual represents the position prior to commencement of the Housing Standards Review – HCA policy for the 2015-18 Affordable housing Programme has already been aligned with the proposed review outcomes.
- Private housing outside of London – Dwellings sizes remain primarily market driven. However the survey evidence indicates an increasing number of local authorities adopting space standards, including cross tenure standards, which typically have similar requirements to the London plan.
- Data from the English Housing Survey has been used to estimate the distribution of current space standards. The data from the EHS was cross referenced against the EC Harris in-house database used at consultation to ensure consistency within the analysis. Further details on the process for analysing the English Housing Survey data are included within the DCLG Housing Standards Review Evidence Report by Adroit Economics.
- Housing within London – The Housing SPG states minimum space standards for dwellings of all tenures.
- Accessible Housing – An estimate has been made of the typical minimum space required to comply with Lifetime Homes, the Wheelchair Housing Design Guide and Wheelchair Housing Design Guides used in London.

Key Changes

3.3.2 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Private housing outside of London – Within the previous report the average areas for this type of housing were estimated based on a survey by EC Harris. This data has now been supplemented by the larger sample offered by analysis of the English Housing Survey. This approach also offers a greater level of granularity as rather than average sizes a distribution of delivery across a range of size bands is identified. Further detail on this point is included in the DCLG Housing Standards Review Evidence Report by Adroit Economics.

Updated Costs

3.3.3 Table 12 indicates the base costs for dwellings constructed to the various current standards. It is noted that costs for Lifetime Homes and WHDG exclude the additional fittings / works for which costs are indicated in section 3.4 of this report. Further details including a selection of the cost models are included at Appendix A3.

Table 12 – Space area comparison

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Typical Private Sale	50m2	67m2	72m2	96m2	117m2
English Housing Survey	46m2	65m2	74m2	94m2	-
London Housing SPG	50m2	61m2	83m2	96m2	107m2

Table 12a – Space cost comparison

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Typical Space Standard (Basecase)	£81,966	£94,520	£78,044	£95,741	£121,045
English Housing Survey	£2,888	-£2,888	£1,264	-£1,264	-
London Housing SPG	-	-£4,332	£6,952	-	-£5,400

Process Costs

3.3.4 Process costs for compliance with the Wheelchair Housing standards and Lifetime Homes are included within the Access part of this report. The English Housing Survey areas do not incur an additional process cost as they are market led (i.e. voluntarily adopted). Process costs associated with the London Housing SPG are indicated in tables 13-16

Table 13 – Space process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect	15	£52.00	£780
Total	**15**		**£780**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£390
		£/dwelling	£156

Table 14 – Space process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect	30	£52.00	£1,560
Total	**30**		**£1,560**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£312
		£/dwelling	£31

Table 15 – Space process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect	50	£52.00	£2,600
Total	**50**		**£2,600**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£260
		£/dwelling	£26

Table 16 – Space recipient process costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	5	£230	£46
Medium	50	£46	7.5	£345	£7
Large	100	£46	14	£644	£6

3.4 Access

Introduction

3.4.1 Access standards include Lifetime Homes and wheelchair housing standards. Lifetime Homes is an accessible housing standard incorporating features to enable adaptability of homes to meet users' changing needs. It can be required under a planning condition or adopted to secure credits under the Code for Sustainable Homes. Compliance is required for all dwellings within London under the Housing SPG.

3.4.2 Wheelchair housing standards allow full accessibility and use by wheelchair users and are commonly required under planning consents. The most common standard is the Wheelchair Housing Design Guide, however other bespoke standards have been developed and adopted by local authorities with different and often more demanding requirements than the original Wheelchair Housing Design Guide.

3.4.3 In certain cases the full wheelchair standard is not applied and instead a "future adaptability" approach is taken where key structural / mechanical & electrical elements are installed but features such as fully accessible kitchens are not. The dwelling can then be relatively easily converted to full accessibility and use at a later date if required.

Key Changes

3.4.4 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Additional wheelchair housing standard – The earlier work considered only the Wheelchair Housing Design Guide. Costs for the bespoke Wheelchair Housing standards which have been adopted by a number of Councils, have now been included.
- "Future adaptability" – Recognising that a proportion of dwellings are often permitted to be adaptable rather than fully fitted out, a differential cost for this element of the full works has been identified.
- Car ports – The cost for car port / covered parking has been identified separately to allow application to a proportion of schemes as this will not necessarily be required for every development.

Updated Costs

3.4.5 Table 17 indicates the construction related cost of complying with each standard as an extra over usual industry practice.

Table 17 – Access standards costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Cost all dwellings (extra over usual industry practice)					
Lifetime Homes	£1,082	£1,083	£1,092	£1,097	£1,100
BS9266	£4,024	£4,312	£3,873	£3,148	£2,458
Wheelchair Housing Design Guide	£10,553	£10,788	£24,568	£25,136	£25,282
Bespoke Higher Wheelchair Housing standards	£15,853	£15,992	£29,599	£30,428	£30,731
Wheelchair Housing Design Guide - Future Adaptable Dwelling	£8,095	£8,278	£9,594	£10,111	£10,204
Additional costs applied to a proportion of dwellings					
Carport (applied to a proportion of houses)	£2,500 per unit applied to BHWHDG	£2,500 per unit applied to BHWHDG	£2,500 per unit applied to BHWHDG	£2,500 per unit applied to BHWHDG	£2,500 per unit applied to BHWHDG

3.4.6 The following points are noted in relation to the above costs. A full breakdown of the costs and supporting notes is included at appendix A4.

- Aside from enlarged stairs, all costs exclude any additional space required to achieve the standard. This is included elsewhere within this report – table 17a summarises the additional cost arising from additional space needed to meet the most common access standards (also see section on cost recovery which has not been applied to these figures)

Table 17a – Access related space cost summary

	1B Apartment		2B Apartment		2B Terrace		3B Semi-detached		4B Detached	
Cost increase for additional m2										
Lifetime Homes	+ 1 sq.m	£722	+ 1 sq.m	£722	+ 2 sq.m	£1,444	+ 3 sq.m	£2,166	+ 3 sq.m	£2,166
WHDG	+ 6 sq.m	£4,332	+ 12 sq.m	£8,664	+ 20 sq.m	£14,440	+ 22 sq.m	£15,884	+ 22 sq.m	£15,884

Process Costs

3.4.7 As previously identified Lifetime Homes is considered to be a complex issue with process costs throughout the design and delivery phases. Issues driving the process cost included:

- Challenging to get a compliant design right first time, even for experienced architects within large practices. Often therefore a level of re-design required.
- Many aspects of the standard are outside of usual industry practice, therefore all “extra over” time.
- The same amount of time required for each house type (rather than scheme) which adds up to a significant cost where there are many house types.
- Requirement for careful management during the delivery phase ensuring attention paid to details which would not otherwise be material.
- Differing local authority requirements for evidencing of compliance and differing views on what is compliant.

- Time consuming to deal with external elements, particularly for sloping sites (note – costs below assume relatively level site).

3.4.8 Similarly the Wheelchair Housing Design Guide is considered to incur a high process cost, largely due to the complexity of the document. Key issues raised as causing the cost included:

- Extensive time to navigate, review and interpret the document.
- Generally a bespoke review needed for each dwelling typology – little opportunity for learning / scale benefits.
- Often a negotiation / review process with external stakeholders causing re-design as differing views incorporated.

3.4.9 The process costs per dwelling for access standards are summarised in tables 18 – 25 below.

Lifetime Homes

Table 18 – Lifetime Homes process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	15	£52.00	£780
Architect (external items)	12	£52.00	£624
Buyer	4	£57.00	£228
Construction Manager	4	£57.00	£228
Total	**35**		**£1,860**

Nr dwelling types	2
Nr dwellings	5
£/type	£930
£/dwelling	£372

Table 19 – Lifetime Homes process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	37.5	£52.00	£1,950
Architect (external items)	15	£52.00	£780
Buyer	10	£57.00	£570
Construction Manager	10	£57.00	£570
Total	**72.5**		**£3,870**

Nr dwelling types	5
Nr dwellings	50
£/type	£774
£/dwelling	£77

Table 20 – Lifetime Homes process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	75	£52.00	£3,900
Architect (external items)	20	£52.00	£1,040
Buyer	20	£57.00	£1,140
Construction Manager	20	£57.00	£1,140
Total	**135**		**£7,220**

Nr dwelling types	10
Nr dwellings	100
£/type	£722
£/dwelling	£72

Table 21 – Lifetime Homes Recipient process costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	5	£230	£46
Medium	50	£46	7.5	£345	£7
Large	100	£46	14	£644	£6

Wheelchair Housing Design Guide

Table 22 – Wheelchair Housing Design Guide process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	7.5	£57.00	£428
Construction Manager	15	£57.00	£855
Total	67.5		**£3,623**

Nr dwelling types	1
Nr of wheelchair dwellings	1
£/type	£3,623
£/dwelling	£3,623

Table 23 – Wheelchair Housing Design Guide process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	11.5	£57.00	£656
Construction Manager	11	£57.00	£627
Total	67.5		**£3,623**

Nr dwelling types	3
Nr of wheelchair dwellings	5
£/type	£1,208
£/dwelling	£725

Table 24 – Wheelchair Housing Design Guide process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	7.5	£57.00	£428
Construction Manager	15	£57.00	£855
Total	67.5		**£3,623**

Nr dwelling types	6
Nr of wheelchair dwellings	10
£/type	£604
£/dwelling	£362

Table 25 – Wheelchair Housing Design Guide recipient process costs

	Wheelchair Dwellings	Rate	Hrs	Total	£/dwelling
Small	1	£46	2	£92	£92
Medium	5	£46	4	£184	£37
Large	10	£46	8	£368	£37

3.5 Water

Introduction

3.5.1 Specific water standards outside of those driven by Code for Sustainable Homes requirements are relatively uncommon. Policies encountered largely fall into the categories of:

- Requirements to achieve a certain level of Code credits within the water element.
- Requirements for greywater or rainwater harvesting systems.

3.5.2 This section of the report highlights costs of the above separately. The Impact Assessment Model avoids any double counting of costs where, for example, a scenario has a requirement for rainwater harvesting but also a high Code level which may also include this.

Key Changes

3.5.3 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Methods of compliance – Further analysis has been undertaken on alternative methods of achieving compliance with water requirements at Code for Sustainable Homes levels 5 and 6.
- Rainwater and greywater harvesting – Further market testing and cost data analysis has been undertaken to refine the costs of these systems.
- Part G – Costs have been updated to reflect the extra over the latest requirements of Part G of the Building Regulations.

Updated Costs

3.5.4 The following table indicates the cost of complying with each standard as an extra over usual industry practice.

Table 26 – Water standards costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Cost all dwellings (extra over usual industry practice)					
Water, Code Level 1	-	-	-	-	-
Water, Code Level 2	-	-	-	-	-
Water, Code Level 3	£6	£6	£6	£9	£9
Water, Code Level 4	£6	£6	£6	£9	£9
Water, Code Level 5	£900	£900	£2,201	£2,697	£2,697
Water, Code Level 6	£900	£900	£2,201	£2,697	£2,697
Alternative standards					
Rainwater only	£887	£887	£2,181	£2,674	£2,674

3.5.5 The following points are noted in relation to the above costs:

- The Water Calculator for new dwellings has been used to ascertain the required additional measures to achieve the 'Proposed Standard' and Code 5/6 Costs.
- Following research and liaison with industry experts, it is clear that typically rainwater harvesting has been incorporated as the means to achieve the 80l/p/d required under CfSH 5 and 6. An alternative solution would be to have 'shower only' dwellings. However, experience is that dwellings without a bath are not preferred by house builders or registered providers.

- The extra over cost associated with the incorporation of a 4/2.4l toilet is based on quotations received. Costs are based on base range pan/cistern. Plumbing for both scenarios has been assumed to be unchanged between the two options.
- Costs for rainwater harvesting have been obtained. Rates include for all necessary installation costs. For the purposes of comparison craneage has been assumed as being available on site.

3.5.6 A full breakdown of the costs and supporting notes is included at appendix A5.

Process Costs

3.5.7 The process costs per dwelling for water standards are summarised in tables 27 - 30 below.

Table 27 – Water standards process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	3	£49.00	£147
Total	3		**£147**

Nr dwelling types	2
Nr dwellings	5
£/type	£74
£/dwelling	£29

Table 28 – Water standards process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	3	£49.00	£147
Total	3		**£147**

Nr dwelling types	5
Nr dwellings	50
£/type	£29
£/dwelling	£3

Table 29 – Water standards process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	7.5	£49.00	£368
Total	7.5		**£368**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£37
		£/dwelling	£4

Table 30 – Water standards recipient process costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	4	£184	£37
Medium	50	£46	6	£276	£6
Large	100	£46	12	£552	£6

4 Proposed Standards

4.1 Security

Introduction

4.1.1 The proposed security standard is indicated within the draft Approved Document Q included at Appendix B1. The key features of the proposed standard are:

- All external doors to houses, common entrance doors to apartments and apartment entrance doors to meet PAS 24:2012 or the alternative requirements set out within the Approved Document and be fixed appropriately.
- Garage doors are not required to comply if access to the dwelling is not possible.
- All basement, ground floor and easily accessible windows to meet PAS 24:2012 and be fixed appropriately.
- Laminated glazing has been excluded to all windows under the proposed standard

Key Changes

4.1.2 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Definition of the standard – This has now been refined, costs have therefore been amended accordingly.
- Further engagements with Industry and testing of market prices to improve evidence, providing a more detailed and accurate build-up of industry costs.

Updated Costs

4.1.3 Tables 31 and 32 indicate the cost of complying with each standard as an extra over usual industry practice. As for the Secured by Design standard in the counterfactual section of this report a separate cost is included for smaller and larger developers reflecting achievable external door costs given their respective purchasing power.

Table 31 – Proposed security standard costs summary flats

	Ground Floor Flats	Upper Floor Flats
1B Flat	£58	£40
2B Flat	£64	£46

Table 32 – Proposed security standard costs summary houses

	Small Developer	Large Developer
2B Terrace	£95	£79
3B Semi Detached	£95	£79
4B Detached	£107	£91

4.1.4 A full breakdown of the costs and supporting notes is included at appendix B1.

Process Costs

4.1.5 The proposed security standard covers relatively few building elements (doors and windows) and would be applied to all dwellings. It is therefore anticipated that the process associated with the standard would be limited and it is estimated that 5 minutes would be spent for each dwelling checking compliance of components. The tables below indicate the anticipated cost for small, medium and large schemes:

Table 33 - Security process cost (Small Development)

Professional	Total hours	Hourly Rate	Total
Design Team	0.2	£52	£10
Total	0.2		**£10**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£5
		£/dwelling	£2

Table 34 - Security process cost – (Medium Development)

Professional	Total hours	Hourly Rate	Total
Design Team	0.4	£52	£21
Total	0.4		**£21**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£4
		£/dwelling	£0.4

Table 35 - Security process cost – (Large Development)

Professional	Total hours	Hourly Rate	Total
Design Team	0.8	£52	£42
Total	0.8		**£42**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£4
		£/dwelling	£0.4

Table 36 – Security recipient costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.1	£5	£0.9
Medium	50	£46	0.2	£9	£0.2
Large	100	£46	0.4	£18	£0.2

4.2 Energy

Introduction

4.2.1 It is not proposed that a new energy standard be introduced as part of the Housing Standards Review. Schemes would therefore need to comply with the Building Regulations and as such no additional cost would be incurred in the proposed scenario.

Key Changes

4.2.2 The costs in the proposed scenario remain as zero. As noted within the earlier section of this report the counterfactual cost has been reduced to reflect the new Part L of the Building Regulations (i.e. the extra over cost to achieve Code for Sustainable Homes is reduced).

Updated Costs

4.2.3 As above there is no additional cost in the proposed scenario.

Process Costs

4.2.4 As above there is no process cost in the proposed scenario.

4.3 Space

Introduction

4.3.1 It is proposed that a single space standard be available which local authorities could choose to make applicable to dwellings of any tenure in all locations. The standard would be suitable for general needs users and also be sufficient to allow enhanced accessibility but not full wheelchair use.

4.3.2 The space standard would be available for local authorities to select if appropriate, particularly having regard to local housing market characteristics and viability issues.

Key Changes

4.3.3 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Definitions of the standard – The proposed areas have been amended since the June 2013 report and as such the costs have been changed accordingly. The principle of adopting a full cost model to estimate changes in costs does however remain, this ensures that fixed cost items such as bathroom costs remain unchanged and the cost amendment relates only to the enlarged area.
- Ceiling Height – An assumed ceiling height of 2.6m was used within the proposed elemental costings. This is an assumption by EC Harris based on a conservative approach to typical industry practice in areas where space standards are currently applied, and where requirements range from 2.4 – 2.6m. The proposed ceiling height of 2.5m is considered cost neutral compared to the counterfactual where space standards currently apply, but does have a material cost which is relevant for viability purposes. Details on different storey height costings can be found in Appendix B3 with reference to the industry minimum ceiling height of 2.35m.

Updated Costs

4.3.4 The central assumption within the Impact Assessment is that the new space standards would be adopted within areas currently applying a space standard. The new standard is broadly quite similar to existing standards:

- The variance is between 1 and 3m2 across the private dwelling typologies under consideration in comparison to the most common current standard.
- The variance is between 3 and 9m2 across the affordable dwelling typologies under consideration in comparison to the most common current standard, the Homes & Communities Agency HQI standard.

4.3.5 The DCLG Housing Standards Review Evidence Report by Adroit Economics provides details of the methodology for assessing the impacts of the proposed standard. However, Table 37 below gives an

overview of the construction costs of increasing or decreasing each dwelling typology by various areas and has been calculated based on the cost models at Appendix B3.

Table 37 – Additional space costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Total Cost increase per m2					
+ 1 sq.m	+ £722	+ £722	+ £632	+ £632	+ £540
+ 2 sq.m	+ £1,444	+ £1,444	+ £1,264	+ £1,264	+ £1,080
+ 3 sq.m	+ £2,166	+ £2,166	+ £1,896	+ £1,896	+ £1,620
+ 5 sq.m	+ £3,610	+ £3,610	+ £3,175	+ £3,175	+ £2,700
+ 10 sq.m	+ £7,220	+ £7,220	+ £6,320	+ £6,320	+ £5,400

Table 37a – Additional space costs after Space cost recovery

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
+ 1 sq.m	+ £73	£73	£64	£64	£55
+ 2 sq.m	+ £146	£146	£128	£128	£109
+ 3 sq.m	+ £435	£435	£381	£381	£164
+ 5 sq.m	+ £1,014	£1,014	£891	£891	£758
+ 10 sq.m	+ £2,893	£2,893	£2,532	£2,532	£2,164

Note – The above figures are based on 80% of costs being recovered via increased revenues as described under 4.3.9 to 4.3.16. This approach is based on areas where space standards are implemented after viability testing – in areas where space standards would not be found to be viable a reduced cost recovery may occur.

Table 37b – Space standard cost comparison

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Typical Current Space Standard	50m2	67m2	72m2	96m2	117m2
English Housing Survey	46m2	65m2	74m2	94m2	N/A
Proposed	50m2	61m2	79m2	93m2	106m2
Area Difference (Typical - Proposed)	-	6m2	7m2	3m2	11m2
Cost Difference (Typical - Proposed)	-	£4,332	-£4,424	£1,896	£5,940
Area Difference (EHS - Proposed)	4m2	4m2	5m2	1m2	N/A
Cost Difference (EHS - Proposed)	-£2,888	£2,888	-£3,160	£632	N/A

4.3.6 Table 37b shows both a comparison and of area and cost between the proposed standard, 'typical' current standard and the average size taken from the English Housing Survey.

4.3.7 The figures shown for the EHS are the median figure taken from the survey for each typology. The IA uses a distribution of the EHS figures. There was not enough sufficient data collected for 4B Houses.

4.3.8 The 'typical' figures are taken from EC Harris's internal benchmark data which were used within the June 2013 consultation report. These figures are similar to those of the English Housing Survey.

Space Cost Recovery

4.3.9 The preceding section explains the build cost impact of changing space standards. For affordable rented housing there will not be a material change in value associated with changes in space (the value of affordable rented housing is based on rent levels which are linked to the number of bedspaces rather than the dwelling size). However, for private and intermediate housing, changes in space standard can have an impact on sales value which may offset some or all of the additional build cost.

4.3.10 The extent to which sales values change in line with space standards varies greatly dependent on local market characteristics. Key issues include:

- The extent to which buyers are prepared and / or able to pay an additional purchase price.
- Proximity of current sales values to capped values driven by perceptions (e.g. an unwillingness to pay over £200,000 for a 2 bed home) or stamp duty thresholds (e.g. where a 4 bed home currently sells for £250,000 there will be a significant stamp duty cost even where the value is increased by only £1 and as such buyers will not be prepared to pay a premium for a small increase in space standards).
- The type and quantity of dwellings available in the existing stock market.

4.3.11 A further important issue is the density of development. Where low to medium density houses are constructed it is unlikely that small changes in space standards will lead to an overall reduction in site density (i.e. increased dwelling footprints meaning that less dwellings can fit within the site).

However for higher density schemes, particularly apartments, it is possible that small changes will lead to a reduction in dwelling numbers and therefore potentially impact on developer returns.

4.3.12 The issues described in the paragraphs above can have impacts on viability. The Housing Forum report of 2010 "Viability Impacts of Core Standards" examined a space standard proposed at the time and found that in a number of case study location / scheme typologies development would have been unlikely to have been brought forward under the proposed standard.

4.3.13 The currently proposed standards are to be optional, with local authorities able to implement them dependent on local circumstances. An authority considering implementing the standard would need to consider viability and ensure that any negative impacts were of a limited nature and as such would not limit developers' or landowners' ability to bring forward land for development. The Impact Assessment Model makes assumptions as to the proportion of areas which would be likely to implement the space standards on this basis.

4.3.14 On the basis of the above an assessment has been made as to the likely extent to which additional build costs could be recovered via sales values (or the reverse case where the proposed space standard is less than a current space standard). It is noted that this assessment is made on the basis that the standard is implemented in areas where it is supported by viability – areas where this is not the case are likely to have differing results.

4.3.15 Table 38 below summarises the impact on a typical dwelling of a variety of space standard changes. The following points are noted in relation to the table:

- The first three columns indicate the area change (1, 2, 3, 5 and 10m2 for consistency with other sections of this report), base area (for this example based on the average of all new dwellings from the English Housing Survey) and standards area (base plus change).
- The columns under the "Values" heading indicate the base value of the theoretical dwelling (the Halifax House Price Index average for new build dwellings has been adopted for this example) in £ and £/m2 and the value for the increased size dwelling.
- The columns under the "Costs" heading indicate the build cost increase (as described earlier within this report and indicated in Table 37), and also an all-in cost change which adds professional fees, contingencies, development management costs, planning costs and sales and marketing costs (a total addition of 32%).
- It is usual that, when dwellings are amended to a size different to the market optimum, the value will increase but the value per m2 will decrease (i.e. the price paid for additional space will decline). This can be seen under the "Standards value £/m2" column.

Table 38 – Space cost recovery

Area change			Values					Costs		Recovery
Area change (m2)	Base area (m2)	Standards Area (m2)	Base value (£)	Base value (£/m2)	Standards Value (£)	Standards Value (£/m2)	Value Increase (£)	Cost increase - build (£)	Cost increase - all in (£)	Percent cost recovered
1	91	92	£ 255,000	£ 2,802	£ 255,750	£ 2,780	£ 750	£ 632	£ 834	90%
2	91	93	£ 255,000	£ 2,802	£ 256,500	£ 2,758	£ 1,500	£ 1,264	£ 1,668	90%
3	91	94	£ 255,000	£ 2,802	£ 257,000	£ 2,734	£ 2,000	£ 1,896	£ 2,503	80%
5	91	96	£ 255,000	£ 2,802	£ 258,000	£ 2,688	£ 3,000	£ 3,160	£ 4,171	72%
10	91	101	£ 255,000	£ 2,802	£ 260,000	£ 2,574	£ 5,000	£ 6,320	£ 8,342	60%

4.3.16 Table 38 above indicates that the percentage of cost recovered via additional value declines as the amount of space added grows. For relatively small areas (1-2m2) 90% of the cost is recovered via sales values, however this figure declines to 60% for the 10m2 addition. The Impact Assessment Model identifies the difference between proposed space standards and the range of current areas. Given that most changes in area are within the 1-5m2 range, an assumption of 80% cost recovery is made.

Process Costs

4.3.17 Where space standards are adopted by a local authority it is anticipated that house builders would incur a process cost developing designs and checking compliance with the standard. A process of "type approval" would be possible such that house builders who utilise standard house types would avoid the need to test and have these approved for each scheme. Even where type approval is not adopted, costs will be considerably lower within the framework of a national space standard because assessing compliance will be consistent, and standard compliant designs will emerge which can be easily revised to meet bespoke needs, avoiding the need to re-design portfolios from scratch.

4.3.18 Tables 39-44 indicate the anticipated costs for those not adopting type approval for small, medium and large schemes and the one-off cost per house type for those adopting type approval. The Impact Assessment model assumes that house builders would adopt type approval for a proportion of schemes with larger firms being more likely to adopt this route. The model also assumes that type approval would be more relevant to houses rather than apartments which are often more site specific designs. The time allowed for type approval includes review of the design, check for compliance, amendment and response to any clarification raised following submission.

4.3.19 There has been a significant reduction from the counterfactual space process cost for all development sizes due to the removal of the requirement for both furniture layouts and minimum sized non-habitable room areas.

Table 39 - Space process cost (Small Development)

Professional	Total hours	Hourly Rate	Total
Design Team	3.5	£52	£182
Total	3.5		**£182**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£91
		£/dwelling	£36

Table 40 - Space process cost (Medium Development)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
Total	8		**£416**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£83
		£/dwelling	£8

Table 41 - Space process cost (Large Development)

Professional	Total hours	Hourly Rate	Total
Design Team	16	£52	£832
Total	16		**£832**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£83
		£/dwelling	£8

Table 42 - Space recipient costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.5	£23	£5
Medium	50	£46	2	£92	£2
Large	100	£46	4	£184	£2

Table 43 - Space process cost – Type approval (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
Total	8		**£416**

Table 44 – Space recipient costs – Type approval (per dwelling type)

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2	£92	£92

4.4 Access

Introduction

4.4.1 The proposed security standard is indicated within the draft Approved Document M amendments included at Appendix B4. The key features of the proposed standard are:

- A 3 level standard, reflecting accessibility as follows:
  - Category 1 – Dwellings which provide reasonable accessibility
  - Category 2 – Dwellings which provide enhanced accessibility and adaptability
  - Category 3 – Dwellings which are accessible and adaptable for occupants who use a wheelchair

Key Changes

4.4.2 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Definition of the standard – this has now been refined, costs have therefore been amended accordingly.

Updated Costs

4.4.3 The following table indicates the cost of complying with each standard as an extra over cost above a standard for an equivalent dwelling type excluding additional space costs; these are shown in table 45a.

Table 45 – Access costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Cost all dwellings (extra over current industry practice)					
Category 1	-	-	-	-	-
Category 2	£940	£907	£523	£521	£520
Category 3 Adaptable	£7,607	£7,891	£9,754	£10,307	£10,568
Category 3 Accessible	£7,764	£8,048	£22,238	£22,791	£23,052

Table 45a – Access related space cost summary

	1B Apartment		2B Apartment		2B Terrace		3B Semi-detached		4B Detached	
Cost increase for additional m2										
Category 2	+ 1 sq.m	£722	+ 1 sq.m	£722	+ 2 sq.m	£1,444	+ 3 sq.m	£2,166	+ 3 sq.m	£2,166
Category 3	+ 8 sq.m	£5,776	+ 14 sq.m	£10,108	+ 21 sq.m	£15,162	+ 24 sq.m	£17,328	+ 24 sq.m	£17,328

Table 45b – Access related space cost after Space cost recovery

	1B Apartment		2B Apartment		2B Terrace		3B Semi-detached		4B Detached	
Category 2	+ 1 sq.m	£289	+ 1 sq.m	£289	+ 2 sq.m	£578	+ 3 sq.m	£866	+ 3 sq.m	£866
Category 3	+ 8 sq.m	£2,310	+ 14 sq.m	£4,043	+ 21 sq.m	£6,065	+ 24 sq.m	£6,931	+ 24 sq.m	£6,931

4.4.4 Table 45b shows the extra costs of access related space allowing for the fact that some of the cost will be recovered via additional sales revenues. The approach to calculating recovery of costs is described in sections 4.3.7 to 4.3.14 of this report. Given that some space associated with access standards may be in different locations to that preferred by the market (e.g. enlargement of a WC rather than a habitable room) the lower end of the recovery range has been adopted (60% of costs are recovered).

4.4.5 The costs for enlarged stairs have been costed within the 'construction' costs as stated in section 3.4.6 and are excluded from the additional access related space costs.

4.4.6 A full breakdown of the costs and supporting notes is included at appendix B4.

Process Costs

4.4.7 Process costs for the proposed access levels are indicated in tables 46-57 below. It is noted that the new standards are presented in the same format as Approved Document M of the Building Regulations which has been assessed to reduce process time (i.e. it allows more streamlined review as part of the general design process). As described within the Space section of this report an option for type approval is also included.

Category 1

4.4.8 No process cost is incurred. The standard is no different to apply than the current Part M of the Building Regulations.

Category 2

Table 46 – Access process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	8	£52.00	£416
Architect (External Design Work)	8	£52.00	£416
Buyer	3	£57.00	£171
Construction Manager	3	£57.00	£171
Total	22		**£1,174**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£587
		£/dwelling	£235

Table 47 – Access process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	20	£52.00	£1,040
Architect (External Design Work)	10	£52.00	£520
Buyer	7.5	£57.00	£428
Construction Manager	7.5	£57.00	£428
Total	45		**£2,415**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£483
		£/dwelling	£48

Table 48 – Access process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	40	£52.00	£2,080
Architect (External Design Work)	15	£52.00	£780
Buyer	15	£57.00	£855
Construction Manager	15	£57.00	£855
Total	85		**£4,570**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£457
		£/dwelling	£46

Table 49 – Access recipient costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.5	£23	£5
Medium	50	£46	4	£184	£4
Large	100	£46	8	£368	£4

Table 50 – Access type approval costs (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
Total	8		**£416**

Table 51 – Access type approval recipient costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2	£92	£92

Category 3

Table 52 – Access process costs (Small Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	7.5	£52.00	£390
Construction Manager	4	£57.00	£228
Total	11.5		**£618**
		Nr dwelling types	1
		Nr Wheelchair dwellings	1
		£/type	£618
		£/dwelling	£618

Table 53 – Access process costs (Medium Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	22.5	£52.00	£1,170
Construction Manager	12	£57.00	£684
Total	34.5		**£1,854**
		Nr dwelling types	3
		Nr Wheelchair dwellings	5
		£/type	£618
		£/dwelling	£371

Table 54 – Access process costs (Large Development)

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	45	£52.00	£2,340
Construction Manager	24	£57.00	£1,368
Total	69		**£3,708**
		Nr dwelling types	6
		Nr Wheelchair dwellings	10
		£/type	£618
		£/dwelling	£371

Table 55 – Access recipient costs

	Wheelchair Dwellings	Rate	Hrs	Total	£/dwelling
Small	1	£46	0.5	£23	£23
Medium	5	£46	3.5	£161	£32
Large	10	£46	7	£322	£32

Table 56 – Access type approval costs (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	10	£52	£520
Total	10		**£520**

Table 57 – Access type approval recipient costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2.5	£115	£115

4.5 Water

Introduction

4.5.1 The proposed water standard is indicated within the draft Approved Document included at Appendix B5. The key features of the proposed standard are:

- A single standard set at 110 litres per day water use.

Key Changes

4.5.2 Aside from general updates and the additional dwelling typology the following key changes have been made since the June 2013 EC Harris report:

- Definition of the standard – this has now been refined, costs have therefore been amended accordingly.
- Method of compliance - enquires have been made with a number of developers to ascertain the current methodology for achieving current Building Regulations requirements. Although responses were mixed, the general consensus was that restrictors are currently used on bathroom taps, however showers and kitchen taps are typically not fitted with restrictors. Similarly dual flush toilets are incorporated however these were typically 6/4l flush toilets. Based on this assumption no additional costs have been incorporated within the basin tap costs but additional costs for restrictors have been allowed to the shower / kitchen taps.

Updated Costs

4.5.3 The following table indicates the cost of complying with each standard as an extra over usual industry practice. The costs within the table reflect the most common current practice which is to use flow restricting devices to reduce water use by taps and showers. Past experience is that as manufacturers replace ranges over time the fitting is designed to meet the current standard and as such additional restricting devices are not required. It is therefore assumed within the Impact Assessment model that this replacement affects approximately 10% of fittings on the market each year, resulting in a declining cost over time.

Table 58 – Water standards costs summary

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Cost all dwellings (extra over usual industry practice)					
Proposed standard	£6	£6	£6	£9	£9

4.5.4 A full breakdown of the costs and supporting notes is included at appendix B5.

Process Costs

4.5.5 The process for checking compliance with the proposed standard would be the same as that currently undertaken in relation to the current Building Regulations (the only difference being a slight reduction in the water use). Given this point there would be no process costs in addition to the current Building Regulations.

5 Process and Transition

5.1 Transition Costs

5.1.1 Should the proposed standards be adopted a transition cost will occur comprised of items such as:

- Time taken for industry professionals to familiarise themselves with the new standard.
- Costs of training events in relation to the new standards.
- Obtaining revised guidance.
- Updating of internal processes and procedures.

5.1.2 Table 59 indicates the estimated time for industry professionals to familiarise themselves with the new standards and review guidance etc. It is noted that, even in the absence of the new standards, a relatively regular updating of the current standards has historically occurred along with ongoing new / variations of standards. The time indicated below is therefore the extra over associated with the new standards. Within the Impact Assessment model the time allowances below are applied to the estimated number of professionals within the housing sector.

Table 59 – Professionals' familiarisation time

Profession	Hours	Rate	Total
Architect	8	£52	£416
Building Control Surveyor	8	£46	£368
Building Surveyor	4	£46	£184
Quantity Surveyor	4	£57	£228
Construction Energy Assessors	5	£48	£240
Building Services Engineer	4	£46	£184
Civil Engineer	2	£47	£94
Mechanical Engineer	4	£49	£196
Construction Manager	4	£57	£228
Project Manager	4	£57	£228
Town and Country Planner	5	£61	£305
Skilled Trades	1.5	£18	£27

5.1.3 It is anticipated that almost all professionals would utilise the freely available electronic Approved Documents rather than purchase hard copies. There is therefore no cost to obtain the revised guidance. It is noted that this is a change from the previous 2013 report in which it was assumed that a proportion of professionals would purchase hard copy documents.

5.1.4 In addition to the cost per professional there will be a cost per firm to update internal processes and procedures. Table 60 below indicates the estimated cost for each type of professional consultancy firm.

Table 60 – Professional firms' updating time

Profession Type	Resource	Rate	Total
Architects	30	£52	£1,560
Planners	30	£61	£1,830
Surveyors	15	£57	£855
Engineers	15	£47	£705
Management	15	£57	£855

5.1.5 Table 61 below indicates the same costs for housebuilders. Very small firms do not incur a cost here as it is assumed that consultant architects, engineers etc would be employed, the costs of which are included under Table 58.

Table 61– House builders' updating time

Size of Firm (by number employed)	Number of House Builders	Hours	Rate	Total per Firm
1	10,301	0	£52	£0
2 to 3	6,456	0	£52	£0
4 to 7	2,988	0	£52	£0
8 to 13	1,101	0	£52	£0
14-24	607	0	£52	£0
25-34	202	7.5	£52	£390
35-59	238	7.5	£52	£390
60-79	81	15	£52	£780
80-114	76	15	£52	£780
115-299	99	15	£52	£780
300-599	29	22.5	£52	£1,170
600-1,199	8	37.5	£52	£1,950
1,200+	14	37.5	£52	£1,950
	22,200			

5.2 Process Costs

5.2.1 Process costs identified fall into three key categories:

- Costs directly attributed to an individual standard and incurred by the developer / contractor and their professional team (for example surveys required under the Code for Sustainable Homes or design time taken dealing with Lifetime Homes).
- Wider costs incurred by industry in dealing with the range and complexity of current housing standards (for example housebuilders' time amending standard house types for different wheelchair housing standards or manufacturers' time producing differing product ranges).
- Costs incurred by those required to approve or check compliance with standards (for example Architectural Liaison Officers in relation to Secured by Design).

5.2.2 The sections below identify the costs in relation to each of the above scenarios in the current / counterfactual and proposed scenarios.

Individual Standards Process Costs

5.2.3 Sections 3 and 4 of this report identify the costs attributed to each current and proposed standard.

Wider costs Incurred by Industry

5.2.4 The tables below identify the estimated costs incurred by housebuilders in dealing with the standards under the current and proposed scenarios. Following consultation a cost has been included for micro size firms who were assumed within the previous 2013 cost report not to include such staff.

Table 62 - Industry costs – current situation

Firm size	Current resource dedicated	Cost per year per firm
Micro (1-4 employees)	0.015 Full time equivalent design manager	£1,287 (0.015 x £52/hr x 7.5hr day x 220)
Micro (4-7 employees)	0.05 Full time equivalent design manager	£4,290 (0.05 x £52/hr x 7.5hr day x 220)
Small (e.g. local home builder)	0.15 Full time equivalent design manager	£12,870 (0.15 x £52/hr x 7.5hr day x 220)
Medium (e.g. regional home builder)	0.75 Full time equivalent design manager	£64,350 (0.75 x £52/hr x 7.5hr day x 220)
Large (e.g. national home builder with multiple regions)	4 Full time equivalent design managers	£343,200 (4 x £52/hr x 7.5hr day x 220)

Table 63 - Industry costs – proposed situation

Firm size	Proposed resource dedicated	Cost per year per firm
Micro (1-4 employees)	0.01 Full time equivalent design manager	£858 (0.01 x £52/hr x 7.5hr day x 220)
Micro (4-7 employees)	0.03 Full time equivalent design manager	£2,574 (0.03 x £52/hr x 7.5hr day x 220)
Small (e.g. local home builder)	0.10 Full time equivalent design manager	£8,580 (0.10 x £52/hr x 7.5hr day x 220)
Medium (e.g. regional home builder)	0.40 Full time equivalent design manager	£34,320 (0.40 x £52/hr x 7.5hr day x 220)
Large (e.g. national home builder with multiple regions)	2 Full time equivalent design managers	£171,600 (2 x £52/hr x 7.5hr day x 220)

Recipient Process Costs

5.2.5 Sections 3 and 4 of this report identify the costs attributed to each current and proposed standard.

Appendices

Appendix A1 – Counterfactual, Security

Housing Standards Review

Domestic Security Standards - 2 Bed Flat (12 flats in block, 4 flats per floor)

June 14 - Assesment based on Secured by Design 'New Homes 2014' Guide

EC HARRIS BUILT ASSET CONSULTANCY AN ARCADIS COMPANY

	Current Industry Practice					Secured by Design					
Element	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline**
Doors											
Communal entrance door	Hardwood door and frame to communal door, automatic lock linked to access control	1	Item	£921.00	£921.00	PAS 24 or LPS1175 and PAS 23, with electronic release linked to access control	1	Item	£1,092.00	£1,092.00	£171.00
Glass panel / side panel to communal entrance door	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Front entrace door	Fire rated flat entrance door inclusive of frame and ironmongery	12	Item	£433.00	£5,196.00	PAS 24 fire rated door set inclusive of frame and ironmongery	12	Item	£465.00	£5,580.00	£384.00
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	£0.00
Access Control / Mail Delivery											
Letter box bank	Standard letter box bank	12	Nr	£35.04	£420.48	Security letter box bank with reasonable resistance to forced entry and unauthorised removal of contents	12	Nr	£63.60	£763.20	£342.72
Audio visual access control system (Flats)	Audio door entry system	1	Item	£3,853.00	£3,853.00	Video door entry system	1	Item	£5,681.00	£5,681.00	£1,828.00
Windows											
External windows	Ground floor apartments 4nr: 4nr PVCU windows per apartment	1	Item	£5,172.00	£5,172.00	Ground floor apartments 4nr: 4nr PVCU windows per apartment to BS 7950; inclusive of laminated glazing	1	Item	£5,615.60	£5,615.60	£443.60
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	£0.00
Lighting											
Photo electric cell switched lighting	Photo electric cell lighting provided to front entrance	1	Nr	£45.00	£45.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£45.00	£90.00	£45.00
Alarms											
13 amp non switched fused spur to take intruder alarm	None	0	Nr	£0.00	£0.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00
Bicycle Parking Internal											
Secure doorset	Hardwood door and frame	1	Nr	£433.00	£433.00	Secure doorset PAS 23/24	1	Nr	£465.00	£465.00	£32.00
Ground Anchor	None				£0.00	Ground Anchor - 'Sold Secure' Silver Standard	16	Nr	£15.19	£243.07	£243.07
Home Office											
Internal door of robust construction	Hollow core flush door	12	Nr	£67.00	£804.00	Fire resistant robust door FD30	12	Nr	£99.00	£1,188.00	£384.00
BS 3621 lock	Latch only (incl)					BS Mortice Deadlock	12	Nr	£14.40	£172.80	£172.80
Party Wall, Sound Insulation and Communal Lofts											
Party walls of robust construction	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00
Hatch locks	None	0	Nr	£0.00	£0.00	Sold Secure Lock to communal lofts	1	nr	£25.59	£25.59	£25.59
			Total		**£16,939.00**			**Total**		**£21,045.00**	**£4,106.00**
			Total / flat		**£1,412.00**			**Total / flat**		**£1,754.00**	**£342.00**
			Total / Ground Floor Flat		**£2,274.00**			**Total / Ground Floor Flat**		**£2,690.00**	**£416.00**
			Total / Upper Floor Flat		**£981.00**			**Total / Upper Floor Flat**		**£1,286.00**	**£305.00**

Notes

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's experience in working on residential projects. This includes basic home office provision (latch to bedroom door) . Although not NHBC standards these items are commonly installed by developers and house builders.

Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects, together with price quotation from manufacturers and suppliers

Laminated glass has been included to all ground floor windows

Bicycle Storage area has been assumed to be included as part of the building design. No additional cost for providing the space has been included, cost relate to the provision of SbD compliant bike racks as standard.

Cost associated with Photoelectric Light cells is based on a mid range fitting provided on recent schemes.

'Total Flat' costs are an average cost of ground and upper floor apartments, including the additional security costs associated with ground floor windows. 'Upper floor flat' costs exclude window costs; 'Ground Floor Flat' costs include the full ground floor window costs.

Assumptions

A glazed door or a door with side panel is assumed in all cases to allow natural light - the cost allows for either.

Exclusions

Underground car parking for blocks of flats - we are aware there is a cost for this which will be quantified seperately for the proportion of blocks affected.

Housing Standards Review

Domestic Security Standards - 2 Bed Terrraced House

June 14 - Assesment based on Secured by Design 'New Homes 2014' Guide

EC HARRIS
BUILT ASSET CONSULTANCY
An AECOM COMPANY

	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Secured by Design - Small Developments						Secured by Design - Large Developments					
Element	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Small Development)**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Large Development)**
Doors																						
Front entrance door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Nr	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Nr	£202.50	£202.50	PAS 24 Door Set inclusive of ironmongery	1	Nr	£339.00	£339.00	£27.00	PAS 24 Door Set inclusive of ironmongery	1	Nr	£228.00	£228.00	£25.50
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Rear Door Sets	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.00	£237.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£441.00	£441.00	£49.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£272.16	£272.16	£35.16
Mail Delivery																						
Letter Plate	External Letter Plate	1	Nr	£7.00	£7.00	External Letter Plate	1	Nr	£7.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00
Windows																						
External windows	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£825.17	£825.17	£62.17	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£825.17	£825.17	£62.17
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
Lighting																						
Photo electric cell switched lighting	Photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	Photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00
Alarms																						
13 amp non switched fused spur to take intruder alarm	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00
Bicycle Parking External																						
Timber shed and concrete base	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00
Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	None				£0.00	None				£0.00	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19
Ground Anchor	None				£0.00	None				£0.00	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19
Home Office																						
Door	Hollow core flush door	1	Nr	£78.00	£78.00	Hollow core flush door	1	Nr	£78.00	£78.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00
BS 3621 lock	Latch only (incl)	0	Nr	£0.00	£0.00	Latch only (incl)					BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40	BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40
Party Wall, Sound Insulation and Communal Lofts																						
Party walls of robust construction	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00
Hatch locks	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	Sold Secure Lock	0	nr	£31.99	£0.00	£0.00	Sold Secure Lock	0	nr	£31.99	£0.00	£0.00
				Total	**£1,988.00**				**Total**	**£1,724.00**				**Total**	**£2,303.00**	**£315.00**				**Total**	**£2,023.00**	**£299.00**

Notes

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects. This includes basic home office provision (latch to bedroom door) and timber shed for bicycle storage (houses). Although not NHBC standards these items are commonly installed by developers and house builders.

Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects, together with quotations from manufacturers and suppliers.

Assumptions

Front entrance doors have been assumes as solid doors with side glazed panel.

Rear doors are assumed to be half glazed doors (with no other glazed panel)

All prices are for 'door sets' inclusive of ironmongery

A glazed door or a door with side panel is assumed in all cases to allow natural light - the cost allows for either

The cost of the letter plate deflector is based on an 'extra over' from the 'standard' letter flat

Exclusions

Link door between garage and house at Level 1 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

Housing Standards Review

Domestic Security Standards - 3 Bed Semi Detached House

June 14 - Assesment based on Secured by Design 'New Homes 2014' Guide

EC HARRIS BUILT ASSET CONSULTANCY
AN ARCADIS COMPANY

	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Secured by Design - Small Developments						Secured by Design - Large Developments					
Element	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Small Development)**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Large Development)**
Doors																						
Front and rear entrace door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£202.50	£202.50	PAS 24 Door Set inclusive of ironmongery	1	Item	£339.00	£339.00	£27.00	PAS 24 Door Set inclusive of ironmongery	1	Item	£228.00	£228.00	£25.50
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Rear Door Sets	Composite rear door set ; assumed halfted glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set ; assumed halfted glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.00	£237.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£441.00	£441.00	£49.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£272.16	£272.16	£35.16
Mail Delivery																						
External Letter Plate	External Letter Plate	1	Nr	£7.00	£7.00	External Letter Plate	1	Nr	£7.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00
Windows																						
External windows	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£825.17	£825.17	£62.17	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£825.17	£825.17	£62.17
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
Lighting																						
Photo electric cell switched lighting	Photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	Photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00	Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00
Alarms																						
13 amp non switched fused spur to take intruder alarm	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00
Bicycle Parking External																						
Timber shed and concrete base	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00
Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	None				£0.00	None				£0.00	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19
Ground Anchor	None				£0.00	None				£0.00	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19
Home Office																						
Door	Hollow core flush door	1	Nr	£78.00	£78.00	Hollow core flush door	1	Nr	£78.00	£78.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00
BS 3621 lock	Latch only (incl)					Latch only (incl)					BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40	BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40
Party Wall, Sound Insulation and Communal Lofts																						
Party walls of robust construction	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00
Hatch locks	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	Sold Secure Lock	0	nr	£0.00	£0.00	£0.00	Sold Secure Lock	0	nr	£0.00	£0.00	£0.00
			Total		**£1,988.00**			**Total**		**£1,724.00**			**Total**		**£2,303.00**	**£315.00**			**Total**		**£2,023.12**	**£299.00**

Notes

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects. This includes basic home office provision (latch to bedroom door) and timber shed for bicycle storage (houses). Although not NHBC standards these items are commonly installed by developers and house builders.

Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects, together with quotations from manufacturers and suppliers.

Assumptions

Front entrance doors have been assumes as solid doors with side glazed panel.

Rear doors are assumed to be half glazed doors (with no other glazed panel)

All prices are for 'door sets' inclusive of ironmongery

A glazed door or a door with side panel is assumed in all cases to allow natural light - the cost allows for either

The cost of the letter plate deflector is based on an 'extra over' from the 'standard' letter flat

Exclusions

Link door between garage and house at Level 1 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

Housing Standards Review

Domestic Security Standards - 4 Bed Detached House

June 14 - Assesment based on Secured by Design 'New Homes 2014' Guide

EC HARRIS
BUILT ASSET CONSULTANCY
AN AECOM COMPANY

	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Secured By Design - Small Developments						Secured By Design - Large Developments					
Element	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Small Development)**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Large Development)**
Doors																						
Front and rear entrace door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£202.50	£202.50	PAS 23/24 Door Set Front	1	Item	£339.00	£339.00	£27.00	PAS 23/24 Door Set Front	1	Item	£228.00	£228.00	£25.50
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included			£0.00	£0.00	£0.00
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Rear Door Sets	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.00	£237.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£441.00	£441.00	£49.00	Rear Doors Sets to PAS 24 Standard	1	Nr	£272.16	£272.16	£35.16
Mail Delivery																						
External Letter Plate	External Letter Plate	1	Nr	£7.00	£7.00	External Letter Plate	1	Nr	£7.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00	Letter plate size and location to avoid possibility of release of locking device. Letter plate to resist unauthorised removal of items within 1000mm of the door.	1	Nr	£14.00	£14.00	£7.00
Windows																						
External windows	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr) - GF ONLY	1	Item	£1,195.00	£1,195.00	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr) - GF ONLY	1	Item	£1,195.00	£1,195.00	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£1,294.12	£1,294.12	£99.12	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£1,294.12	£1,294.12	£99.12
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included			£0.00	£0.00	£0.00
Lighting																						
PIR or Photo electric cell switched lighting	PIR or photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	PIR or photo electric cell lighting provided to front entrance	1	Nr	£46.00	£46.00	PIR or Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00	PIR or Photo electric switched lighting to front entrance and rear entrance	2	Nr	£46.00	£92.00	£46.00
Alarms																						
13 amp non switched fused spur to take intruder alarm	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00	13 amp non switched fused spur to take intruder alarm	1	Nr	£34.00	£34.00	£34.00
Bicycle Parking External																						
Timber shed and concrete base	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00	Timber shed on concrete base	1	Item	£295.00	£295.00	£0.00
Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	None				£0.00	None				£0.00	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19	Shed door - 'Sold Secure' Silver Standard Padlock, Hasp and Staple	1	Nr	£39.19	£39.19	£39.19
Ground Anchor	None				£0.00	None				£0.00	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19	Ground Anchor - 'Sold Secure' Silver Standard	1	Nr	£15.19	£15.19	£15.19
Home Office																						
Door	Hollow core flush door	1	Nr	£78.00	£78.00	Hollow core flush door	1	Nr	£78.00	£78.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00	Fire resistant robust door FD30	1	Nr	£99.00	£99.00	£21.00
BS 3621 lock	Latch only (incl)					Latch only (incl)					BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40	BS Mortice Deadlock	1	Nr	£14.40	£14.40	£14.40
Party Wall, Sound Insulation and Communal Lofts																						
Party walls of robust construction	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00	Included	0	Item	£0.00	£0.00	£0.00
Hatch locks	None	0	Nr	£0.00	£0.00	None	0	Nr	£0.00	£0.00	Sold Secure Lock	0	nr	£0.00	£0.00	£0.00	Sold Secure Lock	0	nr	£31.99	£0.00	£0.00
			Total		**£2,420.00**			**Total**		**£2,156.00**			**Total**		**£2,771.90**	**£352.00**			**Total**		**£2,492.06**	**£337.00**

Notes

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects. This includes basic home office provision (latch to bedroom door) and timber shed for bicycle storage (houses). Although not NHBC standards these items are commonly installed by developers and house builders.

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Front entrance doors have been assumes as solid doors with side glazed panel.

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The cost of the letter plate deflector is based on an 'extra over' from the 'standard' letter flat

Exclusions

Link door between garage and house at Level 1 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

Housing Standards Review

Domestic Security Standards - Cost for Garages

EC HARRIS
BUILT ASSET
CONSULTANCY
AN ARCADIS COMPANY

	Current Industry Practice					SbD					
Element	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over**
Doors											
Garage Door	Up and Over Garage Door	1	Item	£390.00	£390.00	Guarador Up and Over Garage Door	1	Item	£593.00	£593.00	£203.00

Appendix A2 – Counterfactual, Energy

1 Bed Flat Type

					Ene 1	Ene 2	Ene 3	Ene 4	Ene 5	Ene 6	Ene 7	Ene 8	Ene 9	TOTAL ENE	Wat 1	Wat 2	TOTAL WAT	Mat 1	Mat 2	Mat 3	TOTAL MAT	Sur 1	Sur 2	TOTAL SUR
					Dwelling Emission Rate	Fabric Energy Efficiency	Energy Display Devices	Drying Space	Energy Labelled White Goods	External Lighting	Low or Zero Carbon Technologies	Cycle Storage	Home Office		Internal Water Usage	External Water Usage		Environmental Impact of Materials	Responsible Sourcing of Materials - Building	Responsible Sourcing of Materials - Finishing		Management of Surface Water Run off	Flood risk	
CfSH Level 1		ENERGY	MATERIALS & LABOUR	Small (5 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium (50 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large(100 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
	Op 1		PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
			PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
CfSH Level 2		ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
	Op 1		PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
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	Op2		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	0	£ -
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CfSH Level 3		ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 6	£ 6	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ 37	£ -	£ 37	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
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CfSH Level 4		ENERGY	MATERIALS & LABOUR	Small	£ 125	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 241	£ 6	£ -	£ 6	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ 219	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 356	£ 37	£ -	£ 37	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 148	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 270	£ 9	£ -	£ 9	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 148	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 270	£ 8	£ -	£ 8	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 278	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 395	£ 6	£ -	£ 6	£ -	£ -	£ -	£ -	0	£ -	£ -
				Medium	£ 278	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 395	£ 6	£ -	£ 6	£ -	£ -	£ -	£ -	0	£ -	£ -
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			TOTAL	Small	£ 372	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 509	£ 37	£ -	£ 37	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
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CfSH Level 5		ENERGY	MATERIALS & LABOUR	Small	£ 2,278	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 2,495	£ 900	£ 19	£ 919	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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				Med	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 109	£ 8	£ -	£ 8	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 108	£ 5	£ -	£ 5	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 2,372	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 2,931	£ 978	£ 19	£ 997	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 2,302	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 2,603	£ 908	£ 19	£ 927	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
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	Op2		MATERIALS & LABOUR	Small	£ 3,078	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 3,295	£ 900	£ 19	£ 919	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 3,078	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 3,295	£ 900	£ 19	£ 919	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			PROCESS	Sml	£ 94	£ 312	£ 10	£ -	£ -	£ -	£ -	£ 21	£ -	£ 437	£ 78	£ -	£ 78	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 109	£ 8	£ -	£ 8	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 108	£ 5	£ -	£ 5	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 3,172	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 3,731	£ 978	£ 19	£ 997	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 3,102	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 3,403	£ 908	£ 19	£ 927	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
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CfSH Level 6		ENERGY	MATERIALS & LABOUR	Small	£ 7,078	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 7,295	£ 900	£ 19	£ 919	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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				Large	£ 7,102	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 7,403	£ 905	£ 19	£ 925	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 7,078	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 7,295	£ 900	£ 19	£ 919	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 7,078	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 7,295	£ 900	£ 19	£ 919	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			PROCESS	Sml	£ 94	£ 312	£ 10	£ -	£ -	£ -	£ -	£ 21	£ -	£ 437	£ 78	£ -	£ 78	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 109	£ 8	£ -	£ 8	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
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			TOTAL	Small	£ 7,172	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 7,731	£ 978	£ 19	£ 997	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 7,102	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 7,403	£ 908	£ 19	£ 927	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 7,102	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 7,403	£ 905	£ 19	£ 925	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7

						Was 1	Was 2	Was 3	TOTAL WAS	Pol 1	Pol 2	TOTAL POL	Hea 1	Hea 2	Hea 3	Hea 4	TOTAL HEA	Man 1	Man 2	Man 3	Man 4	TOTAL MAN	Eco 1	Eco 2	Eco 3	Eco 4	Eco 5	TOTAL ECO	TOTAL
						Storage of non-recyclablee waste	Construction Site Waste Management	Composting		Global Warming Potential of insulants	Nox Emissions		Daylighting	Sound Insulation	Private Space	Lifetime Homes		Home User Guide	Considerate Constructors	Construction Site Impacts	Security		Ecological Value of Site	Ecological Enhancement	Protection of Ecological Feature	Change of Ecological value of site	Building Footprint		
CfSH Level 1	Low	ENERGY	MATERIALS & LABOUR	Small	WASTE	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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	High		MATERIALS & LABOUR	Small		£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small		£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 593
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CfSH Level 2	Low	ENERGY	MATERIALS & LABOUR	Small	WASTE	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 40
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CfSH Level 3	Low	ENERGY	MATERIALS & LABOUR	Small	WASTE	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 46
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			TOTAL	Small		£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 691
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	High		MATERIALS & LABOUR	Small		£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 46
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			TOTAL	Small		£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 691
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CfSH Level 4	Low	ENERGY	MATERIALS & LABOUR	Small	WASTE	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 287
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	High		MATERIALS & LABOUR	Small		£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 441
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			TOTAL	Small		£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 974
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CfSH Level 5	Low	ENERGY	MATERIALS & LABOUR	Small	WASTE	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 100	£ -	£ 1,091	£ 1,191	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 5,303
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			TOTAL	Small		£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 121	£ -	£ 1,112	£ 1,253	£ 21	£ -	£ 21	£ 296	£ 337	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 6,421
				Medium		£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 105	£ -	£ 1,096	£ 1,207	£ 8	£ -	£ 2	£ 249	£ 259	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 5,531
				Large		£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 103	£ -	£ 1,096	£ 1,201	£ 4	£ -	£ 1	£ 246	£ 251	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 5,497
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			TOTAL	Small		£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 121	£ -	£ 1,112	£ 1,253	£ 21	£ -	£ 21	£ 296	£ 337	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 7,221
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CfSH Level 6	Low	ENERGY	MATERIALS & LABOUR	Small	WASTE	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 100	£ -	£ 1,091	£ 1,191	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 10,103
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2 Bed Flat Type

					Ene 1	Ene 2	Ene 3	Ene 4	Ene 5	Ene 6	Ene 7	Ene 8	Ene 9	TOTAL ENE	Wat 1	Wat 2	TOTAL WAT	Mat 1	Mat 2	Mat 3	TOTAL MAT	Sur 1	Sur 2	TOTAL SUR
					Dwelling Emission Rate	Fabric Energy Efficiency	Energy Display Devices	Drying Space	Energy Labelled White Goods	External Lighting	Low or Zero Carbon Technologies	Cycle Storage	Home Office		Internal Water Usage	External Water Usage		Environmental Impact of Materials	Responsible Sourcing of Materials - Building	Responsible Sourcing of Materials - Finishing		Management of Surface Water Run off	Flood risk	
CfSH Level 1		ENERGY	MATERIALS & LABOUR	Small (5 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium (50 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large(100 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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	Op2		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	0	0	£ -
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CfSH Level 3		ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 6	£ 6	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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CfSH Level 5		ENERGY	MATERIALS & LABOUR	Small	£ 3,224	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 3,441	£ 900	£ 19	£ 919	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ 3,318	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 3,877	£ 978	£ 19	£ 997	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 3,248	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 3,549	£ 908	£ 19	£ 927	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
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				Medium	£ 6,198	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 6,499	£ 908	£ 19	£ 927	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
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			TOTAL	Small	£ 12,268	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 12,827	£ 978	£ 19	£ 997	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 12,198	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 12,499	£ 908	£ 19	£ 927	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 12,198	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 12,499	£ 905	£ 19	£ 925	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 12,174	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 12,391	£ 900	£ 19	£ 919	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 12,174	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 12,391	£ 900	£ 19	£ 919	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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				Medium	£ 12,198	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 12,499	£ 908	£ 19	£ 927	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 12,198	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 12,499	£ 905	£ 19	£ 925	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7

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					Storage of non-recyclablee waste	Construction Site Waste Management	Composting		Global Warming Potential of Insulants	Nox Emissions		Daylighting	Sound Insulation	Private Space	Lifetime Homes		Home User Guide	Considerate Constructors	Construction Site Impacts	Security		Ecological Value of Site	Ecological Enhancement	Protection of Ecological Feature	Change of Ecological value of site	Building Footprint		
CfSH Level 1	Low	ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	0	0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 593
				Medium	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ -	£ -	£ 8	£ 117
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CfSH Level 2	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 40
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 645
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			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 685
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ 5	£ 15	£ 8	£ -	£ -	£ -	£ -	£ 8	£ 162
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	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	0	0	0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 40
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 645
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			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 685
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ 5	£ 15	£ 8	£ -	£ -	£ -	£ -	£ 8	£ 162
				Large	£ 40	£ -	£ -	£ 40	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 134
CfSH Level 3	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 46
				Medium	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 46
				Large	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 46
			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 697
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ 5	£ 15	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 130
				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 99
			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 743
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ 5	£ 15	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 176
				Large	£ 40	£ -	£ -	£ 40	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 145
	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	0	0	0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 46
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				Large	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	0	0	0	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 46
			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 697
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ 5	£ 15	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 130
				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 99
			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 743
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ 5	£ 15	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 176
				Large	£ 40	£ -	£ -	£ 40	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 145
CfSH Level 4	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 662
				Medium	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 662
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 686
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 136
				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 107
			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 1,349
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 798
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	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 574
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 686
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				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 107
			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 1,260
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 710
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CfSH Level 5	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 6,297
				Medium	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 6,297
				Large	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 6,297
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			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 169	£ -	£ 1,112	£ 1,301	£ 21	£ -	£ 21	£ 296	£ 337	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 7,415
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 153	£ -	£ 1,096	£ 1,255	£ 8	£ -	£ 2	£ 249	£ 259	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 6,525
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 151	£ -	£ 1,096	£ 1,249	£ 4	£ -	£ 1	£ 246	£ 251	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 6,491
	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 9,247
				Medium	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 9,247
				Large	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 9,247
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				Large	£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 169	£ -	£ 1,112	£ 1,301	£ 21	£ -	£ 21	£ 296	£ 337	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 10,365
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 153	£ -	£ 1,096	£ 1,255	£ 8	£ -	£ 2	£ 249	£ 259	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 9,475
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 151	£ -	£ 1,096	£ 1,249	£ 4	£ -	£ 1	£ 246	£ 251	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 9,441
CfSH Level 6	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 15,247
				Medium	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 15,247
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				Large	£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 169	£ -	£ 1,112	£ 1,301	£ 21	£ -	£ 21	£ 296	£ 337	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 16,365
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 153	£ -	£ 1,096	£ 1,255	£ 8	£ -	£ 2	£ 249	£ 259	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 15,475
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 151	£ -	£ 1,096	£ 1,249	£ 4	£ -	£ 1	£ 246	£ 251	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 15,441
	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 15,247
				Medium	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 15,247
				Large	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 148	£ -	£ 1,091	£ 1,239	£ -	£ -	£ -	£ 244	£ 244	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 15,247
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				Large	£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 169	£ -	£ 1,112	£ 1,301	£ 21	£ -	£ 21	£ 296	£ 337	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 16,365
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 153	£ -	£ 1,096	£ 1,255	£ 8	£ -	£ 2	£ 249	£ 259	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 15,475
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 151	£ -	£ 1,096	£ 1,249	£ 4	£ -	£ 1	£ 246	£ 251	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 15,441

2 Bed House

					Ene 1	Ene 2	Ene 3	Ene 4	Ene 5	Ene 6	Ene 7	Ene 8	Ene 9	TOTAL ENE	Wat 1	Wat 2	TOTAL WAT	Mat 1	Mat 2	Mat 3	TOTAL MAT	Sur 1	Sur 2	TOTAL SUR
					Dwelling Emission Rate	Fabric Energy Efficiency	Energy Display Devices	Drying Space	Energy Labelled White Goods	External Lighting	Low or Zero Carbon Technologies	Cycle Storage	Home Office		Internal Water Usage	External Water Usage		Environmental Impact of Materials	Responsible Sourcing of Materials - Building	Responsible Sourcing of Materials - Finishing		Management of Surface Water Run off	Flood risk	
CfSH Level 1		ENERGY	MATERIALS & LABOUR	Small (5 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium (50 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large(100 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
	Op 1		PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
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CfSH Level 5		ENERGY	MATERIALS & LABOUR	Small	£ 10,544	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 10,760	£ 2,201	£ 19	£ 2,220	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ 10,637	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 11,197	£ 2,279	£ 19	£ 2,298	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 10,567	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 10,869	£ 2,209	£ 19	£ 2,228	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 10,567	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 10,868	£ 2,206	£ 19	£ 2,226	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 11,085	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 11,301	£ 2,201	£ 19	£ 2,220	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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				Medium	£ 11,108	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 11,410	£ 2,209	£ 19	£ 2,228	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 11,108	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 11,410	£ 2,206	£ 19	£ 2,226	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
CfSH Level 6		ENERGY	MATERIALS & LABOUR	Small	£ 17,085	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 17,301	£ 2,201	£ 19	£ 2,220	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ 17,179	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 17,738	£ 2,279	£ 19	£ 2,298	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 17,108	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 17,410	£ 2,209	£ 19	£ 2,228	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 17,108	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 17,410	£ 2,206	£ 19	£ 2,226	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 17,085	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 17,301	£ 2,201	£ 19	£ 2,220	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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				Large	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 108	£ 5	£ -	£ 5	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 17,179	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 17,738	£ 2,279	£ 19	£ 2,298	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 17,108	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 17,410	£ 2,209	£ 19	£ 2,228	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 17,108	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 17,410	£ 2,206	£ 19	£ 2,226	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7

						Was 1	Was 2	Was 3	TOTAL WAS	Pol 1	Pol 2	TOTAL POL		Hea 1	Hea 2	Hea 3	Hea 4	TOTAL HEA		Man 1	Man 2	Man 3	Man 4	TOTAL MAN		Eco 1	Eco 2	Eco 3	Eco 4	Eco 5	TOTAL ECO	TOTAL
						Storage of non-recyclablee waste	Construction Site Waste Management	Composting		Global Warming Potential of Insulants	Nox Emissions			Daylighting	Sound Insulation	Private Space	Lifetime Homes			Home User Guide	Considerate Constructors	Construction Site Impacts	Security			Ecological Value of Site	Ecological Enhancement	Protection of Ecological Feature	Change of Ecological value of site	Building Footprint		
CfSH Level 1	Low	ENERGY	MATERIALS & LABOUR	Small	WASTE	£ -	£ -	£ -	£ -	£ -	£ -	£ -	HEALTH	£ -	£ -	£ -	£ -	£ -	MANAGEMENT	£ -	£ -	£ -	£ -	£ -	ECOLOGY	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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CfSH Level 3	Low	ENERGY	MATERIALS & LABOUR	Small	WASTE	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	HEALTH	£ -	£ -	£ -	£ -	£ -	MANAGEMENT	£ -	£ -	£ -	£ -	£ -	ECOLOGY	£ -	£ -	£ -	£ -	£ -	£ -	£ 46
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CfSH Level 4	Low	ENERGY	MATERIALS & LABOUR	Small	WASTE	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	HEALTH	£ -	£ -	£ -	£ -	£ -	MANAGEMENT	£ -	£ -	£ -	£ -	£ -	ECOLOGY	£ -	£ -	£ -	£ -	£ -	£ -	£ 631
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	High		MATERIALS & LABOUR	Small		£ 40	£ -	£ -	£ 40	£ -	£ -	£ -		£ -	£ -	£ -	£ -	£ -		£ -	£ -	£ -	£ -	£ -		£ -	£ -	£ -	£ -	£ -	£ -	£ 865
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CfSH Level 5	Low	ENERGY	MATERIALS & LABOUR	Small		£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -		£ -	£ 298	£ -	£ 1,091	£ 1,389		£ -	£ -	£ -	£ 217	£ 217		£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 15,041
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CfSH Level 6	Low	ENERGY	MATERIALS & LABOUR	Small		£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -		£ -	£ 298	£ -	£ 1,091	£ 1,389		£ -	£ -	£ -	£ 217	£ 217		£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 21,582
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				Large		£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11		£ 3	£ 3	£ -	£ 5	£ 10		£ 4	£ -	£ 1	£ 3	£ 8		£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small		£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83		£ 21	£ 319	£ -	£ 1,112	£ 1,451		£ 21	£ -	£ 21	£ 269	£ 310		£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 22,700
				Medium		£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15		£ 5	£ 303	£ -	£ 1,096	£ 1,405		£ 8	£ -	£ 2	£ 206	£ 216		£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 21,794
				Large		£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11		£ 3	£ 301	£ -	£ 1,096	£ 1,399		£ 4	£ -	£ 1	£ 203	£ 208		£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 21,759

3 Bed House

					Ene 1	Ene 2	Ene 3	Ene 4	Ene 5	Ene 6	Ene 7	Ene 8	Ene 9	TOTAL ENE	Wat 1	Wat 2	TOTAL WAT	Mat 1	Mat 2	Mat 3	TOTAL MAT	Sur 1	Sur 2	TOTAL SUR
					Dwelling Emission Rate	Fabric Energy Efficiency	Energy Display Devices	Drying Space	Energy Labelled White Goods	External Lighting	Low or Zero Carbon Technologies	Cycle Storage	Home Office		Internal Water Usage	External Water Usage		Environmental Impact of Materials	Responsible Sourcing of Materials - Building	Responsible Sourcing of Materials - Finishing		Management of Surface Water Run off	Flood risk	
CfSH Level 1		ENERGY	MATERIALS & LABOUR	Small (5 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium (50 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large(100 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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CfSH Level 2		ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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	Op2		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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CfSH Level 3		ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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	Op2		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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CfSH Level 4		ENERGY	MATERIALS & LABOUR	Small	£ 625	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 741	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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CfSH Level 5		ENERGY	MATERIALS & LABOUR	Small	£ 12,639	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 12,855	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ 12,732	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 13,292	£ 2,775	£ 19	£ 2,794	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 12,662	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 12,964	£ 2,705	£ 19	£ 2,724	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 12,662	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 12,963	£ 2,702	£ 19	£ 2,722	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 14,890	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 15,106	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ 14,983	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 15,543	£ 2,775	£ 19	£ 2,794	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 14,913	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 15,215	£ 2,705	£ 19	£ 2,724	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 14,913	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 15,214	£ 2,702	£ 19	£ 2,722	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
CfSH Level 6		ENERGY	MATERIALS & LABOUR	Small	£ 20,890	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 21,106	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 20,890	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 21,106	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ 20,983	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 21,543	£ 2,775	£ 19	£ 2,794	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 20,913	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 21,215	£ 2,705	£ 19	£ 2,724	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 20,913	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 21,214	£ 2,702	£ 19	£ 2,722	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 20,890	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 21,106	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ 20,983	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 21,543	£ 2,775	£ 19	£ 2,794	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 20,913	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 21,215	£ 2,705	£ 19	£ 2,724	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 20,913	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 21,214	£ 2,702	£ 19	£ 2,722	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7

					Was 1	Was 2	Was 3	TOTAL WAS	Pol 1	Pol 2	TOTAL POL	Hea 1	Hea 2	Hea 3	Hea 4	TOTAL HEA	Man 1	Man 2	Man 3	Man 4	TOTAL MAN	Eco 1	Eco 2	Eco 3	Eco 4	Eco 5	TOTAL ECO	TOTAL
					Storage of non-recyclablee waste	Construction Site Waste Management	Compositing		Global Warming Potential of insulants	Nox Emissions		Daylighting	Sound Insulation	Private Space	Lifetime Homes		Home User Guide	Considerate Constructors	Construction Site Impacts	Security		Ecological Value of Site	Ecological Enhancement	Protection of Ecological Feature	Change of Ecological value of site	Building Footprint		
CfSH Level 1	Low	ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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	High		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 593
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				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 92
CfSH Level 2	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 40
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 593
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ -	£ -	£ 8	£ 117
				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 92
			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 633
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ -	£ -	£ 8	£ 157
				Large	£ 40	£ -	£ -	£ 40	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 132
	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 40
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 593
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				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 92
			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 633
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ -	£ -	£ 8	£ 157
				Large	£ 40	£ -	£ -	£ 40	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 132
CfSH Level 3	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
				Medium	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
				Large	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 645
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 125
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			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 698
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				Large	£ 40	£ -	£ -	£ 40	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 145
	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
				Medium	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
				Large	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 645
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 125
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			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 698
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 174
				Large	£ 40	£ -	£ -	£ 40	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 145
CfSH Level 4	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 790
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 686
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 136
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			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 1,477
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	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 978
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			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 1,464
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CfSH Level 5	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 370	£ -	£ 1,091	£ 1,461	£ -	£ -	£ -	£ 217	£ 217	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 17,704
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				Large	£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 391	£ -	£ 1,112	£ 1,523	£ 21	£ -	£ 21	£ 269	£ 310	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 18,822
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 375	£ -	£ 1,096	£ 1,477	£ 8	£ -	£ 2	£ 206	£ 216	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 17,916
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 373	£ -	£ 1,096	£ 1,471	£ 4	£ -	£ 1	£ 203	£ 208	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 17,881
	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 370	£ -	£ 1,091	£ 1,461	£ -	£ -	£ -	£ 217	£ 217	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 19,955
				Medium	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 370	£ -	£ 1,091	£ 1,461	£ -	£ -	£ -	£ 201	£ 201	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 19,939
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			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 391	£ -	£ 1,112	£ 1,523	£ 21	£ -	£ 21	£ 269	£ 310	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 21,073
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CfSH Level 6	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 370	£ -	£ 1,091	£ 1,461	£ -	£ -	£ -	£ 217	£ 217	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 25,955
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				Large	£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 391	£ -	£ 1,112	£ 1,523	£ 21	£ -	£ 21	£ 269	£ 310	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 27,073
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 375	£ -	£ 1,096	£ 1,477	£ 8	£ -	£ 2	£ 206	£ 216	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 26,167
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 373	£ -	£ 1,096	£ 1,471	£ 4	£ -	£ 1	£ 203	£ 208	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 26,132
	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 370	£ -	£ 1,091	£ 1,461	£ -	£ -	£ -	£ 217	£ 217	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 25,955
				Medium	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 370	£ -	£ 1,091	£ 1,461	£ -	£ -	£ -	£ 201	£ 201	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 25,939
				Large	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 370	£ -	£ 1,091	£ 1,461	£ -	£ -	£ -	£ 201	£ 201	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 25,939
			PROCESS	Sml	£ -	£ -	£ 10	£ 10	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 1,118
				Med	£ -	£ -	£ 2	£ 2	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ 5	£ 15	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 228
				Large	£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 391	£ -	£ 1,112	£ 1,523	£ 21	£ -	£ 21	£ 269	£ 310	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 27,073
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 375	£ -	£ 1,096	£ 1,477	£ 8	£ -	£ 2	£ 206	£ 216	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 26,167
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 373	£ -	£ 1,096	£ 1,471	£ 4	£ -	£ 1	£ 203	£ 208	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 26,132

4 Bed House

					Ene 1	Ene 2	Ene 3	Ene 4	Ene 5	Ene 6	Ene 7	Ene 8	Ene 9	TOTAL ENE	Wat 1	Wat 2	TOTAL WAT	Mat 1	Mat 2	Mat 3	TOTAL MAT	Sur 1	Sur 2	TOTAL SUR
					Dwelling Emission Rate	Fabric Energy Efficiency	Energy Display Devices	Drying Space	Energy Labelled White Goods	External Lighting	Low or Zero Carbon Technologies	Cycle Storage	Home Office		Internal Water Usage	External Water Usage		Environmental Impact of Materials	Responsible Sourcing of Materials - Building	Responsible Sourcing of Materials - Finishing		Management of Surface Water Run off	Flood risk	
CSH Level 1		ENERGY	MATERIALS & LABOUR	Small (5 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium (50 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large(100 Units)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
	Op 1		PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
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	Op2		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
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				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
CSH Level 2		ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
	Op 1		PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
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				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
			PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ -	£ -	£ -	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ -	£ -	£ -	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
CSH Level 3		ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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	Op 1		PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ 31	£ -	£ 31	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ 3	£ -	£ 3	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ 2	£ -	£ 2	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ 40	£ -	£ 40	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ 12	£ -	£ 12	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ 11	£ -	£ 11	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
			PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ 31	£ -	£ 31	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ 3	£ -	£ 3	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ 2	£ -	£ 2	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 94	£ 40	£ -	£ 40	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ 12	£ -	£ 12	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 23	£ 11	£ -	£ 11	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
CSH Level 4		ENERGY	MATERIALS & LABOUR	Small	£ 938	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 1,054	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 938	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 1,054	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ 938	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 1,054	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
	Op 1		PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ 21	£ -	£ 114	£ 31	£ -	£ 31	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ 5	£ -	£ 29	£ 3	£ -	£ 3	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ 5	£ -	£ 29	£ 2	£ -	£ 2	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 1,031	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 1,168	£ 40	£ -	£ 40	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 961	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 1,083	£ 12	£ -	£ 12	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 961	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 1,083	£ 11	£ -	£ 11	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 1,150	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 1,266	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 1,150	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 1,266	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ 1,150	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 1,266	£ 9	£ -	£ 9	£ -	£ -	£ -	£ -	£ -	£ -	£ -
			PROCESS	Sml	£ 94	£ -	£ -	£ -	£ -	£ -	£ -	£ 21	£ -	£ 114	£ 31	£ -	£ 31	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ 5	£ -	£ 29	£ 3	£ -	£ 3	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ -	£ -	£ -	£ -	£ -	£ -	£ 5	£ -	£ 29	£ 2	£ -	£ 2	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 1,243	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 1,381	£ 40	£ -	£ 40	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 1,173	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 1,295	£ 12	£ -	£ 12	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 1,173	£ -	£ -	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 1,295	£ 11	£ -	£ 11	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
CSH Level 5		ENERGY	MATERIALS & LABOUR	Small	£ 17,548	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 17,764	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 17,548	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 17,764	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ 17,548	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 17,764	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
	Op 1		PROCESS	Sml	£ 94	£ 312	£ 10	£ -	£ -	£ -	£ -	£ 21	£ -	£ 437	£ 78	£ -	£ 78	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 109	£ 8	£ -	£ 8	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 108	£ 5	£ -	£ 5	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 17,641	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 18,201	£ 2,775	£ 19	£ 2,794	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 17,571	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 17,873	£ 2,705	£ 19	£ 2,724	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 17,571	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 17,872	£ 2,702	£ 19	£ 2,722	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 20,269	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 20,486	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 20,269	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 20,486	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ 20,269	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 20,486	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
			PROCESS	Sml	£ 94	£ 312	£ 10	£ -	£ -	£ -	£ -	£ 21	£ -	£ 437	£ 78	£ -	£ 78	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 109	£ 8	£ -	£ 8	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 108	£ 5	£ -	£ 5	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 20,363	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 20,923	£ 2,775	£ 19	£ 2,794	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 20,293	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 20,595	£ 2,705	£ 19	£ 2,724	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 20,293	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 20,594	£ 2,702	£ 19	£ 2,722	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
CSH Level 6		ENERGY	MATERIALS & LABOUR	Small	£ 26,269	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 26,486	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 26,269	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 26,486	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ 26,269	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 26,486	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
	Op 1		PROCESS	Sml	£ 94	£ 312	£ 10	£ -	£ -	£ -	£ -	£ 21	£ -	£ 437	£ 78	£ -	£ 78	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 109	£ 8	£ -	£ 8	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 108	£ 5	£ -	£ 5	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 26,363	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 26,923	£ 2,775	£ 19	£ 2,794	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 26,293	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 26,595	£ 2,705	£ 19	£ 2,724	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 26,293	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 26,594	£ 2,702	£ 19	£ 2,722	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
	Op2		MATERIALS & LABOUR	Small	£ 26,269	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 26,486	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Medium	£ 26,269	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 26,486	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
				Large	£ 26,269	£ -	£ 100	£ 18	£ -	£ 46	£ -	£ 17	£ 35	£ 26,486	£ 2,697	£ 19	£ 2,716	£ -	£ -	£ -	£ -	£ -	£ -	£ -
			PROCESS	Sml	£ 94	£ 312	£ 10	£ -	£ -	£ -	£ -	£ 21	£ -	£ 437	£ 78	£ -	£ 78	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Med	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 109	£ 8	£ -	£ 8	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 23	£ 78	£ 2	£ -	£ -	£ -	£ -	£ 5	£ -	£ 108	£ 5	£ -	£ 5	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7
			TOTAL	Small	£ 26,363	£ 312	£ 110	£ 18	£ -	£ 46	£ -	£ 38	£ 35	£ 26,923	£ 2,775	£ 19	£ 2,794	£ 62	£ 42	£ 42	£ 146	£ 109	£ 36	£ 146
				Medium	£ 26,293	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 26,595	£ 2,705	£ 19	£ 2,724	£ 16	£ 10	£ 10	£ 36	£ 11	£ 4	£ 15
				Large	£ 26,293	£ 78	£ 102	£ 18	£ -	£ 46	£ -	£ 22	£ 35	£ 26,594	£ 2,702	£ 19	£ 2,722	£ 16	£ 10	£ 10	£ 36	£ 5	£ 2	£ 7

					Was 1	Was 2	Was 3	TOTAL WAS	Pol 1	Pol 2	TOTAL POL	Hea 1	Hea 2	Hea 3	Hea 4	TOTAL HEA	Man 1	Man 2	Man 3	Man 4	TOTAL MAN	Eco 1	Eco 2	Eco 3	Eco 4	Eco 5	TOTAL ECO	TOTAL
					Storage of non-recyclablee waste	Construction Site Waste Management	Composting		Global Warming Potential of insulants	Nox Emissions		Daylighting	Sound Insulation	Private Space	Lifetime Homes		Home User Guide	Considerate Constructors	Construction Site Impacts	Security		Ecological Value of Site	Ecological Enhancement	Protection of Ecological Feature	Change of Ecological value of site	Building Footprint		
CfSH Level 1	Low	ENERGY	MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 92
	High		MATERIALS & LABOUR	Small	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
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			TOTAL	Small	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 593
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				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 92
CfSH Level 2	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 40
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				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 92
			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ -	£ 42	£ 633
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ -	£ -	£ 8	£ 157
				Large	£ 40	£ -	£ -	£ 40	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 132
	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 40
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				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ -	£ -	£ 4	£ 92
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CfSH Level 3	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
				Medium	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
				Large	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ -	£ 21	£ 62	£ 645
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 125
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			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 698
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	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 49
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 645
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 125
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			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ -	£ 42	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 694
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ -	£ 10	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 174
				Large	£ 40	£ -	£ -	£ 40	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ -	£ 5	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 145
CfSH Level 4	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 1,103
				Medium	£ 40	£ -	£ -	£ 40	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ 1,103
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 686
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 136
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			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 1,789
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 1,239
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			PROCESS	Sml	£ -	£ -	£ -	£ -	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 686
				Med	£ -	£ -	£ -	£ -	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 136
				Large	£ -	£ -	£ -	£ -	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ -	£ 5	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 107
			TOTAL	Small	£ 40	£ -	£ -	£ 40	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ -	£ 42	£ 42	£ -	£ -	£ 21	£ -	£ 62	£ 2,001
				Medium	£ 40	£ -	£ -	£ 40	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ -	£ 10	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 1,451
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CfSH Level 5	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 448	£ -	£ 1,091	£ 1,539	£ -	£ -	£ -	£ 254	£ 254	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 22,728
				Medium	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 448	£ -	£ 1,091	£ 1,539	£ -	£ -	£ -	£ 239	£ 239	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 22,713
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				Large	£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 469	£ -	£ 1,112	£ 1,601	£ 21	£ -	£ 21	£ 306	£ 347	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 23,846
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 453	£ -	£ 1,096	£ 1,555	£ 8	£ -	£ 2	£ 244	£ 254	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 22,943
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 451	£ -	£ 1,096	£ 1,549	£ 4	£ -	£ 1	£ 241	£ 246	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 22,906
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			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 469	£ -	£ 1,112	£ 1,601	£ 21	£ -	£ 21	£ 306	£ 347	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 26,568
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 453	£ -	£ 1,096	£ 1,555	£ 8	£ -	£ 2	£ 244	£ 254	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 25,663
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 451	£ -	£ 1,096	£ 1,549	£ 4	£ -	£ 1	£ 241	£ 246	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 25,628
CfSH Level 6	Low	ENERGY	MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 448	£ -	£ 1,091	£ 1,539	£ -	£ -	£ -	£ 254	£ 254	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 31,450
				Medium	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 448	£ -	£ 1,091	£ 1,539	£ -	£ -	£ -	£ 239	£ 239	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 31,435
				Large	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 448	£ -	£ 1,091	£ 1,539	£ -	£ -	£ -	£ 239	£ 239	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 31,435
			PROCESS	Sml	£ -	£ -	£ 10	£ 10	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ -	£ 21	£ 62	£ 1,118
				Med	£ -	£ -	£ 2	£ 2	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ 5	£ 15	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 228
				Large	£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 469	£ -	£ 1,112	£ 1,601	£ 21	£ -	£ 21	£ 306	£ 347	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 32,568
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 453	£ -	£ 1,096	£ 1,555	£ 8	£ -	£ 2	£ 244	£ 254	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 31,663
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 451	£ -	£ 1,096	£ 1,549	£ 4	£ -	£ 1	£ 241	£ 246	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 31,628
	High		MATERIALS & LABOUR	Small	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 448	£ -	£ 1,091	£ 1,539	£ -	£ -	£ -	£ 254	£ 254	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 31,450
				Medium	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 448	£ -	£ 1,091	£ 1,539	£ -	£ -	£ -	£ 239	£ 239	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 31,435
				Large	£ 40	£ -	£ 15	£ 55	£ -	£ -	£ -	£ -	£ 448	£ -	£ 1,091	£ 1,539	£ -	£ -	£ -	£ 239	£ 239	£ -	£ -	£ 100	£ 300	£ -	£ 400	£ 31,435
			PROCESS	Sml	£ -	£ -	£ 10	£ 10	£ 42	£ 42	£ 83	£ 21	£ 21	£ -	£ 21	£ 62	£ 21	£ -	£ 21	£ 52	£ 94	£ 42	£ -	£ -	£ -	£ 21	£ 62	£ 1,118
				Med	£ -	£ -	£ 2	£ 2	£ 4	£ 10	£ 15	£ 5	£ 5	£ -	£ 5	£ 16	£ 8	£ -	£ 2	£ 5	£ 15	£ 8	£ -	£ -	£ 5	£ -	£ 13	£ 228
				Large	£ -	£ -	£ 1	£ 1	£ 0	£ 10	£ 11	£ 3	£ 3	£ -	£ 5	£ 10	£ 4	£ -	£ 1	£ 3	£ 8	£ 4	£ -	£ -	£ 3	£ -	£ 7	£ 193
			TOTAL	Small	£ 40	£ -	£ 25	£ 65	£ 42	£ 42	£ 83	£ 21	£ 469	£ -	£ 1,112	£ 1,601	£ 21	£ -	£ 21	£ 306	£ 347	£ 42	£ -	£ 100	£ 321	£ -	£ 462	£ 32,568
				Medium	£ 40	£ -	£ 17	£ 57	£ 4	£ 10	£ 15	£ 5	£ 453	£ -	£ 1,096	£ 1,555	£ 8	£ -	£ 2	£ 244	£ 254	£ 8	£ -	£ 100	£ 305	£ -	£ 413	£ 31,663
				Large	£ 40	£ -	£ 16	£ 56	£ 0	£ 10	£ 11	£ 3	£ 451	£ -	£ 1,096	£ 1,549	£ 4	£ -	£ 1	£ 241	£ 246	£ 4	£ -	£ 100	£ 303	£ -	£ 407	£ 31,628

Code Allocation Table

Section		Points Availiable	Weighting	Output	Points Achieved Code 1		Points Achieved Code 2		Points Achieved Code 3		Points Achieved Code 4		Points Achieved Code 5		Points Achieved Code 6	
					Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
ENERGY																
Ene 1	Dwelling Emission Rate	10	36.4	11.74	3	3.52	6	7.05	7	8.22	7	8.22	9	10.57	10	11.74
Ene 2	Fabric Energy Efficiency	9	36.4	10.57	3	3.52	5	5.87	5	5.87	5	5.87	7	8.22	9	10.57
Ene 3	Energy Display Devices	2	36.4	2.35	x		x		x		x		2	2.35	2	2.35
Ene 4	Drying Space	1	36.4	1.17	x		x		x		2	2.35	1	1.17	1	1.17
Ene 5	Energy Labelled White Goods	2	36.4	2.35	2	2.35	2	2.35	2	2.35	2	2.35	2	2.35	2	2.35
Ene 6	External Lighting	2	36.4	2.35	x		x		x		2	2.35	2	2.35	2	2.35
Ene 7	Low or Zero Carbon Technologies	2	36.4	2.35	2	2.35	2	2.35	2	2.35	2	2.35	2	2.35	2	2.35
Ene 8	Cycle Storage	2	36.4	2.35	x		x		x		1	1.17	2	2.35	2	2.35
Ene 9	Home Office	1	36.4	1.17	x		x		x		1	1.17	1	1.17	1	1.17
		31		36.40	10	11.74	15	17.60	16	18.79	22	25.84	27	31.69	31	36.40
WATER																
Wat 1	Internal Water Usage	5	9	7.50	1	1.50	2	3.00	3	4.50	3	4.50	5	7.50	5	7.50
Wat 2	External Water Usage	1	9	1.50	x		x		x		x		1	1.50	1	1.50
		6		9.00	1	1.50	2	3.00	3	4.50	3	4.50	6	9.00	6	9.00
MATERIALS																
Mat 1	Environmental Impact of Materials	15	7.2	4.50	6	1.80	9	2.70	11	3.30	11	3.30	12	3.60	15	4.50
Mat 2	Responsible Sourcing of Materials - Basic Building Elements	6	7.2	1.80	3	0.90	3	0.90	3	0.90	4	1.20	6	1.80	6	1.80
Mat 3	Responsible Sourcing of Materials - Finishing Elements	3	7.2	0.90	2	0.60	2	0.60	2	0.60	2	0.60	3	0.90	3	0.90
		24		7.20	11	3.30	14	4.20	16	4.80	17	5.10	21	6.30	24	7.20
SURFACE																
Sur 1	Management of Surface Water Run off	2	2.2	1.10	1	0.55	1	0.55	2	1.10	2	1.10	2	1.10	2	1.10
Sur 2	Flood risk	2	2.2	1.10	2	1.10	2	1.10	2	1.10	2	1.10	2	1.10	2	1.10
		4		2.20	3	1.65	3	1.65	4	2.20	4	2.20	4	2.20	4	2.20
WASTE																
Was 1	Storage of non-recyclablee waste	4	6.4	3.20	0	0.00	4	3.20	4	3.20	4	3.20	4	3.20	4	3.20
Was 2	Construction Site Waste Management	3	6.4	2.40	3	2.40	3	2.40	3	2.40	3	2.40	3	2.40	3	2.40
Was 3	Composting	1	6.4	0.80	x		x		x		x		1	0.80	1	0.80
		8		6.40	3	2.40	7	5.60	7	5.60	7	5.60	8	6.40	8	6.40
POLLUTION																
Pol 1	Global Warming Potential of Insulants	1	2.8	0.70	1	0.70	1	0.70	1	0.70	1	0.70	1	2.80	1	0.70
Pol 2	Nox Emissions	3	2.8	2.10	1	0.70	1	0.70	2	1.40	2	1.40	3	2.10	3	2.10
		4		2.80	2	1.40	2	1.40	3	2.10	3	2.10	4	4.90	4	2.80
HEALTH																
Hea 1	Daylighting	3	14	3.50	1	1.17	1	1.17	1	1.17	2	2.33	3	3.50	3	3.50
Hea 2	Sound Insulation	4	14	4.67	2	2.33	2	2.33	3	3.50	3	3.50	4	4.67	4	4.67
Hea 3	Private Space	1	14	1.17	1	1.17	1	1.17	1	1.17	1	1.17	1	1.17	1	1.17
Hea 4	Lifetime Homes	4	14	4.67	x		x		x		3	3.50	4	4.67	4	4.67
		12		14.00	4	4.67	4	4.67	5	5.83	9	10.50	12	14.00	12	14.00
MANAGEMENT																
Man 1	Home User Guide	3	10	3.33	3	3.33	3	3.33	3	3.33	3	3.33	3	3.33	3	3.33
Man 2	Considerate Constructors	2	10	2.22	2	2.22	1	1.11	2	2.22	2	2.22	2	2.22	2	2.22
Man 3	Construction Site Impacts	2	10	2.22	2	2.22	2	2.22	2	2.22	2	2.22	2	2.22	2	2.22
Man 4	Security	2	10	2.22	x		x		x		x		2	2.22	2	2.22
		9		10.00	7	7.78	6	6.67	7	7.78	7	7.78	9	10.00	9	10.00
ECOLOGY																
Eco 1	Ecological Value of Site	1	12	1.33	1	0.15	1	1.33	1	1.33	1	1.33	1	1.33	1	1.33
Eco 2	Ecological Enhancement	1	12	1.33	1	0.15	1	1.33	1	1.33	1	1.33	1	1.33	1	1.33
Eco 3	Protection of Ecological Feature	1	12	1.33	x		x		x		x		1	1.33	1	1.33
Eco 4	Change of Ecological value of site	4	12	5.33	x		x		1	1.33	1	1.33	3	4.00	4	5.33
Eco 5	Building Footprint	2	12	2.67	1	1.33	1	1.33	1	1.33	2	2.67	2	2.67	2	2.67
		9		12.00	3	1.63	3	4.00	4	5.33	5	6.67	8	10.67	9	12.00
Score Required					36		48		56		68		84		90	
		107		100.00	44	**36.07**	56	**48.80**	65	**56.93**	77	**70.28**	100	**96.34**	107	**100.00**

CFSH 4

Flat - 1 Bed (BASE CASE)

Assuming a mid point unit size of 71m2

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	25	m2	250.00	6,250
Roof	0.13 W/m2K		16	m2	0	-
Grd Floor	0.20 W/m2k		0	m2	0	-
Window	1.2 W/m2k		6	m2	300	1,800
Doors	Insulated		1	Nr	750	750
Ventilation						
Passive			1	Item	0	-
Heating						
A rated boiler			1	Item	1750	1,750
Lighting						
75%				Item		-
Renewable						
PV			0	m2	0	-

Flat - 1 Bed (Option 1 - Renewables approach)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	25	m2	250.00	6,250
Roof	N/A		16	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		6	m2	300.00	1,800
Doors	Insulated		1	Nr	750	750
Ventilation						
Natural			1	Item	0	0
Heating						
A rated gas boiler			1	Prov	1750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			0.5	m2	250	125

Flat - 1 Bed (Option 2 - Fabric First approach)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	25	m2	261.13	6,528
Roof	N/A		16	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		6	m2	300.00	1,800
Doors	Insulated		1	Nr	750	750
Ventilation						
MVHR			0	Item	2500	0
Heating						
A rated gas			1	Item	1750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			0	m2	250	0

Flat - 1 Bed

Element	Specification	
CfSH 4	E/O op 1	E/O op 2
Walls	0	278
Roof	0	0
Grd Floor	0	0
Window	0	0
Doors	0	0
Ventilation		
Natural	0	-
Heating		
	0	-
Lighting		
75%	0%	-
Renewable		
PV	125	-
	125	278

Flat - 2 Bed (BASE CASE)

Assuming a mid point unit size of 71m2

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	37	m2	250.00	9,250
Roof	0.13 W/m2K		22	m2	0	-
Grd Floor	0.20 W/m2k		0	m2	0	-
Window	1.2 W/m2k		9	m2	300	2,700
Doors	Insulated		1	Nr	750	750
Ventilation						
Passive			1	Item	0	-
Heating						
A rated boiler			1	Item	1750	1,750
Lighting						
75%				Item		-
Renewable						
PV			0	m2	0	-

Flat - 2 Bed (Option 1 - Renewables approach)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	37	m2	250.00	9,250
Roof	N/A		22	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		9	m2	300.00	2,700
Doors	Insulated		1	Nr	750	750
Ventilation						
Natural			1	Item	0	0
Heating						
Gas Boiler			1	Prov	1,750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			2	m2	250	500

Flat - 2 Bed (Option 2 - Fabric First approach)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	37	m2	261.13	9,662
Roof	N/A		22	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		9	m2	300.00	2,700
Doors	Insulated		1	Nr	750	750
Ventilation						
MVHR			0	Item	2500	0
Heating						
A rated gas			1	Item	1750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			0	m2	250	0

Flat - 2 Bed

Element	Specification	
CfSH 4	E/O op 1	E/O op 2
Walls	0	412
Roof	0	0
Grd Floor	0	0
Window	0	0
Doors	0	0
Ventilation		
Natural	0	-
Heating		
	0	-
Lighting		
75%	0%	-
Renewable		
PV	500	-
	500	412

House - 2 Bed Terrace - (BASE CASE)

Assuming a mid point unit size of

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	77	m2	222.00	17,094
Roof	0.13 W/m2K	(Improvement on 0.13 Part L 2010)	36	m2	140	5,040
Grd Floor	0.20 W/m2k		36	m2	57.4	2,066
Window	1.2 W/m2k		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Natural with Extract Fans			1	Item	0	0
Heating						
Gas Boiler A Rated			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV	0		0	m2	250	0

House - 2 Bed Terrace - (Option 1)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	77	m2	222.00	17,094
Roof	0.13 W/m2k	Over rafter (sarking) - One layer insulation	36	m2	140.00	5,040
Grd Floor	0.20 W/m2k		36	m2	57.40	2,066
Window	1.2 W/m2K		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Natural Ventilation			1	Item	0	0
Heating						
Gas Boiler			1	Item	1750	1750
Lighting						
75%			1	Item		0
Renewable						
PV			1.9	m2	250	468.75

House - 2 Bed Terrace - (Option 2)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	77	m2	231.13	17,797
Roof	0.13 W/m2k		36	m2	140.00	5,040
Grd Floor	0.20 W/m2k		36	m2	57.40	2,066
Window	1.2 W/m2K		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Mech Vent		Heat Recovery	0	Item	2500	0
Heating						
Gas Boiler			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV			0	m2	250	0

House - 2 Bed Terrace

Element		Specification
CfSH 4	E/O op 1	E/O op 2
Walls	0	703
Roof	0	0
Grd Floor	0	0
Window	0	0
Doors	0	0
Ventilation		
Natural	0	-
Heating		
	0	-
Lighting		
75%	0%	-
Renewable		
PV	468.75	-
	468.75	703

House - 3 Bed Semi - (BASE CASE)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	89	m2	222.00	19,758
Roof	0.13 W/m2K		48	m2	140	6,720
Grd Floor	0.20 W/m2k		48	m2	57.4	2,755
Window	1.2 W/m2k		21	m2	300	6,300
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Passive			1	Item	0	0
Heating						
Gas Boiler A Rated			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV			0	m2	250	0

House - 3 Bed Semi - (Option 1)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	89	m2	222.00	19,758
Roof	0.13 W/m2k	Over rafter (sarking) - One layer insulation	48	m2	140.00	6,720
Grd Floor	0.20 W/m2k		48	m2	57.40	2,755
Window	1.2 W/m2K		21	m2	300.00	6,300
Doors	Insulated		2	Nr	750.00	1,500
Ventilation						
			1	Item	0	0
Heating						
Gas Boiler A Rated			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV			2.5	m2	250	625

House - 3 Bed Semi - (Option 2)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	89	m2	231.13	20,570
Roof	0.13 W/m2k		48	m2	140.00	6,720
Grd Floor	0.20 W/m2k		48	m2	57.40	2,755
Window	1.2 W/m2K		21	m2	300.00	6,300
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Mech Vent		Heat Recovery	0	Item	3500	0
Heating						
Gas Boiler			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV			0	m2	250	0

House - 3 Bed Semi

Element		Specification
CfSH 4	E/O op 1	E/O op 2
Walls	0	812
Roof	0	0
Grd Floor	0	0
Window	0	0
Doors	0	0
Ventilation		
Natural	0	-
Heating		
	0	-
Lighting		
75%	0%	-
Renewable		
PV	625	-
	625	812

House - 4 Bed Detached - (BASE CASE)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	126	m2	222.00	27,972
Roof	0.13 W/m2K		49	m2	140.00	6,860
Grd Floor	0.20 W/m2k		49	m2	57.40	2,813
Window	1.2 W/m2k		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750.00	1,500
Ventilation						
Passive			1	Item	0	0
Heating						
Gas Boiler A Rated			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV			0	m2	250	0

House - 4 Bed Detached - (Option 1)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	126	m2	222.00	27,972
Roof	0.13 W/m2k	Over rafter (sarking) - One layer insulation	49	m2	140.00	6,860
Grd Floor	0.20 W/m2k		49	m2	57.40	2,813
Window	1.2 W/m2K		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750.00	1,500
Ventilation						
Natural			1	Item	0	0
Heating						
Gas Boiler A Rated			1	Item	1750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV		@215 watts peak; 1.25m2	3.75	m2	250	938

House - 4 Bed Detached - (Option 2)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	126	m2	231.13	29,122
Roof	0.13 W/m2k		49	m2	140.00	6,860
Grd Floor	0.20 W/m2k		49	m2	57.40	2,813
Window	1.2 W/m2K		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Mech Vent		Heat recovery	0	Item	3500	0
Heating						
Gas Boiler			1	Item	1750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			0	m2	250	0

House - 4 Bed Detached

Element		Specification
CfSH 4	E/O op 1	E/O op 2
Walls	0	1150
Roof	0	0
Grd Floor	0	0
Window	0	0
Doors	0	0
Ventilation		
Natural	0	-
Heating		
	0	-
Lighting		
75%	0%	-
Renewable		
PV	937.5	-
	937.5	1150

CfSH 5 & 6

Flat - 1 Bed (BASE CASE)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	25	m2	250.00	6,250
Roof	0.13 W/m2K		16	m2	0	-
Grd Floor	0.20 W/m2k		0	m2	0	-
Window	1.2 W/m2k		6	m2	300	1,800
Doors	Insulated		1	Nr	750	750
Ventilation						8,800
Passive			1	Item	0	-
Heating						
A rated boiler			1	Item	1750	1,750
Lighting						
75%				Item		-
Renewable						
PV			0	m2	0	-

Flat - 1 Bed (Option 1 - Renewables approach)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	25	m2	261.13	6,528
Roof	N/A		16	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		6	m2	300.00	1,800
Doors	Insulated		1	Nr	750	750
Ventilation						9,078
Natural			1	Item	0	0
Heating						
A rated gas boiler			1	Prov	1750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			8	m2	250	2000

Flat - 1 Bed (Option 2 - Fabric First approach)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	25	m2	261.13	6,528
Roof	N/A		16	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	0.8 W/m2K		6	m2	350	2,100
Doors	Insulated		1	Nr	750	750
Ventilation						
MVHR			1	Item	2500	2500
Heating						
A rated gas			1	Item	1750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			0	m2	250	0

Element	Specification	
CfSH 5	E/O op 1	E/O Op 2
Walls	278	278
Roof	0	0
Grd Floor	0	0
Window	0	300
Doors	0	0
Ventilation		
	-	2500
Heating		
	-	-
Lighting		
75%	-	0
Renewable		
PV	2,000	0
	2278	3078

Element	Specification
	CfSH 6
Walls	278
Roof	0
Grd Floor	0
Window	300
Doors	0
Ventilation	
	2500
Heating	
	4,000
Lighting	
75%	0
Renewable	
PV	0
	7078

Flat - 2 Bed (BASE CASE)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	37	m2	250.00	9,250
Roof	0.13 W/m2K		22	m2	0	-
Grd Floor	0.20 W/m2k		0	m2	0	-
Window	1.2 W/m2k		9	m2	300	2,700
Doors	Insulated		1	Nr	750	750
Ventilation						12,700
Passive			1	Item	0	-
Heating						
A rated boiler			1	Item	1750	1,750
Lighting						
75%				Item		-
Renewable						
PV			0	m2	0	-

Flat - 2 Bed (Option 1 - Renewables approach)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	37	m2	261.13	9,662
Roof	N/A		22	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	1.2 W/m2K		9	m2	300.00	2,700
Doors	Insulated		1	Nr	750	750
Ventilation						13,112
Natural			1	Item	0	0
Heating						
Gas Boiler			1	Prov	1,750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			11	m2	250	2813

Flat - 2 Bed (Option 2 - Fabric First approach)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	37	m2	261.13	9,662
Roof	N/A		22	m2	0	-
Grd Floor	N/A		0	m2	0	-
Window	0.8 W/m2K		9	m2	350	3,150
Doors	Insulated		1	Nr	750	750
Ventilation						
MVHR			1	Item	2500	2500
Heating						
A rated gas			1	Item	1750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			11	m2	250	2812.5

Element	Specification	
CfSH 5	E/O op 1	E/O Op 2
Walls	412	412
Roof	0	0
Grd Floor	0	0
Window	0	450
Doors	0	0
Ventilation		
	-	2500
Heating		
	-	-
Lighting		
75%	-	0
Renewable		
PV	2,813	2812.5
	3224	6174

Element	Specification
	CfSH 6
Walls	412
Roof	0
Grd Floor	0
Window	450
Doors	0
Ventilation	0
	2500
Heating	0
	6,000
Lighting	0
75%	0
Renewable	0
PV	2812.5
	12174

House - 2 Bed Terrace - (BASE CASE)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	77	m2	222.00	17,094
Roof	0.13 W/m2K	(Improvement on 0.13 Part L 2010)	36	m2	140	5,040
Grd Floor	0.20 W/m2k		36	m2	57.4	2,066
Window	1.2 W/m2k		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Natural with Extract Fans			1	Item	0	0
Heating						
Gas Boiler A Rated			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV	0		0	m2	250	0

House - 2 Bed Terrace - (Option 1)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	77	m2	261.13	20,107
Roof	0.10 W/m2k	Over rafter (sarking) - One layer insulation	36	m2	150.83	5,430
Grd Floor	0.20 W/m2k		36	m2	68.26	2,457
Window	1.2 W/m2K		15	m2	300	4,500
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Natural Ventilation			1	Item	0	0
Heating						
Air Source			1	Item	4750	4750
Lighting						
75%			1	Item		0
Renewable						
PV			15	m2	250	3750

House - 2 Bed Terrace - (Option 2)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	77	m2	261.13	20,107
Roof	0.06 W/m2/k		36	m2	159.79	5,752
Grd Floor	0.10 W/m2k		36	m2	67.40	2,426
Window	0.8 W/m2K		15	m2	350	5,250
Doors	insulated		2	Nr	750	1,500
Ventilation						
Mech Vent		Heat Recovery	1	Item	2500	2500
Heating						
Gas Boiler			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV			15	m2	250	3750

Element	Specification	
CfSH 5	E/O Opt 1	E/O Op 2
Walls	3013	3013
Roof	390	712
Grd Floor	391	360
Window	0	750
Doors	0	0
Ventilation		
	-	2500
Heating		
	3,000	0
Lighting		
75%	-	0
Renewable		
PV	3,750	3750
	10544	11085

Element	Specification
	CfSH 6
Walls	3013
Roof	712
Grd Floor	360
Window	750
Doors	0
Ventilation	4835
	2,500
Heating	
	6,000
Lighting	
75%	-
Renewable	
PV	3,750
	21920

House - 3 Bed Semi - (BASE CASE)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	89	m2	222.00	19,758
Roof	0.13 W/m2K		48	m2	140	6,720
Grd Floor	0.20 W/m2k		48	m2	55	2,640
Window	1.2 W/m2k		21	m2	300	6,300
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Passive			1	Item	0	0
Heating						
Gas Boiler A Rated			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV			0	m2	250	0

House - 3 Bed Semi - (Option 1)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	89	m2	261.13	23,240
Roof	0.10 W/m2k	Over rafter (sarking) - One layer insulation	48	m2	150.83	7,240
Grd Floor	0.20 W/m2k		48	m2	68.26	3,276
Window	1.2 W/m2K		21	m2	300	6,300
Doors	Insulated		2	Nr	750	1,500
Ventilation						
			1	Item	0	0
Heating						
Air Source Heat Pump			1	Item	4750	4750
Lighting						
75%			1	Item	0	0
Renewable						
PV			20	m2	250	5000

House - 3 Bed Semi - (Option 2)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	89	m2	261.13	23,240
Roof	0.06 W/m2/k		48	m2	159.79	7,670
Grd Floor	0.10 W/m2k		48	m2	67.40	3,235
Window	0.8 W/m2K		21	m2	350	7,350
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Mech Vent		Heat Recovery	1	Item	3500	3500
Heating						
Gas Boiler			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV			21.25	m2	250	5312.5

Element	Specification	
CfSH 5	E/O Opt 1	E/O Op 2
Walls	3482	3482
Roof	520	950
Grd Floor	636	595
Window	0	1050
Doors	0	0
Ventilation		
	-	3500
Heating		
	3,000	0
Lighting		
75%	-	0
Renewable		
PV	5,000	5312.5
	12639	14890

Element	Specification
	CfSH 6
Walls	3482
Roof	950
Grd Floor	595
Window	1050
Doors	0
Ventilation	0
	3,500
Heating	0
	6,000
Lighting	0
75%	-
Renewable	0
PV	5,313
	20890

House - 4 Bed Detached - (BASE CASE)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.18 W/m2k	Partial fill, brick and aircrete block	126	m2	222.00	27,972
Roof	0.13 W/m2K		49	m2	140.00	6,860
Grd Floor	0.20 W/m2k		49	m2	55.00	2,695
Window	1.2 W/m2k		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750.00	1,500
Ventilation						
Passive			1	Item	0	0
Heating						
Gas Boiler A Rated			1	Item	1750	1750
Lighting						
75%			1	Item	0	0
Renewable						
PV			0	m2	250	0

House - 4 Bed Detached - (Option 1)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	126	m2	261.13	32,902
Roof	0.10 W/m2k	Over rafter (sarking) - One layer insulation	49	m2	150.83	7,391
Grd Floor	0.20 W/m2k		49	m2	68.26	3,345
Window	1.2 W/m2K		24	m2	300.00	7,200
Doors	Insulated		2	Nr	750.00	1,500
Ventilation						
Natural			1	Item	0	0
Heating						
Air Source Heat Pump			1	Item	4750	4750
Lighting						
75%			0	Item	0	0
Renewable						
PV		@215 watts peak; 1.25m2	33.75	m2	250	8438

House - 4 Bed Detached - (Option 2)

Element	Specification					
Fabric		Specification	Amount	Unit	£	Total
Walls	0.15 W/m2k	Partial fill, brick and aircrete block	126	m2	261.13	32,902
Roof	0.06 W/m2/k		49	m2	159.79	7,830
Grd Floor	0.10 W/m2k		49	m2	67.40	3,303
Window	0.8 W/m2K		24	m2	350	8,400
Doors	Insulated		2	Nr	750	1,500
Ventilation						
Mech Vent		Heat recovery	1	Item	3500	3500
Heating						
Gas Boiler			1	Item	1750	1750
Lighting						
75%			0	Item	0	0
Renewable						
PV			36.25	m2	250	9062.5

Element	Specification	
CfSH 5	E/O Opt 1	E/O Opt 2
Walls	4930	4930
Roof	531	970
Grd Floor	650	608
Window	0	1200
Doors	0	0
Ventilation		
	-	3500
Heating		
	3,000	0
Lighting		
75%	-	0
Renewable		
PV	8,438	9062.5
	17548	20269

Element	Specification
	CfSH 6
Walls	4930
Roof	970
Grd Floor	608
Window	1200
Doors	0
Ventilation	0
	3,500
Heating	0
GSHP	6,000
Lighting	0
75%	-
Renewable	0
PV	9,063
	26269

Review of CfSH Standards - (Option 1 - Renewables Approach)

ENERGY

Requirement		Available Credits	Weighting		CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Ene 1	Dwelling Emission Rate	10	1.17%	1 Bed Flat	£0	£0	£0	£125	£2,278	£7,078		
				2 Bed Flat	£0	£0	£0	£500	£3,224	£12,174	Requires SAP calcs by accredited energy assessor	CfSH 4 - Assumes enhanced wall fabric
				2 Bed House	£0	£0	£0	£469	£10,544	£21,920		CfSH 5 - Assumes a 'fabric first' approach, enhancing wall, floor and roof insulation; a gas boiler system, Balanced whole house ventilation with heat recovery and PV panels.
				3 Bed House	£0	£0	£0	£625	£12,639	£20,890		
				4 Bed House	£0	£0	£0	£938	£17,548	£26,269		CfSH 6 - Assumes a Ground Source Heat pump system; enhanced building fabric to walls, roof, floors and windows; balanced whole house ventilation with heat recovery and PV Panels
	(Min energy performance requirement i.e. mass of CO2; expressed in kg/m2 of floor area) *Based on space heating & hot water + internal lighting*				Assume 1 point (>8%)	Assume 2 points (>16%)	Assume 3 points (>25%)	3 points (>25%)			% Improvement of DER over TER required based on SAP output	
Ene 2	Dwelling Fabric	9	0.00%		£0	£0	£0	£0	£0	£0	Requires SAP calcs by accredited energy assessor	Fabric enhancements incorporated within ENE 1 are assumed to satisfy the requirements of ENE 2
					£0	£0	£0	£0	£0	£0		
	(kWh/m2/yr)				£0	£0	£0	£0	£0	£0		
	<60	*3*			£0	£0	£0	£0	£0	£0		
	<55	*4*										
	<52	*5*										
	<49	*6*										
Ene 3	Energy Display Devices	2	0.00%		Not provided	Not provided	Not provided	Not provided	£100	£100		*Range between £100 and £450 however are becoming the norm
Ene 4	Drying Space	1	0.00%		Not provided	Not provided	Not provided	£18	£18	£18	NONE	
Ene 5	Energy Labelled White Good	2	0.00%		£0	£0	£0	£0	£0	£0	NONE	
Ene 6	External Lights	2	0.00%		Not provided	Not provided	Not provided	£46	£46	£46	NONE	Lights need to meet specific CfSH requirements
Ene 7	Low & Zero carbon technologies	2	0.00%		£0	£0	£0	£0	£0	£0		Assumed achieved through the PV panels included within the ENE 1 credit
Ene 8	Cycle Storage	2	0.00%		Not provided	Not provided	Not provided	£17	£17	£17		Cost for cycle hoop complient with Code; space assumed required via planning
Ene 9	Home Office	1	0.00%		Not provided	Not provided	Not provided	£35	£35	£35		Requires additional BT and power sockets

WATER

Requirement		Available Credits			CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Wat 1	Internal Water Use	5	1.50%								*The Water Efficiency Calculator for New Dwellings is also required by AD G	CfSH 3 and 4 - cost based on water butt or similar connected to existing down pipe
	2 bed flats				£0	£0	£6	£6	£900	£900		
	2, 3, & 4 bed house				£0	£0	£6	£6	£2,201	£2,201		CfSH 5 and 6 - Assumes a rainwater harvesting system; figure based on average of tenders received. Allowance of £100 made for craneage assuming facility already on site
	3 & 4 bed house				£0	£0	£9	£9	£2,697	£2,697		
	<120 l/p/day	1										NB: 80 /day assumes rainwater harvesting required.
	<110 l/p/day	2										
	<105 l/p/day *CfSH 3/4	**3**										
	<90 l/p/day	4										
	<80l/p/day	5										
Wat 2	External Water Use	1	1.50%		Not Provided	Not Provide	Not Provided	£19	£19	£19		

MATERIALS

Requirement		Available Credits			CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Mat 1	Environmental Impact of Materials	15	0.30%		£0	£0	£0	£0	£0	£0		Assumes that standard materals incorporated within the Green Guide
Mat 2	Responsible Sourcing of Materials	6	0.30%		£0	£0	£0	£0	£0	£0		Ditto above
Mat 3	*Responsible Sourcing of Materials - Finishing Elements*	3	0.30%		£0	£0	£0	£0	£0	£0	*Process Cost associated with collation of documentation and completion of the Mat 3 Calculator Tool	Ditto above

SURFACE

Requirement		Available Credits			CfSH 1	CfSH 2	CfSH 3	CfSH 4	CfSH 5	CfSH 6	Process Cost Associated	Comments
Sur 1	Management of SW Run-off for developments	2	0.55%		£0	£0	£0	*£0*	*£0*	*£0*	Process cost with additional survey however unlikely to influence design as potentially a 'costly credit' if the design does not meet the current criteria	* Site specific, potentially lower cost on Brownfield sites where SW run off not changing, additional requirement over and above Flood Water and Management Act 2012 for Greenfield therefore additional process cost

Sur 2	Flood Risk	2	0.55%		£0	£0	£0	£0	£0	£0	Process cost associated with having a code specific flood risk as a traditional survey for planning is unlikely to meet the criteria	*Project specific dependant on site location
WASTE												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Was 1	Storage of Non-recyclable Waste and Recyclable Household Waste	4	0.80%		£0	£40	£40	£40	£40	£40		*Cost associated with 'accessibility'
Was 2	Construction Site Waste Management	3	0.80%		£0	£0	£0	£0	£0	£0		
Was 3	Composting	1	0.80%		Not provided	Not provided	Not provided	£15	£15	£15		
POLLUTION												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Pol 1	Global Warming Potential of Insulants	1	0.70%		£0	£0	£0	£0	£0	£0	* Process costs associated with completing CfSH tables	
Pol 2	Nox Emissions	3	0.70%		£0	£0	£0	£0	£0	£0		* A rated boiler provided as 'norm' no additional cost
HEALTH												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Hea 1	Daylighting	3	1.17%		£0	£0	£0	£0	£0	£0	- External assesor (typically architect) Daylighting Calculation required (1hr per unit)	? More onerous then Planning requirement
Hea 2	Sound Insulation	4	1.17%	1 Bed Flat	£0	£0	£0	£0	£100	£100	- Nature of buildings may provide as standard however additional acoustic test or Robust details provided - Similar to Building Regs - Sound insulation testing costs	*Achieving the dwelling fabric should improve noise transfer therefore cost may only allowed where 'fabric first approach not included *Dependant on construction methodology whether 'natural' improvement * Costs assume 4 points for level 5 and 6, i.e Robust Detail. Cost associated with the additional detailing required to achieve the seperating wall and floor detail * Cost based on £2/m2 for houses and £4/m2 for flats on floor area, and external / party wall area to allow for the enhnaced specification and detailing required to achieve the Robust Detail certification.
		4	1.17%	2 Bed Flat	£0	£0	£0	£0	£148	£148		
				2 Bed House	£0	£0	£0	£0	£298	£298		
				3 Bed House	£0	£0	£0	£0	£370	£370		
				4 Bed House	£0	£0	£0	£0	£448	£448		
	3db	1										
	5db	3										
	8db	4										
	Robust Details	4										
Hea 3	Private Space	1	1.17%		£0	£0	£0	£0	£0	£0	- Detailed on the drawing	* Sales driver to provide some outside space * Required in LHDG * Assessment criteria under HQI for Affordable Housing
Hea 4	Lifetime Homes	4	1.17%		Not provided	Not provided	Not provided	Not provided	£1,091	£1,091		* Affordable schemes typically comply as part of funding requirement; Cost is £1,091
MANAGEMENT												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Man 1	Home User Guide	3	1.11%		£0	£0	£0	£0	£0	£0		
Man 2	Considerate Constructors Scheme	2	1.11%		£0	£0	£0	£0	£0	£0		
Man 3	Construction Site Impacts	2	1.11%		£0	£0	£0	£0	£0	£0		* Monitored as part of site management *Commercial benefit in reducing site costs
Man 4	Security	2	1.11%		Not provided	Not provided	Not provided	Not provided	£244	£244	2 Bed Flat	Additional SbD compliance to achieve credit. Involvement required early on therefore audit process
									£217	£217	2 Bed House	
									£217	£217	3 Bed House	
									£254	£254	4 Bed House	
ECOLOGY												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CsFH 6**	**Process Cost Associated**	**Comments**
Eco 1	Ecological Value of Site	1	1.33%		£0	£0	£0	£0	£0	£0		* Ecologist required to produce 'code compliant report'
Eco 2	Ecological Enhancement	1	1.33%		£0	£0	£0	£0	£0	£0		* Site specific
Eco 3	Protection of Ecological Features	1	1.33%		Not provided	Not provided	Not provided	£100	£100	£100		* Site specific because of 'default' case where site of low ecological value, therefore Greenfield sites potentially harder to achieve
Eco 4	Change in Ecological Value of the Site	4	1.33%		Not provided	Not provided	Not provided	Not provided	£300	£300		Additional planting - assumed figure of £300 * Assumed not provided at lower levels
Eco 5	Building Footprint	2	1.33%		£0	£0	£0	£0	£0	£0	`	
		97										

Review of CfSH Standards - back up information (Option 2 - Fabric First Approach)

ENERGY												
Requirement		**Available Credits**	**Weighting**		**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Ene 1	Dwelling Emission Rate	10	1.17%	1 Bed Flat	£0	£0	£0	**£278**	£3,078	£7,078		CfSH 4 - Assumes enhanced wall fabric
				2 Bed Flat	£0	£0	£0	**£412**	£6,174	£12,174	Requires SAP calcs by accredited energy assessor	
				2 Bed House	£0	£0	£0	**£703**	£11,085	£21,920		CfSH 5 - Assumes a 'fabric first' approach, enhancing wall, floor and roof insulation; a gas boiler system, Balanced whole house ventilation with heat recovery and PV panels.
				3 Bed House	£0	£0	£0	**£812**	£14,890	£20,890		
				4 Bed House	£0	£0	£0	**£1,150**	£20,269	£26,269	% Improvement of DER over TER required based on SAP output	CfSH 6 - Assumes a Ground Source Heat pump system; enhanced building fabric to walls, roof, floors and windows; balanced whole house ventilation with heat recovery and PV Panels
	(Min energy performance requirement i.e. mass of CO2; expressed in kg/m2 of floor area)				Assume 1 point (>8%)	Assume 2 points (>16%)	Assume 3 points (>25%)	3 points (>25%)				
Ene 2	Dwelling Fabric	9	0.00%		£0	£0	£0	£0	£0	£0	Requires SAP calcs by acc	Fabric enhancements incorporated within ENE 1 are assumed to satisfy the requirements of ENE 2
	(kWh/m2/yr)				£0	£0	£0	£0	£0	£0		
	<60	*3*			£0	£0	£0	£0	£0	£0		
	<55	*4*			£0	£0	£0	£0	£0	£0		
	<52	*5*										
	<49	*6*										
Ene 3	Energy Display Devices	2	0.00%		Not provided	Not provided	Not provided	£100	£100	£100		*Range between £100 and £450 however are becoming the norm; NB: CfSH requires very specific criteria to be met to be compliant
Ene 4	Drying Space	1	0.00%		Not provided	Not provided	Not provided	£18	£18	£18	NONE	Assumes over bath drying system
Ene 5	Energy Labelled White Good	2	0.00%		£0	£0	£0	£0	£0	£0	NONE	Not provided
Ene 6	External Lights	2	0.00%		Not provided	Not provided	Not provided	£46	£46	£46	NONE	Lights need to meet specific CfSH requirements
Ene 7	Low & Zero carbon technologies	2	0.00%		£0	£0	£0	£0	£0	£0		Assumed achieved through the PV panels included within the ENE 1 credit
Ene 8	Cycle Storage	2	0.00%		Not provided	Not provided	Not provided	£17	£17	£17		Cost for cycle hoop compliant with Code; space assumed required via planning
Ene 9	Home Office	1	0.00%		Not provided	Not provided	Not provided	£35	£35	£35		Requires additional BT and power sockets; requires daylighting however not incorporate in cost as a design criteria

WATER												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Wat 1	Internal Water Use	5	1.50%								*The Water Efficiency Calculator for New Dwellings is also required by AD G	CfSH 3 and 4 - cost based on water butt or similar connected to existing down pipe
	2 bed flats				£0	£0	£6	£6	£900	£900		
	2, 3, & 4 bed house				£0	£0	£6	£6	£2,201	£2,201		CfSH 5 and 6 - Assumes a rainwater harvesting system; figure based on average of tenders received. Allowance of £100 made for craneage assuming facility already on site
	3 & 4 Bed Houses				£0	£0	£9	£9	£2,697	£2,697		
	<120 l/p/day	1			Assumed 120 l/p/day achieved through changes to shower/bath/taps which have no cost	Ditto CfSH 2						NB: 80 /day assumes rainwater harvesting required.
	<110 l/p/day	2										
	<105 l/p/day *CfSH 3/4*	**3**										
	<90 l/p/day	4										
	<80l/p/day	5										
Wat 2	External Water Use	1	1.50%		Not Provided	Not Provide	Not Provided	£19	£19	£19		

MATERIALS											
Requirement		**Available Credits**		**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Mat 1	Environmental Impact of Materials	15	0.30%	£0	£0	£0	£0	£0	£0		
Mat 2	Responsible Sourcing of Materials	6	0.30%	£0	£0	£0	£0	£0	£0		
Mat 3	*Responsible Sourcing of Materials - Finishing Elements*	3	0.30%	£0	£0	£0	£0	£0	£0	*Process Cost associated with collation of documentation and completion of the Mat 3 Calculator Tool	

SURFACE											
Requirement		**Available Credits**		**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Sur 1	Management of SW Run-off for developments	2	0.55%	£0	£0	£0	*£0*	*£0*	*£0*	Process cost with additional survey however unlikely to influence design as potentially a 'costly credit' if the design does not meet the current criteria	* Site specific, potentially lower cost on Brownfield sites where SW run off not changing, additional requirement over and above Flood Water and Management Act 2012 for Greenfield therefore additional process cost

Sur 2	Flood Risk	2	0.55%		£0	£0	£0	£0	£0	£0	Process cost associated with having a code specific flood risk as a traditional survey for planning is unlikely to meet the criteria	*Project specific dependant on site location
WASTE												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Was 1	Storage of Non-recyclable Waste and Recyclable Household Waste	4	0.80%		£0	£40	£40	£40	£40	£40		*Cost associated with 'accessibility'
Was 2	Construction Site Waste Management	3	0.80%		£0	£0	£0	£0	£0	£0		
Was 3	Composting	1	0.80%		Not provided	Not provided	Not provided	£15	£15	£15		
POLLUTION												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Pol 1	Global Warming Potential of Insulants	1	0.70%		£0	£0	£0	£0	£0	£0	* Process costs associated with completing CfSH tables	
Pol 2	Nox Emissions	3	0.70%		£0	£0	£0	£0	£0	£0		* A rated boiler provided as 'norm' no additional cost
HEALTH												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Hea 1	Daylighting	3	1.17%		£0	£0	£0	£0	£0	£0	- External assesor (typically architect) Daylighting Calculation required (1hr per unit)	? More onerous then Planning requirement
Hea 2	Sound Insulation	4	1.17%	1 Bed Flat	£0	£0	£0	£0	£100	£100	- Nature of buildings may provide as standard however additional acoustic test or Robust details provided - Similar to Building Regs - Sound insulation	*Achieving the dwelling fabric should improve noise transfer therefore cost may only allowed where 'fabric first approach not included *Dependant on construction methodology whether 'natural' improvement * Costs assume 4 points for level 5 and 6, i.e Robust Detail. Cost associated with the additional detailing required to achieve the seperating wall and floor detail * Cost based on £2/m2 for houses and £4/m2 for flats on floor area,
				2 Bed Flat	£0	£0	£0	£0	£148	£148		
				2 Bed House	£0	£0	£0	£0	£298	£298		
	3db	1		3 Bed House	£0	£0	£0	£0	£370	£370		
	5db	3		4 Bed House	£0	£0	£0	£0	£448	£448		
	8db	4										
	Robust Details	4										
Hea 3	Private Space	1	1.17%		£0	£0	£0	£0	£0	£0	- Detailed on the drawin	* Sales driver to provide some outside space * Required in LHDG * Assessment criteria under HQI for Affordable Housing
Hea 4	Lifetime Homes	4	1.17%		Not provided	Not provided	Not provided	Not provided	£1,091	£1,091		* Affordable schemes typically comply as part of funding requirement; Cost is £1,091
MANAGEMENT												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CfSH 6**	**Process Cost Associated**	**Comments**
Man 1	Home User Guide	3	1.11%		£0	£0	£0	£0	£0	£0		
Man 2	Considerate Constructors Scheme	2	1.11%		£0	£0	£0	£0	£0	£0		
Man 3	Construction Site Impacts	2	1.11%		£0	£0	£0	£0	£0	£0		* Monitored as part of site management * Commercial benefit in reducing site costs
Man 4	Security	2	1.11%		Not provided	Not provided	Not provided	Not provided	£244	£244	2 Bed Flat	Additional SbD compliance to achieve credit. Involvement required early on therefore audit process
									£217	£217	2 Bed House	
									£217	£217	3 Bed House	
									£254	£254	4 Bed House	
ECOLOGY												
Requirement		**Available Credits**			**CfSH 1**	**CfSH 2**	**CfSH 3**	**CfSH 4**	**CfSH 5**	**CsFH 6**	**Process Cost Associated**	**Comments**
Eco 1	Ecological Value of Site	1	1.33%		£0	£0	£0	£0	£0	£0		* Ecologist required to produce 'code compliant report'
Eco 2	Ecological Enhancement	1	1.33%		£0	£0	£0	£0	£0	£0		* Site specific
Eco 3	Protection of Ecological Features	1	1.33%		Not provided	Not provided	Not provided	£100	£100	£100		* Site specific because of 'default' case where site of low ecological value, therefore Greenfield sites potentially harder to achieve
Eco 4	Change in Ecological Value of the Site	4	1.33%		Not provided	Not provided	Not provided	Not provided	£300	£300		Additional planting - assumed figure of £300 * Assumed not provided at lower levels
Eco 5	Building Footprint	2	1.33%		£0	£0	£0	£0	£0	£0		
		93										

Review of CfSH Standards - process cost breakdown version

£	52	Labour rate £/hr

Large' assumes a 100 unit scheme with 10 standard house types; 'Medium' assumes 50 Unit Scheme has 5 House types and 'Small' assumes 5 Unit Scheme has 2 House types

ENERGY								PROCESS COST	NOTES
Requirement		Available Credits			Small 5 Units	Medium 50 Units	Large 100 Units		
Ene 1	Dwelling Emission Rate	10	MANDATORY	Code Fee	£ 94	£ 23	£ 23	Assume 4.5 hour per house type for CfSH 10 house types in Large; 5 House Types in Medium; 2 House types in Small	- Code Energy Calculator Tool (based on SAP)
Ene 2	Dwelling Fabric	9	MANDATORY	Code Fee	£ - £ 312	£ - £ 78	£ - £ 78	Assumes cost dealt with under ENE 1 at Level 1 to 4; Additional 15 hours at CfSH per house type at CfSH 5 and 6	- Code Energy Calculator Tool (based on SAP)
Ene 3	Energy Display Devices	2	NOT MANDATORY	Code Fee	£ 10	£ 2	£ 2	Small - 1 hour to compile information Medium - 2 hours to compile information Large - Assume 3 hours to compile information No	- Documentary Evidence of light fitting - ASSUME 1hour of assesors time to collate information, divided by number of units - Documentary evidence of location - included within above costs
Ene 4	Drying Space	1	NOT MANDATORY		£ -	£ -	£ -	No	- Detailed on construction drawings - Drawings issued under ENE2 therefore no process cost
Ene 5	Energy Labelled White Good	2	NOT MANDATORY		£ -	£ -	£ -	No	- Copy of information provided under EU Labelling Scheme as standard
Ene 6	External Lights	2	NOT MANDATORY		£ -	£ -	£ -	No	- Detailed on construction drawings - Drawings issued under ENE2 therefore no process cost
Ene 7	Low & Zero carbon technologies	2	NOT MANDATORY		£ -	£ -	£ -	No	- Not typically required for CfSH 3/4 - SAP used as evidence therefore no additional process cost
Ene 8	Cycle Storage	2	NOT MANDATORY	Code Fee	£ 21	£ 5	£ 5	Assume 1 hour per house type for CfSH	- Documentary Evidence and specification to meet location and criteria
Ene 9	Home Office	1	NOT MANDATORY		£ -	£ -	£ -	No	- Information detailed on drawings provided under ENE3, and daylighting criteria
TOTAL					**£ 437**	**£ 108**	**£ 108**		

WATER									
Requirement		**Available Credits**							
Wat 1	Internal Water Use	5	MANDATORY	Surveyor	£ 78 £ -	£ 8 £ -	£ 5 £ -	Assume 7.5 hours technical support at Code Level 3 & above for small and medium scheme; assume 10 hours for large schemes CfSH 1 and 2 - no cost; water calculator completed as standard	- Water Calculator to be completed. Duplicate across scheme where the same sanitaryware etc used.
Wat 2	External Water Use	1	NOT MANDATORY		£ -	£ -	£ -	No	- Water calculator dealt with under WAT1
TOTAL					**£ 78**	**£ 8**	**£ 5**		

MATERIALS									
Requirement		**Available Credits**							
Mat 1	Environmental Impact of Materials	15	MANDATORY	Code Fee	£ 62	£ 16	£ 16	Assume 3 hour per house type	- Information readily availiable as the industry has reacted to requirement for tracability of materials - Some process cost to collate the information.
Mat 2	Responsible Sourcing of Materials	6	NOT MANDATORY		£ - £ 42	£ - £ 10	£ - £ 10	CfSH 5 &6 - 2 hours per house type	- Ditto Mat 1; Information collated as part of MAT 1 therefore no additional info - Additional cost included at cFsh 5 and 6 to allow for more time required to source products information
Mat 3	*Responsible Sourcing of Materials - Finishing Elements*	3	NOT MANDATORY		£ - £ 42	£ - £ 10	£ - £ 10	CfSH 5 &6 - 2 hours per house type	- Ditto Mat 1; Information collated as part of MAT 1 therefore no additional info - Ditto Mat 2
TOTAL					**£ 146**	**£ 36**	**£ 36**		

SURFACE									
Requirement		**Available Credits**							
Sur 1	Management of SW Run-off for developments	2	MANDATORY	Surveyor	£ 109	£ 11	£ 5	10.5 hours of time to complete the survey for the whole development. (4 hours to compile data and 6.5 hours to produce report in correct CfSH format). £52/hour	- Not typically dealt with under a 'typical' assesment criteria therefore process cost; Peak rate management and volume of run off - SUD's element - 1 in 100 year storm assume 5 hours
Sur 2	Flood Risk	2	NOT MANDATORY		£ 36	£ 4	£ 2	Assumed additional 3.5hours to produce the additional information required	- Additional info required over and above the 'standard' flood risk asssesment typically required.
TOTAL					**£ 146**	**£ 15**	**£ 7**		

WASTE									
Requirement		**Available Credits**							
Was 1	Storage of Non-recyclable Waste and Recyclable Household Waste	4	MANDATORY		£ -	£ -	£ -	No	- No process cost - industry standard. Information readily availiable
Was 2	Construction Site Waste Management	3	NOT MANDATORY		£ -	£ -	£ -	No	- Required as standard therefore no additional cost
Was 3	Composting	1	NOT MANDATORY	Code Assesor	£ 10	£ 2	£ 1	1 hour for small scheme and 2 hours for medium and large scheme assumed to provide information and liason with architect to ensure complies with criteria	- Documentary evidence to be collated therefore negligable process cost
TOTAL					**£ 10**	**£ 2**	**£ 1**		
POLLUTION									
Requirement		**Available Credits**							
Pol 1	Global Warming Potential of Insulants	1	MANDATORY	Code Assesor + external	£ 42	£ 4	£ 0	Assume 4 hours to source and collate information; Assume information is repeated across house types	- Challenging credit to achieve because the information is not readily availiable
Pol 2	Nox Emissions	3	NOT MANDATORY	Code Assessor	£ 42	£ 10	£ 10	Assume 2 hour per house type	- Information collation; Information detailed on SAP assesment
TOTAL					**£ 84**	**£ 14**	**£ 10**		
HEALTH									
Requirement		**Available Credits**							
Hea 1	Daylighting	3	NOT MANDATORY	Architect	£ 21	£ 5	£ 3	Assumed 1 hour per unit type to complete assesment in CfSH standard format	- External assesor (typically architect) Daylighting Calculation required (1hr per unit)
Hea 2	Sound Insulation	4	NOT MANDATORY	External Assesor	£ 21	£ 5	£ 3	Assumed 1 hour per house type for small, medium and large schemes;	- Nature of buildings may provide as standard however additional acoustic test or Robust details provided - Similar to Building Regs - Sound insulation testing costs
Hea 3	Private Space	1	NOT MANDATORY		£ -	£ -	£ -	No	- Detailed on the drawings and via site inspection
Hea 4	Lifetime Homes	4	NOT MANDATORY (Except L6)	Architect	£ 21	£ 5	£ 5	Say 1 per house type to allow for design etc.	- Process cost to complete survey
TOTAL					**£ 63**	**£ 15**	**£ 11**		
MANAGEMENT									
Requirement		**Available Credits**							
Man 1	Home User Guide	3	NOT MANDATORY	Contractor	£ 21	£ 8	£ 4	Say 2 hours for small and 7.5 hours for medium and larger scheme	- Very bespoke for code therefore some process costs
Man 2	Considerate Constructors Scheme	2	NOT MANDATORY		£ -	£ -	£ -		- Achieved as standards
Man 3	Construction Site Impacts	2	NOT MANDATORY	Contractor	£ 21	£ 2	£ 1	Nominal process cost assumed to collate the information; Assume 2 hours regardless of scheme type	- Additional info above Build Regs standard however achieved by internal procedures that are likely to be inplace ie . ISO;
Man 4	Security	2	NOT MANDATORY	Code and SbD	£ 52	£ 5	£ 3	Assume 5hours to complete - process the same regardless of scheme size	- Evidence onerous to achieve the standard; additional documentary evidence over and above the 'norm' ; - Requires Secured by Design to be completed.
TOTAL					**£ 94**	**£ 15**	**£ 8**		
ECOLOGY									
Requirement		**Available Credits**							
Eco 1	Ecological Value of Site	1	NOT MANDATORY	Ecologist report	£ 42	£ 8	£ 4	- Additional 7.5 hours survey and report time assumed to be CfSH compliant for medium and large; 4 hours with small	- Enhanced survey required to achieve the standard and suitably qualified ecologist
Eco 2	Ecological Enhancement	1	NOT MANDATORY		£ -	£ -	£ -	No	- Achieved under ECO1
Eco 3	Protection of Ecological Features	1	NOT MANDATORY		£ -	£ -	£ -	No	- Achieved under ECO1
Eco 4	Change in Ecological Value of the Site	1	NOT MANDATORY	Ecologist report	£ 21	£ 5	£ 3	- Assumed 2 hours to complete site visit for small; 5 hours for medium and large	- Additional site visit required to sign off items have been installed correctly
Eco 5	Building Footprint	2	NOT MANDATORY		£ -	£ -	£ -	No	- Achieved under ECO1
TOTAL					**£ 63**	**£ 13**	**£ 7**		
OVERALL PROCESS COST					**£ 1,120**	**£ 226**	**£ 193**	**PER DWELLING ASSUMING ALL CODE CREDITS ACHIEVED**	

Appendix A3 – Counterfactual, Space

Housing Standards Review

Space standards Build Cost Matrix

EC HARRIS BUILT ASSET CONSULTANCY AN ARCADIS COMPANY

	Basecase		Proposed				Level 2 - 2013 Consultation				Proposed & Level 2 Consultation Comparison				Level 3 - 2013 Consulation			
	GIA	Build Cost	GIA	Variance m²	Build Cost Variance	%	GIA	Variance m²	Build Cost Variance	%	GIA	Variance m²	Build Cost Variance	%	GIA	Variance m²	Build Cost Variance	%
1 bed flat																		
Space standard (1b2p)			50 m²		£81,966		48 m²		£ 80,189		2 m²		-£ 1,776		58 m²		£ 81,966	
Private (average from survey)	50.0 m²	£ 81,966		.0 m²	£0	0%		-2 m²	-£ 1,776	-2%								
HCA Average	51.1 m²	£ 78,032		-1.1 m²	£3,934	5%		-3.1 m²	£ 2,158	3%								
Lifetime Homes	48.5 m²	£ 80,549		1.5 m²	£1,416	2%		-0.5 m²	-£ 360	0%								
WHDG	58.0 m²	£ 87,382														0 m²	-£ 5,416	-6%
2 bed flat																		
Space standard (2b3p)			61 m²		£90,252		61 m²		£ 90,252		0 m²		£ -		73 m²		£ 99,987	
Private (average from survey)	67.0 m²	£ 94,520		-6.0 m²	-£4,268	-5%		-6 m²	-£ 4,268	-5%								
HCA Average	64.0 m²	£ 86,752		-3.0 m²	£3,500	4%		-3 m²	£ 3,500	4%								
Lifetime Homes	63.0 m²	£ 91,413		-2.0 m²	-£1,161	-1%		-2 m²	-£ 1,161	-1%								
WHDG	76.0 m²	£ 101,511														-3 m²	-£ 1,524	-2%
Space standard (2b4p)			70 m²		£96,850		70 m²		£ 96,850		0 m²		£ -		87 m²		£ 110,056	
Private (lower end of size range)	51.0 m²	£ 82,091		19.0 m²	£14,759	18%		19 m²	£ 14,759	18%								
Private (average from survey)	67.0 m²	£ 94,520		3.0 m²	£2,330	2%		3 m²	£ 2,330	2%								
Private (upper end of size range)	79.0 m²	£ 103,842		-9.0 m²	-£6,991	-7%		-9 m²	-£ 6,991	-7%								
HCA Average	71.5 m²	£ 94,520		-1.5 m²	£2,330	2%		-1.5 m²	£ 2,330	2%								
Lifetime Homes	72.0 m²	£ 98,403		-2.0 m²	-£1,553	-2%		-2 m²	-£ 1,553	-2%								
WHDG	87.0 m²	£ 110,056														0 m²	£ -	0%
2 bed terraced house																		
Space standard (2b/3p)			70 m²		£78,156		74 m²		£ 79,217		-4 m²		£ 1,061		94 m²		£ 90,041	
Private (average from survey)	72.0 m²	£ 78,044		-2.0 m²	£113	0%		2 m²	£ 1,173	2%								
HCA Average	65.4 m²	£ 70,708		4.6 m²	£7,449	11%		8.6 m²	£ 8,509	12%								
Lifetime Homes	64.0 m²	£ 72,175		6.0 m²	£5,981	8%		10 m²	£ 7,042	10%								
WHDG	76.0 m²	£ 80,978														18 m²	£ 9,063	11%
Space standard (2b4p)			79 m²		£80,544		83 m²		£ 81,606		-4 m²		£ 1,062		104 m²		£ 101,518	
Private (lower end of size range)	55.0 m²	£ 65,573		24.0 m²	£14,971	23%		28 m²	£ 16,033	24%								
Private (average from survey)	72.0 m²	£ 78,044		7.0 m²	£2,501	3%		11 m²	£ 3,562	5%								
Private (upper end of size range)	79.0 m²	£ 83,179		.0 m²	-£2,635	-3%		4 m²	-£ 1,573	-2%								
HCA Average	75.0 m²	£ 74,376		4.0 m²	£6,169	8%		8 m²	£ 7,230	10%								
Lifetime Homes	73.0 m²	£ 78,777		6.0 m²	£1,767	2%		10 m²	£ 2,828	4%								
WHDG	87.0 m²	£ 92,147														17 m²	£ 9,371	10%
3 bed semi detached house																		
Space standard (3b4p)			84 m²		£95,330		87 m²		£ 96,126		-3 m²		£ 796		109 m²		£ 112,708	
Private (average from survey)	92.0 m²	£ 95,741		-8.0 m²	-£410	0%		-5 m²	£ 386	0%								
HCA Average	85.0 m²	£ 76,736		-1.0 m²	£18,594	24%		2 m²	£ 19,390	25%								
Lifetime Homes	74.0 m²	£ 82,058		10.0 m²	£13,273	16%		13 m²	£ 14,069	17%								
WHDG	87.0 m²	£ 91,939														22 m²	£ 20,768	23%
Space standard (3b5p)			93 m²		£97,718		96 m²		£ 98,514		-3 m²		£ 796		120 m²		£ 117,025	
Private (lower end of size range)	70.0 m²	£ 79,017		23.0 m²	£18,701	24%		26 m²	£ 19,497	25%								
Private (average from survey)	92.0 m²	£ 95,741		1.0 m²	£1,978	2%		4 m²	£ 2,774	3%								
Private (upper end of size range)	121.0 m²	£ 117,786		-28.0 m²	-£20,068	-17%		-25 m²	-£ 19,272	-16%								
HCA Average	89.0 m²	£ 88,139		4.0 m²	£9,580	11%		7 m²	£ 10,376	12%								
Lifetime Homes	86.0 m²	£ 91,180		7.0 m²	£6,539	7%		10 m²	£ 7,335	8%								
WHDG	102.0 m²	£ 103,343														18 m²	£ 13,683	13%
4 bed detached house																		
Space standard (4b5p)			97 m²		£117,051		100 m²		£ 117,847		-3 m²		£ 796		125 m²		£ 127,367	
Private (average from survey)	117.0 m²	£ 121,045		-20.0 m²	-£3,995	-3%		-17 m²	-£ 3,199	-3%								
HCA Average	96.5 m²	£ 94,571		.5 m²	£22,480	24%		3.5 m²	£ 23,276	25%								
Lifetime Homes	85.5 m²	£ 96,151		11.5 m²	£20,899	22%		14.5 m²	£ 21,695	23%								
WHDG	102.0 m²	£ 109,191														23 m²	£ 18,176	17%
Space standard (4b6p)			106 m²		£119,439		109 m²		£ 120,235		-3 m²		£ 796		135 m²		£ 135,271	
Private (lower end of size range)	93.0 m²	£ 102,078		13.0 m²	£17,360	17%		16 m²	£ 18,156	18%								
Private (average from survey)	117.0 m²	£ 121,045		-11.0 m²	-£1,607	-1%		-8 m²	-£ 811	-1%								
Private (upper end of size range)	158.0 m²	£ 153,447		-52.0 m²	-£34,009	-22%		-49 m²	-£ 33,213	-22%								
HCA Average	-	£ 103,659		-	-	-		-	-	-								
Lifetime Homes	99.5 m²	£ 107,610		6.5 m²	£11,828	11%		9.5 m²	£ 12,624	12%								
WHDG	119.0 m²	£ 122,626														16 m²	£ 12,645	10%
Space standard (4b7p)			115 m²		£121,827		118 m²		£ 122,623		-3 m²		£ 796		145 m²		£ 143,173	
Private	117.0 m²	£ 121,045		-2.0 m²	£781	1%		1 m²	£ 1,577	1%								
HCA Average	-	£ 117,094		-	-	-		-	-	-								
Lifetime Homes	113.0 m²	£ 117,884		2.0 m²	£3,942	3%		5 m²	£ 4,738	4%								
WHDG	137.0 m²	£ 136,851														8 m²	£ 6,322	5%

Notes:

- Where proposed standards are less than existing a negative cost is included, this would not however be relevant to the impact assessment for private sale dwellings
- No information for the HCA average size of 4 bed detached house units was available.

Appendix A4 – Counterfactual, Access

Lifetime Homes Design Criteria Cost

	Standard	1 Bed Flat Costs	2 Bed Flat Costs	2 Bed Terr Costs	3 Bed Semi House Costs	4 Bed Detached Costs	Comments
1	Parking Adaptation - potential to increase parking space (3.3 x 4.8) required	£141	£141	£0	£0	£0	- 'Standard' Car Park (2.4x4.8) = 11.52m2 - LTH (3.3x6) = 19.8m2 - Additional area = 8.28m2 - Say hard = £85/m2 = £703 Say only provided to every 5th unit (provided near each entrance or lift core) Terraces assumes on-street parking where the standard can be accomodated at no additional cost
2	Approach to dwelling	£0	£0	£0	£0	£0	Addressed under Part M
3	Approach to all entrances	£0	£0	£0	£0	£0	Addressed under Part M
4	Entrance	**£83**	**£83**	**£133**	**£133**	**£133**	- To be illuminated - Level Access over threshold - addressed under Part M - Entrance Porch NB: Flat costs divided between 40Nr flats
5	Communal Stairs &Lifts	**£0**	**£0**	**£0**	**£0**	**£0**	
6	Hallway Width and Doors	£0	£0	£25	£25	£25	Extra over cost of £62 to allow for 1050mm door. 2 doors allowed, total in 20% of dwellings
7	Circulation	£0	£0	£0	£0	£0	
8	Entrance Level Living	£0	£0	£0	£0	£0	
9	Potential for entrance bed space	£0	£0	£0	£0	£0	
10	Entrance Level WC and Shower Drainage	£275	£275	£275	£275	£275	Additional drainage point including falls to screed and filled in. Additional labour etc included. Same to all units
11	WC and Bathroom Walls	£384	£384	£384	£384	£384	8m x 2.4m = 19.2m2 ; Lining board £20 supply and fit
12	Stairs and Through floor Lift space	£0	£0	£0	£0	£0	Space Only. No allowance made for concrete floors No allowance made in flats as assumed single storey
13	Potential for fitting hoist	£18	£18	£91	£91	£91	Requirement is design related and 'requires capable of adaptation to support' Cost in flats is an allowance based on additional support in some top floor flats (however subject to structural design and would not necessarily be required in concrete frame building). Flat allowance therefore based on 11m2 (bedroom size) x £10/m2. Cost divided by 12 plots per block, multiplied by 4 top floor flats. Total cost divided by 50% (assuming 50% units concrete not timber) Cost allowed for double joist/strengthening. Bedroom length assumed 3.5m; double joist allowed therefore 7m @ £13/m
14	Bathroom	£116	£116	£116	£116	£116	Additional space required to comply therefore additional flooring, drainage point costed within item 9. Additional tiling and flooring. Cost Breakdown provided below
15	Glazing and window heights	£14	£14	£16	£18	£20	Nominal cost included as requirement means a top hung window, therefore limited supply chain
16	Service Controls	£4	£5	£5	£8	£9	Radiator controls require between 450 and 1200mm. Additional pipework required accommodate.
	Total	**£1,035**	**£1,035**	**£1,044**	**£1,049**	**£1,051**	
	Current Base Date 2Q 14	£1,082	£1,083	£1,092	£1,097	£1,100	

Bathroom costing break down:- Standard Bathroom

	Wall Width	Wall Length
Standard	*1.7 m*	*1.8 m*
LTH	*2.1 m*	*2.1 m*
Difference 'Norm'/LTH	***0.4 m***	***0.3 m***
Floor to Ceiling	*2.4 m*	*2.4 m*
Additional Wall area	***0.96 m2***	***0.72 m2***
Wall		
Plasterboard incl. sundries (@ £18.50/m2)	17.76 £/m2	13.32 £/m2
Extra Over Tiling (@£50/m2 Supply and Fit)	**48.00**	**36.00**
GIFA	*3.06 m2*	*4.41 m2*
Flooring (@£50/m2)	153 £/m2	220.5 £/m2
Extra over cost	**67.5 £/m2**	
TOTAL	**115.50 £/m2**	

Entrance

	House	Flat Block	*Assume 40Nr Flats
Canopy	*500 £/Nr*	*950 £/Nr*	
Light	*50 £/Nr*	*50 £/Nr*	
	550 £/Nr	*1000 £/Nr*	
		83.33 £/Nr	
Adjusted			
Canopy	125 £/Nr		*** 75% already have canopy**
Light	7.5 £/Nr		*** 85% already have ext light**
	132.5 £/Nr		

Radiator Pipes

			Nr Radiators				
			Flat (1B)	Flat (2B)	2bed	3 Bed	4Bed
Per Radiator (flow and return)		700 mm	5	6	6	10	11
			3500	4200	4200	7000	7700
			3.5	4.2	4.2	7	7.7
		0					
Pipe	£28 for 25m	1.12					
			3.92	**4.704**	**4.704**	**7.84**	**8.624**

Wheelchair Housing Design Guide

Standard		REQUIREMENTS	Flat 1B £	Flat 2B £	Terraced £	Semi £	Det £	Comments
External Environment and entrances								
Moving Around Outside								
	1.2.1	1200mm path	£150	£150	£188	£375	£375	Path - Standard 900mm, say 5m per dwelling @ £75/m
	1.2.2	Protective kerb edging	£125	£125	£125	£250	£250	5m @£25/m
	1.2.3	Gradient	£0	£0	£0	£0	£0	Building Reg
	1.2.4	Cross falls	£0	£0	£0	£0	£0	
	1.2.5	Crossings	£0	£0	£0	£0	£0	
Using outdoor spaces								
	2.2.1	Gardens - 850mm gate opening	£0	£0	£50	£50	£50	Extra over for wider gate and additional ironmongery
	2.2.2		£0	£0	£0	£0	£0	Design Item
	2.2.3	Accessible Paving	£0	£0	£375	£375	£375	Additional 4m2
	2.2.4	Refuse	£0	£0	£0	£0	£0	Design related
Aproaching the home								
	3.2.1	Covered Car parking (5.4 x 3.6 x 2.2)	£0	£0	£0	£0	£0	Car port
	3.2.2	Min height covered area	£0	£0	£0	£0	£0	Addressed under 3.2.1
	3.2.3	Dwelling with communal external entrance	£0	£0	£0	£0	£0	
	3.2.4	*Garages*	*£0*	*£0*	*£0*	*£0*	*£0*	*Not ideal therefore costs not included*
	3.2.5	Route to entrance - smooth slip resistant	£0	£0	£0	£0	£0	Design and material specification issue - no required cost
	3.2.6	Entrance Landing - 1500 x 1500mm	£225	£225	£225	£225	£225	
	3.2.7	1200mm canopy	£950	£950	£950	£950	£950	
	3.2.8	Lighting of transfer area	£0	£0	£0	£0	£0	Provided as standard
	3.2.9	Additional Lift	£1,589	£1,589	£0	£0	£0	Assume 10Nr units per floor therefore over 4 floors would require additional lift; Lift cost = £47,666 divide by 30Nr dwellings (i.e 3 floors of 10Nr)
Negotiating Entrance Doors								
	4.2.1	Door - 800mm	£125	£125	£125	£125	£125	To accommodate larger door/frame etc
	4.2.2	Approaching space	£0	£0	£0	£0	£0	Space/ Design
	4.2.3	Threshold	£0	£0	£0	£0	£0	
	4.2.4	Lock - 800 -900mm high	£0	£0	£0	£0	£0	Height
	4.2.5	Remote controlled door opener	£800	£800	£800	£800	£800	£550 nett cost, electrical installation etc. Front door only
	4.2.7	Lever, Pull Handles	£0	£0	£0	£0	£0	Specification
	4.2.8	Entry Phone	£0	£0	£0	£0	£0	Height of install - no additional cost
	4.2.9	Bell	£0	£0	£0	£0	£0	Height of install - no additional cost
	4.2.10	External Light	£0	£0	£0	£0	£0	Supplied generally 'as standard'
	4.2.12	Pull - pull bar	£150	£200	£300	£350	£400	Say £50 supply and fit per door
Entering and Leaving								
	5.2.1	Transfer - 1100 x 1700 required	£0	£0	£0	£0	£0	Space
	5.2.2	Turning Space - 1500 x 1800mm clear turning	£0	£0	£0	£0	£0	Space
	5.2.3	Post - Fitting to collect post	£0	£0	£30	£30	£30	Flat assumed to have post boxes 'as standard'
	5.2.4	Entry Phone - future provision						
	5.2.5	Lobby - Requirement for space if additional lobby	£0	£0	£0	£0	£0	Additional Space therefore not extra cost

Standard		REQUIREMENTS	£	£	£	£	£	Comments
Negotiating secondary door								
	6.2.1	Landing 1500 x 1500mm landing	£0	£0	£0	£0	£0	Space
	6.2.2	Door - clear width of 800mm	£75	£100	£150	£175	£200	£25/door
	6.2.3	Approach - Space to approach, manouvere and pass through door	£0	£0	£0	£0	£0	Space
	6.2.4	Threshold - weathertight	£0	£0	£0	£0	£0	
Internal Environment								
Moving around inside - storing things								
	7.2.1	Straight passages	£0	£0	£0	£0	£0	900mm min width - space
	7.2.2	Head on approach to doors in passage	£0	£0	£0	£0	£0	Space/Design
	7.2.3	Turning 90 degrees	£0	£0	£0	£0	£0	
	7.2.3	Turning 180 degrees	£0	£0	£0	£0	£0	Space/Design
	7.2.5	Right angles	£0	£0	£0	£0	£0	Design detail / space
	7.2.6	Effective clear width for doors	£0	£0	£0	£0	£0	
	7.2.7	Space to approach doors	£0	£0	£0	£0	£0	
	7.2.8	Doors at angles	£0	£0	£0	£0	£0	Design detail / space
	7.2.9	Sliding doors	£0	£0	£0	£0	£0	Not required/provided as standard therefore nil cost allowed
	7.2.10	Storage - depth and width	£0	£0	£0	£0	£0	
Moving between levels within the dwelling								
	8.2.1	Lift (supply and install excluding lift shaft)	£0	£0	£11,785	£11,785	£11,785	Provided 'as standard' in most flatted blocks. Allowance as Category 3.
	8.2.1	Lift (shaft and fit out for storage)	£0	£0	£2,215	£2,215	£2,215	Provided 'as standard' in most flatted blocks. Allowance as Category 3.
	8.2.2	Installation - incl above	£0	£0	£0	£0	£0	Safety and security features provided as standard
	8.2.3	Circulation	£0	£0	£0	£0	£0	Design / space
Using living spaces								
	9.2.1	Room Layout	£0	£0	£0	£0	£0	Space
	9.2.2	Radiators - does not inhibit reasonable layout	£0	£0	£0	£0	£0	Layout - not additional cost
	9.2.3	Sockets - not sited within 750mm of internal angle	£0	£0	£0	£0	£0	Layout - not additional cost
Using the kitchen								
	10.2.1	Layout - windows positioned for ease of control and cleaning	£0	£0	£0	£0	£0	Layout and space
	10.2.2	Worktops - 600mm deep worktop	£0	£150	£150	£150	£150	
	10.2.3	Sink - adjustable	£500	£500	£500	£500	£500	Cost of sink (E/O) - plumbing as standard
	10.2.4	Storage	£250	£250	£250	£250	£250	Additional base units inlieu of wall
	10.2.5	Controls and Lighting	£0	£0	£0	£0	£0	Height of lights
	10.2.6	Appliances - install hob and built in oven	£900	£900	£900	£900	£900	Supply and fit
	10.2.7	Refuse	£0	£0	£0	£0	£0	
Using the bathroom								
	11.2.1	Bathroom - fully accessible toilet, shower etc	£2,470	£2,470	£2,470	£2,470	£2,470	£800 shower; £750 toilet, £500 sink, £150 grab rails; Additional Tiling £270
	11.2.2	Direct Access from bed to bath	£0	£0	£0	£0	£0	Design/Layout
	11.2.3	Additional W/C in dwelling of 4 or more	£0	£0	£0	£0	£0	Not 'standard' requirement
	11.2.4	Layout - independent transfer	£0	£0	£0	£0	£0	Space standard
	11.2.5	W/C - position for range of diff transfer positions	£0	£0	£0	£0	£0	Space standard
	11.2.6	Shower - drained floor	£0	£0	£0	£0	£0	Dealt with under 11.2.1
	11.2.7	Bath - allow range of transfer	£0	£0	£0	£0	£0	
Standard		**REQUIREMENTS**	**£**	**£**	**£**	**£**	**£**	**Comments**
	11.2.8	Basin - clearance under bowl	£0	£0	£0	£0	£0	Dealt with under 11.2.1
	11.2.9	Finishes	£0	£0	£0	£0	£0	Dealt with under 11.2.1
	11.2.10	Support - wall	£22	£22	£22	£22	£22	8m x 2.7m = 2.2m2 ; Lining board £10 supply and fit
Using the bedrooms								
	12.2.1	Layout	£0	£0	£0	£0	£0	Design/space
	12.2.2	Controls	£0	£0	£0	£0	£0	Location rather then additional
	12.2.3	Door - knock out panel	£300	£300	£300	£300	£300	Additional time/work
	12.2.4	Hoist - strengthening ceiling, provide conduit wiring in roof	£650	£650	£650	£650	£650	£50 for wiring; £600 for stengthening

Components and details								
Operating internal doors								
	13.2.1	Construction - door allows future grab handles	£0	£0	£0	£0	£0	Solid door - generally required for fire under building regs
	13.2.2	Handle heights	£0	£0	£0	£0	£0	
	13.2.3	Locking - indicators openable in emergency	£0	£0	£0	£0	£0	
	13.2.4	Emergency opening - inward opening door open outwards in an emegency	£0	£0	£0	£0	£0	
Operating windows								
	14.2.1	Approach	£0	£0	£0	£0	£0	
	14.2.2	Lower height	£105	£105	£225	£375	£435	Generally requires a larger window; 5% larger - allowance of additional £100 per window and say 4 Nr (exclude kitchen and bath - winders costed under 14.2.3)
	14.2.3	Window gear	£500	£500	£500	£500	£500	Assume £250 per winder, assume only required on Kitchen & Bathroom
	14.2.4	Safety - not over paths	£0	£0	£0	£0	£0	Design
	14.2.5	Glazing	£0	£0	£0	£0	£0	Dealt with under 14.2.1
	14.2.6	Transom	£0	£0	£0	£0	£0	Design
Controlling services								
	15.2.1	Mains services - location	£0	£0	£0	£0	£0	Design
	15.2.2	Plumbing	£0	£0	£0	£0	£0	
	15.2.3	Flexible Plumbing	£0	£0	£0	£0	£0	
	15.2.4	Switches	£28	£28	£28	£34	£38	Assume 6Nr switches @ extra over £2)
	15.2.5	Socket outlets - general	£0	£0	£0	£0	£0	Height
	15.2.6	Socket outlets - appliance	£0	£0	£0	£0	£0	Height
	15.2.7	Telephone	£75	£75	£75	£75	£75	Additional 5Nr BT socket @£15
	15.2.8	Future Control	£100	£100	£100	£100	£100	2Nr additional
Total			**£10,089**	**£10,314**	**£23,488**	**£24,031**	**£24,170**	
		Current Base Date 2Q 14 Adaptable	£8,095	£8,278	£9,594	£10,111	£10,204	
		Current Base Date 2Q 14	£10,553	£10,788	£24,568	£25,136	£25,282	

Bespoke London Wheelchair Design Guide

Standard		REQUIREMENTS	Flat 1B £	Flat 2B £	Terraced £	Semi £	Det £	Comments
External Environment and entrances								
Moving Around Outside								
	1.1	Pavement Crossovers	£0	£0	£0	£0	£0	No additional cost
	1.2	1200mm path	£150	£150	£188	£375	£375	Path - Standard 900mm, say 5m per dwelling @ £75/m
	1.3	Ramps - Gradient	£0	£0	£0	£0	£0	Building Reg
	1.4	Protective edges	£125	£125	£125	£250	£250	5m @ £25/m on flats & terrace, 10m @ £25/ m on semi and de
	1.5	Rails	£0	£0	£0	£0	£0	Assume that these will be rare and designed out whether possible
Using outdoor spaces								
	2.1	900mm gate opening	£0	£0	£50	£50	£50	Extra over for wider gate and additional ironmongery
	2.2	Accessible Paving	£0	£0	£225	£225	£225	Additional 3m2
	2.3	Clothes Drying	£0	£0	£0	£0	£0	
	2.4	Route for Refuse etc	£0	£0	£0	£0	£0	Design related
	2.5	Balcony area	£0	£0	£0	£0	£0	Design related
	2.6	Garden Access	£0	£0	£0	£0	£0	Design related
Aproaching the home								
	3.1	Car parking (4.0 x 6.6 x 2.3) - covered where possible - follow the same principle as the WHDG costing	£3,000	£3,000	£3,000	£3,000	£3,000	Car parking and covered canopy - used the same principles as the Habinteg costing exercise
	3.2	Remove auto gates (where fitted)	£0	£0	£0	£0	£0	Assume standard build specification
	3.3	Route to entrance (covered where possible)	£0	£0	£0	£0	£0	Assume standard build specification
	3.4	Covered canopy to entrance (where possible)	£950	£950	£950	£950	£950	Say £950 assume to all of units - used the same principle as the Habinteg exercise
	3.5	Lighting to car parking space (PIR) and internal switch	£200	£200	£200	£200	£200	Uplift for PIR and internal switching say £200/ unit
	3.6	Ground Floor Flat Access (preference)	£0	£0	£0	£0	£0	Design related
	3.7	Communal Corridors	£0	£0	£0	£0	£0	Design related
	3.8	Communal internal corridor doors	£0	£0	£0	£0	£0	Design related - Assume designed out
	3.9	Additional Lift	£1,589	£1,589	£0	£0	£0	Assume 10Nr units per floor therefore over 4 floors would require additional lift; Lift cost = £47,666 divide by 30Nr dwellings (i.e 3 floors of 10Nr)
Negotiating Communal Entrance Doors								
	4.1	Door - 900mm and pull handle on flat communal entrance door	£250	£250	£200	£200	£200	To accommodate larger door/frame. Pull handle on flats only (£50) etc
	4.2	Approaching space	£0	£0	£0	£0	£0	Space/ Design
	4.3	Threshold	£0	£0	£0	£0	£0	Design/ specification
	4.4	Lock - 800 -900mm high	£0	£0	£0	£0	£0	Height
	4.5	Remote controlled door opener	£800	£800	£800	£800	£800	£550 nett cost, electrical installation etc. Front door only
	4.4	Lever, Pull Handles	£0	£0	£0	£0	£0	Specification
	4.6	Entry Phone	£0	£0	£0	£0	£0	Included in flats and not required in houses
Entering and Leaving the Home, Dealing with Callers								
	5.1	Door - 900mm	£200	£200	£200	£200	£200	To accommodate larger door/frame etc
	5.2	Transfer - 1800 x 1500 required	£0	£0	£0	£0	£0	Space
	5.3	Threshold - Flat front door	£100	£100	£0	£0	£0	To flats only
	5.4	Turning Space - 1500 x 1800mm clear turning . Additional power point	£50	£50	£50	£50	£50	Space and £50 for power point
	5.5	Spy Hole	£30	£30	£30	£30	£30	Assume extra to all units £30 supply and fix
	5.6	Bell	£0	£0	£0	£0	£0	Height of install - no additional cost
	5.7	Post - Fitting to collect post	£0	£0	£30	£30	£30	Flat assumed to have post boxes 'as standard'
	5.8	Specialist locking mechanisum and power supply	£75	£75	£75	£75	£75	Extra for electric power supply and specialist ironmonger say £75
	5.9	Entry Phone - Additional to the main entrance door	£100	£100	£100	£100	£100	Required to flats and houses
Negotiating a Secondary Door to Garden or Balcony								
	6.1	Landing 1500 x 1500mm landing	£0	£0	£0	£0	£0	Space
	6.2	Door - clear width of 900mm	£200	£200	£200	£200	£200	To accommodate larger door/frame etc
	6.3	Secure Lock (and door stays)	£15	£15	£15	£15	£15	Additioanl cost for supply and fix stays
	6.4	External lighting	£0	£0	£0	£0	£0	Supplied generally as standard
	6.5	French Windows	£0	£0	£0	£0	£0	Standard specification
Internal Environment								
Moving around inside/ storing things								
	7.1	All passages min 1200 wide	£0	£0	£0	£0	£0	Space/Design
	7.2	Clear opening width min 840mm	£75	£100	£150	£175	£200	£25/ door
	7.3	Storage - depth and width	£0	£0	£0	£0	£0	Standard Specification
	7.4	Flooring	£0	£0	£0	£0	£0	Design/ specification related
Moving between levels								
	8.1	Lift to flats and houses	£0	£0	£14,000	£14,000	£14,000	Provided 'as standard' in most flatted blocks. Additional cost to houses - Access Lifts fitted one on Claude Rd Dec 2012 for £12,500k including bwic. Say £14k each adjusting for on costs.
	8.2	Min lift dimensions	£0	£0	£0	£0	£0	Included in 8.1 above
	8.3	Powered door lifts	£0	£0	£0	£0	£0	Included in 8.1 above
	8.4	Lift controls	£0	£0	£0	£0	£0	Included in 8.1 above
	8.5	Lift position	£0	£0	£0	£0	£0	Included in 8.1 above
Using living spaces								
	9.1	Turning circle	£0	£0	£0	£0	£0	Space
	9.2	Transfer spaces	£0	£0	£0	£0	£0	Layout - not additional cost
	9.3	Operable fittings	£0	£0	£0	£0	£0	Layout - not additional cost
	9.4	Radiators	£0	£0	£0	£0	£0	Layout - not additional cost
	9.5	Sockets - min 750mm from a corner	£0	£0	£0	£0	£0	Layout - not additional cost
	9.6	Full plate switches	£50	£60	£80	£90	£100	e/o material price £10 per room

	9.7	Ceiling Hoists	£132	£165	£920	£1,050	£1,180	Requirement is design related and 'requires ceilings throughout to have structural capacity for future possible hoist installation' Flats Cost in flats is an allowance based on additional support in some top floor flats (however subject to structural design and would not necessarily be required in concrete frame building). Flat allowance therefore based on flat GIFA) x £10/m2 plus £100 for electrical conduit. Cost divided by 12 plots per block, multiplied by 4 top floor flats. Total cost divided by 50% (assuming 50% units concrete not timber) Houses Cost allowed for double joist/strengthening. House GIFA x £10/m2 plus £150 for electrical conduit
Using the kitchen								
	10.1	Space and Layout	£0	£0	£0	£0	£0	Layout - not additional cost
	10.2	Worktops	£150	£150	£150	£150	£150	800mm adjustable section with extended tiling
	10.3	Storage	£250	£250	£250	£250	£250	Additional base units in lieu of wall units - Say £250
	10.4	Adjustable Sink	£600	£600	£600	£600	£600	E/o Cost of sink, taps and adjustable pipework - plumbing as standard
	10.5 & 10.6	Oven and hob	£1,000	£1,000	£1,000	£1,000	£1,000	Supply and fit (including adjustable hob and side hung oven)
	10.7	Additional appliance space	£100	£100	£100	£200	£200	Additional appliance space and service. Assume 2 spaces and services provided as standard. For units with less than 5 persons then 1 additional space For units with 5 or more persons then 2 additional spaces Space and services @ say £100 ea
	10.8	Controls and Sockets	£0	£0	£0	£0	£0	Height of lights
	10.9	Internal Refuse	£0	£0	£0	£0	£0	Design/ specification related
	10.10	Fridge	£0	£0	£0	£0	£0	Design/ specification related
	10.11	Windows	£250	£250	£500	£500	£500	Window winders for windows above worktops - Say £250 supply and install. Say 1 nr per flat (above kitchen worktop) and say 2 nr required per house. Manual not electronic
Using the bathroom and shower room								
	11.1, 11.2 & 11.5	Space for bath and shower (1 & 2 bed)	£1,200	£1,200	£0	£0	£0	e/o for level access shower, shower seat, wall reinforcement, grab rails, floor gully and associated works - Say £500
	11.1, 11.3 & 11.5	Space for bath and shower (3 + bed)	£2,470	£2,470	£2,470	£2,470	£2,470	£800 shower; £750 toilet, £500 sink, £150 grab rails; Additional Tiling £270
	11.4	Bathroom and shower room	£0	£0	£0	£0	£0	
	11.6	Turning circle	£0	£0	£0	£0	£0	Design/Layout
	11.7 - 11.10	Transfer space	£0	£0	£0	£0	£0	Space standard
	11.11	Fixings	£0	£0	£0	£0	£0	included above
	11.12	WC Height	£0	£0	£0	£0	£0	Standard
	11.13	The Cistern	£10	£10	£20	£20	£20	Splayed lever handle - say £10 e/o (1 in flats 2 in houses)
	11.14	Showering Space	£0	£0	£0	£0	£0	included above
	11.15 - 11.18	Level Access Shower	£0	£0	£0	£0	£0	included above
	11.19	Rail and weighted shower curtain	£150	£150	£150	£150	£150	supply and install
	11.20	Bath	£0	£0	£0	£0	£0	Standard
	11.21	Bath taps	£0	£0	£0	£0	£0	included above
	11.22	Integral bath rails	£0	£0	£0	£0	£0	included above
	11.23 - 11.25	Over bath shower	£0	£0	£0	£0	£0	included above
	11.26	Wash hand basin	£50	£50	£100	£100	£100	e/o for upgraded basin - say £50 e/o (1 in flats 2 in houses)
	11.27	Rails	£150	£150	£300	£300	£300	2 x drop down WC rails per toilet @ say £150 per toilet (1 in flats and 2 in houses). Supply only. Not fitted
	11.28	Floor	£100	£100	£200	£200	£200	Floor upstand - say £100 per room (1 in flats 2 in houses)
	11.29	Pull switches - Large pull cord	£0	£0	£0	£0	£0	included above
	11.30	Shaving point - Height between 800mm-1000mm	£0	£0	£0	£0	£0	included above
	11.31	Over basin light - Long pull cord	£0	£0	£0	£0	£0	included above
Using bedrooms								
	12.1	Turning circle	£0	£0	£0	£0	£0	Design/space
	12.2	Transfer space	£0	£0	£0	£0	£0	Design/space
	12.3	Access past bed	£0	£0	£0	£0	£0	Design/space
	12.4	Access to furniture	£0	£0	£0	£0	£0	Design/space
	12.5	Controls	£0	£0	£0	£0	£0	included as standard
	12.6	Adjacent to bed head	£50	£50	£50	£50	£50	Socket outlet, 2 way light and TV point (design no extra cost). Entry phone point - included below
	12.7	Hoists	£0	£0	£0	£0	£0	included above
Components and details								
Operating doors								
	13.1	Door Construction - door allows future grab handles	£0	£0	£0	£0	£0	Solid door - generally required for fire under building regs
	13.2	Lever Handles - heights	£0	£0	£0	£0	£0	No additional cost
	13.3	Internal Locks - easily manipulated (inside and out) in emergency	£0	£0	£0	£0	£0	No additional cost
	13.4	Emergency opening - wetroom doors to open outwards	£0	£0	£0	£0	£0	No additional cost
	13.5	Self closing doors	£0	£0	£0	£0	£0	Door closer fitted to internal doors - say £75 ea
Operating windows								
	14.1	Handles - operating handle height 800mm-1000mm	£0	£0	£0	£0	£0	No additional cost
	14.2	Remote control	£200	£200	£200	£200	£200	Window winders - Say £200 supply and install. Assume required to 1 other window in each unit type (in addition to kitchen included above)
	14.3	Safety - not to create hazard externally	£0	£0	£0	£0	£0	Design

	14.4	Glazing Line	£105	£105	£225	£375	£435	Generally requires a larger window; 5% larger - allowance of additional £100 per window and say 4 Nr (exclude kitchen and bath - winders costed under 14.2.3)
Controlling services								
	15.1	Mains services - location	£0	£0	£0	£0	£0	Design
	15.2	Mains water - stopcock accessability	£0	£0	£0	£0	£0	Design
	15.3	Plumbing - isolating stop taps	£0	£0	£0	£0	£0	No additional cost
	15.4	Flexible Plumbing	£0	£0	£0	£0	£0	included above
	15.5	Radiators - LST	£100	£100	£200	£200	£200	Low surface temperature rads to bathrooms and shower rooms. Assume 1 in the flats and 2 in the houses @ e/o £100 ea
	15.6 & 7	Light Switches	£0	£0	£0	£0	£0	included above
	15.8 & 9	Socket outlets - location	£0	£0	£0	£0	£0	Design
	15.10, 15.11 & 15.12	Radiator positions and controls - Location						Design
	15.13	Telephone	£30	£45	£45	£60	£75	Additional BT socket @£15 (1 + nr of bedrooms)
	15.14	Entry phone	£100	£150	£150	£200	£250	Additional intercom @£50 (1 + nr of bedrooms) Entry phone point - additional door entry phone set (1 nr) to master bedroom only - say £50
Total			**£15,156**	**£15,289**	**£28,298**	**£29,090**	**£29,380**	
	BCIS TPI Uplift	Original Base Date 2Q 13	£15,156	£15,289	£28,298	£29,090	£29,380	
		Current Base Date 2Q 14	£15,853	£15,992	£29,599	£30,428	£30,731	

WCHG vs GWHDG

	Flat 1B	Flat 2B	Terraced	Semi	Det	
	£	£	£	£	£	Comments
WCHG	£10,553	£10,788	£24,568	£25,136	£25,282	
BLWHDG	£15,853	£15,992	£29,599	£30,428	£30,731	
Additional for incorporating BLWHDG over WCHG	£5,300	£5,204	£5,031	£5,292	£5,450	

Key Assumptions

1 Car parking space based on the same principles as the Habinteg model

2 Covered car parking is based on the same principles as the Habinteg model

3 Covered entrance canopy is based on the same principles as the Habinteg model

4 Lifts are an essential requirement in Bespoke London Wheelchair Housing Design Guide. Allowance of £14k for the houses only. IM rang Greenwich OT - 09.05.14 who confirmed that lifts would be required in houses - they buy these from Pollock (NI) for £10.5k

5 Ceiling hoists - Greenwich appears to require these throughout the dwelling (e/o £10/ m2 uplift) - OT at Greenwich explained that this was required as they want to limit distances that anyone is on a hoist and that the hoist may be required anywhere in the home. ie. to help someone get out of bed into a shower chair or a child from a smaller bedroom to the bathroom. This is a fair assumption.

6 Self closing doors not required throughout for Greenwich. OT explained that these are to be avoided and it appears that they are now obselete for dwellings when you consider the revised Part B Dewellings. In 3 storey houses closers on all doors would make life very difficult for a wheelchair bound resident. Doors would need to be held open unless fire sensors triggered them to shut.

7 Assumed that the spacial implications for Greenwich are the same as for Habinteg - Not correct assumption. Greenwich compliance is circa 20% additional space above LTH.

Appendix A5 – Counterfactual, Water

Housing Standards Review

Water Standards - 4 bed detached house

Jun-14

EC HARRIS
BUILT ASSET CONSULTANCY
AN ARCADIS COMPANY

CfSH		Proposed Standard		Code Level 5 /6		Comments
Water saving feature	Specification	Specification	E/O Cost	Specification	**E/O cost**	
	120l/p/d	110 l/p/d		80l/p/d		
Physical costs						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower (2 nr)	10 l/min	8 l/min	£ 6	6 l/min	£ 6	Flow restictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,674	Including above / below ground storage tanks
Sub total			£ 9		£ 2,697	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:
EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects
Enquiries made with suppliers
Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications . Similarly a unit without a bath is generally considered to be less desirable , particularly in family dwellings.

All typologies are assumed to have Baths with showers over
Yield co-effiecient for rainwater harvesting assumtion is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office South East Figures)

House roofs assumed to be pitched and tiled

Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

Housing Standards Review

Water Standards - 3 bed semi detached house

EC HARRIS BUILT ASSET CONSULTANCY AN ARCADIS COMPANY

Jun-14

CfSH		Proposed Standard		Code Level 5 /6		Comments
Water saving feature	Base Specification	Specification		Specification	**E/O cost**	
CfSH water consumption (l/p/d)	125 l/p/d	110 l/p/d		80 l/p/d		
Physical costs						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower (2nr)	10 l/min	8 l/min	£ 6	6 l/min	£ 6	Flow restictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,674	Including above / below ground storage tanks
Sub total			£ 9		£ 2,697	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:
EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects
Enquiries made with suppliers
Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications . Similarly a unit without a bath is generally considered to be less desirable , particularly in family dwellings.

All typologies are assumed to have Baths with showers over
Yield co-effiecient for rainwater harvesting assumtion is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office figures for the South East)

House roofs assumed to be tiled and pitched
Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

Housing Standards Review

Water Standards - 2 bed terraced house

EC HARRIS BUILT ASSET CONSULTANCY AN ARCADIS COMPANY

Jun-14

CfSH	Building Regs	Proposed Standard		Code Level 5 /6		Comments
Water saving feature	Specification	Specification		Specification	**E/O cost**	
	125 l/p/d	110 l/p/d		80 l/p/d		
Physical costs						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower	10 l/min	8 l/min	£ 3	6 l/min	£ 3	Flow restictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,181	Including above / below ground storage tanks
Sub total	£ -		£ 6		£ 2,201	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:
EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects
Enquiries made with suppliers
Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications . Similarly a unit without a bath is generally considered to be less desirable , particularly in family dwellings.

All typologies are assumed to have Baths with showers over
Yield co-effiecient for rainwater harvesting assumtion is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office figures for South East)

House roofs assumed to be pitched tiled roofs
Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

Housing Standards Review

Water Standard - 2 Bed Flat

Jun-14

The Water Efficiency Calculator		125 l/p/d (Current Building Regs)				110 l/p/d (Proposed)				80 l/p/d (CfSH 5/6)			
Installation Type	Unit measure	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4
W/C (Single Flush)	Flush Volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A
WC (Dual Flush)	Full flush volume (litres)	6	1.46	0	8.76	6	1.46	0	8.76	4	1.46	0	5.84
	Part flush volume (litres)	4	2.96	0	11.84	4	2.96	0	11.84	2.6	2.96	0	7.70
WCs (Multiple Fittings)	Average effective flushing volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	6	1.58	1.58	11.06	4	1.58	1.58	7.9	2	1.58	1.58	4.74
Bath (where shower also present)	Flow rate (litres/minute)	170	0.11	0	18.7	145	0.11	0	15.95	145	0.11	0	15.95
Shower (where bath also present)	Capacity to overflow (litres)	10	4.37	0	43.7	8	4.37	0	34.96	6	4.37	0	26.22
Bath only	Flow rate (litres/minute)	N/A	0.5	0	N/A	N/A	0.5	0	N/A	N/A	0.5	0	N/A
Shower only	Flow rate (litres/minute)	N/A	5.6	0	N/A	N/A	5.6	0	N/A	N/A	5.6	0	N/A
Kitchen / utility room sink taps	Flow rate (litres/minute)	8	0.44	10.36	13.88	6	0.44	10.36	13	4	0.44	10.36	12.12
Washing machine	Litres/kg dry load	8.17	2.1	0	17.16	8.17	2.1	0	17.16	8.17	2.1	0	17.16
Dishwasher	Litres/place setting	1.25	3.6	0	4.5	1.25	3.6	0	4.5	1.25	3.6	0	4.5
Wate disposal unit	Litres/use	0	3.08	0	0	0	3.08	0	0	0	3.08	0	0
Water softner	Litres/person/day	0	1.00	0	0	0	1.00	0	0	0	1.00	0	0
Total calculated use (litres/person/day)=(Sum column 4)					129.60				114.07				94.22

Installation Type	Unit measure	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4
	6	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0
	7	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			12.73
	8	Normilisation Factor			0.91	Normilisation Factor			0.91	Normilisation Factor			0.91
	9	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			117.93	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			103.80	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			74.16
	10	External water use			5	External water use			5	External water use			5
	11	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**122.93**	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**108.80**	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**79.16**

Housing Standards Review

Water Standard - 2 Bed House

Jun-14

The Water Efficiency Calculator		125 l/p/d (Current Building Regs)				110 l/p/d (Proposed)				80 l/p/d (CfSH 5/6)			
Installation Type	Unit measure	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4
W/C (Single Flush)	Flush Volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A
WC (Dual Flush)	Full flush volume (litres)	6	1.46	0	8.76	6	1.46	0	8.76	4	1.46	0	5.84
	Part flush volume (litres)	4	2.96	0	11.84	4	2.96	0	11.84	2.6	2.96	0	7.70
WCs (Multiple Fittings)	Average effective flushing volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	6	1.58	1.58	11.06	4	1.58	1.58	7.9	2	1.58	1.58	4.74
Bath (where shower also present)	Flow rate (litres/minute)	170	0.11	0	18.7	145	0.11	0	15.95	145	0.11	0	15.95
Shower (where bath also present)	Capacity to overflow (litres)	10	4.37	0	43.7	8	4.37	0	34.96	6	4.37	0	26.22
Bath only	Flow rate (litres/minute)	N/A	0.5	0	N/A	N/A	0.5	0	N/A	N/A	0.5	0	N/A
Shower only	Flow rate (litres/minute)	N/A	5.6	0	N/A	N/A	5.6	0	N/A	N/A	5.6	0	N/A
Kitchen / utility room sink taps	Flow rate (litres/minute)	8	0.44	10.36	13.88	6	0.44	10.36	13	4	0.44	10.36	12.12
Washing machine	Litres/kg dry load	8.17	2.1	0	17.16	8.17	2.1	0	17.16	8.17	2.1	0	17.16
Dishwasher	Litres/place setting	1.25	3.6	0	4.5	1.25	3.6	0	4.5	1.25	3.6	0	4.5
Wate disposal unit	Litres/use	0	3.08	0	0	0	3.08	0	0	0	3.08	0	0
Water softner	Litres/person/day	0	1.00	0	0	0	1.00	0	0	0	1.00	0	0
Total calculated use (litres/person/day)=(Sum column 4)					129.60				114.07				94.22

Installation Type	Unit measure	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4
	6	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0
	7	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			14.42
	8	Normilisation Factor			0.91	Normilisation Factor			0.91	Normilisation Factor			0.91
	9	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			117.93	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			103.80	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			72.62
	10	External water use			5	External water use			5	External water use			5
	11	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**122.93**	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**108.80**	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**77.62**

Housing Standards Review

Water Standard - 3 Bed House

Jun-14

The Water Efficiency Calculator		125 l/p/d (Current Building Regs)				110 l/p/d (Proposed)				80 l/p/d (CfSH 5/6)			
Installation Type	Unit measure	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4
W/C (Single Flush)	Flush Volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A
WC (Dual Flush)	Full flush volume (litres)	6	1.46	0	8.76	6	1.46	0	8.76	4	1.46	0	5.84
	Part flush volume (litres)	4	2.96	0	11.84	4	2.96	0	11.84	2.6	2.96	0	7.70
WCs (Multiple Fittings)	Average effective flushing volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	6	1.58	1.58	11.06	4	1.58	1.58	7.9	2	1.58	1.58	4.74
Bath (where shower also present)	Flow rate (litres/minute)	170	0.11	0	18.7	145	0.11	0	15.95	145	0.11	0	15.95
Shower (where bath also present)	Capacity to overflow (litres)	10	4.37	0	43.7	8	4.37	0	34.96	6	4.37	0	26.22
Bath only	Flow rate (litres/minute)	N/A	0.5	0	N/A	N/A	0.5	0	N/A	N/A	0.5	0	N/A
Shower only	Flow rate (litres/minute)	N/A	5.6	0	N/A	N/A	5.6	0	N/A	N/A	5.6	0	N/A
Kitchen / utility room sink taps	Flow rate (litres/minute)	8	0.44	10.36	13.88	6	0.44	10.36	13	4	0.44	10.36	12.12
Washing machine	Litres/kg dry load	8.17	2.1	0	17.16	8.17	2.1	0	17.16	8.17	2.1	0	17.16
Dishwasher	Litres/place setting	1.25	3.6	0	4.5	1.25	3.6	0	4.5	1.25	3.6	0	4.5
Wate disposal unit	Litres/use	0	3.08	0	0	0	3.08	0	0	0	3.08	0	0
Water softner	Litres/person/day	0	1.00	0	0	0	1.00	0	0	0	1.00	0	0
Total calculated use (litres/person/day)=(Sum column 4)					129.60				114.07				94.22

Installation Type	Unit measure	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4
	6	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0
	7	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			14.75
	8	Normilisation Factor			0.91	Normilisation Factor			0.91	Normilisation Factor			0.91
	9	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			117.93	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			103.80	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			72.32
	10	External water use			5	External water use			5	External water use			5
	11	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**122.93**	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**108.80**	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**77.32**

Housing Standards Review

Water Standard - 4 Bed House

Jun-14

The Water Efficiency Calculator		125 l/p/d (Current Building Regs)				110 l/p/d (Proposed)				80 l/p/d (CfSH 5/6)			
Installation Type	Unit measure	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4
W/C (Single Flush)	Flush Volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A
WC (Dual Flush)	Full flush volume (litres)	6	1.46	0	8.76	6	1.46	0	8.76	4	1.46	0	5.84
	Part flush volume (litres)	4	2.96	0	11.84	4	2.96	0	11.84	2.6	2.96	0	7.70
WCs (Multiple Fittings)	Average effective flushing volume (litres)	N/A	4.42	0	N/A	N/A	4.42	0	N/A	N/A	4.42	0	N/A
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	6	1.58	1.58	11.06	4	1.58	1.58	7.9	4	1.58	1.58	7.9
Bath (where shower also present)	Flow rate (litres/minute)	170	0.11	0	18.7	145	0.11	0	15.95	145	0.11	0	15.95
Shower (where bath also present)	Capacity to overflow (litres)	10	4.37	0	43.7	8	4.37	0	34.96	6	4.37	0	26.22
Bath only	Flow rate (litres/minute)	N/A	0.5	0	N/A	N/A	0.5	0	N/A	N/A	0.5	0	N/A
Shower only	Flow rate (litres/minute)	N/A	5.6	0	N/A	N/A	5.6	0	N/A	N/A	5.6	0	N/A
Kitchen / utility room sink taps	Flow rate (litres/minute)	8	0.44	10.36	13.88	6	0.44	10.36	13	4	0.44	10.36	12.12
Washing machine	Litres/kg dry load	8.17	2.1	0	17.16	8.17	2.1	0	17.16	8.17	2.1	0	17.16
Dishwasher	Litres/place setting	1.25	3.6	0	4.5	1.25	3.6	0	4.5	1.25	3.6	0	4.5
Wate disposal unit	Litres/use	0	3.08	0	0	0	3.08	0	0	0	3.08	0	0
Water softner	Litres/person/day	0	1.00	0	0	0	1.00	0	0	0	1.00	0	0
Total calculated use (litres/person/day)=(Sum column 4)					129.60				114.07				97.38

Installation Type	Unit measure	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4	Capacity / flow rate 1	Use factor 2	Fixed use (litres/person/day) 3	Litres/person/day 4
	6	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0	Contribution from greywater (litres/person/day) from Table 4.6			0
	7	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			0	Contribution from rainwater (litres/person/day) from Table 5.5			15.63
	8	Normilisation Factor			0.91	Normilisation Factor			0.91	Normilisation Factor			0.91
	9	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			117.93	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			103.80	Total water consumption (Code for Sustainable Homes) = [(5)-(6)-(7)]x(8) (litres/person/day)			74.40
	10	External water use			5	External water use			5	External water use			5
	11	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**122.93**	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**108.80**	**Total water consumption (Building Regulation 17.5k) = (9) + (10) (litres/person/day)**			**79.40**

Appendix B1 – Proposed, Security

Housing Standards Review

Domestic Security Standards - 2 Bed Flat (12 flats in block, 4 flats per floor)

EC HARRIS BUILT ASSET CONSULTANCY AN ARCADIS COMPANY

	Current Industry Practice					Proposed Standard					
Element	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline**
Doors											
Communal entrance door	Hardwood door and frame to communal door, automatic lock linked to access control	1	Item	£921.00	£921.00	PAS 24 with electronic release linked to access control	1	Item	£1,092.00	£1,092.00	£171.00
Glass panel / side panel to communal entrance door	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Flat Entrance Door	Fire rated flat entrance door inclusive of frame and ironmongery	12	Item	£433.00	£5,196.00	PAS 24 Fire Rated Door Set inclusive of frame and ironmongery	12	Item	£465.00	£5,580.00	£384.00
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	£0.00
Windows											
External windows	Ground floor apartments 4nr: 4nr PVCU windows per apartment	1	Item	£3,444.00	£3,444.00	Ground floor apartments 4nr: 4nr PVCU windows per apartment to BS 7950	1	Item	£3,518.16	£3,518.16	£74.16
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	£0.00
			Total		**£9,656.00**			**Total**		**£10,285.00**	**£629.00**
			Total / flat		**£805.00**			**Total / Flat**		**£ 857.00**	**£ 52.00**
			Total / Ground Floor Flat		**£1,379.00**			**Total / Ground Floor Flat**		**£ 1,443.00**	**£ 64.00**
			Total / Upper Floor Flat		**£518.00**			**Total / Upper Floor Flat**		**£ 564.00**	**£ 46.00**

Notes

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's experience in working on residential projects.

Costs have been sourced from priced quotations from manufacturers and suppliers together with EC Harris' internal benchmarking database which draws costs from past and present projects.

'Total Flat' costs are an average cost of ground and upper floor apartments, including the additional security costs associated with ground floor windows. 'Upper floor flat' costs exclude window costs; 'Ground Floor Flat' costs include the full ground floor window costs.

Assumptions

A solid door with side panel is assumed in all cases to allow natural light - the cost allows for either.

Housing Standards Review
Domestic Security Standards - 2 Bed Terraced House

EC HARRIS
BUILT ASSET
CONSULTANCY
AN ARCADIS COMPANY

	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Proposed Standard - Small Development						Proposed Standard - Large Development					
Element	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Small Development)**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Large Development)**
Doors																						
Front entrace door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Nr	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Nr	£202.50	£202.50	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Nr	£339.00	£339.00	£27.00	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Nr	£228.38	£228.38	£25.88
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
Glass panel / side panel	Glass panel / side panel	1	Nr	£95.00	£95.00	Glass panel / side panel	1	Nr	£95.00	£95.00	Glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Rear Door Sets	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.53	£237.53	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£441.00	£441.00	£49.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£272.16	£272.16	£34.63
Windows																						
External windows	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) -	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr)	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), PAS 24 - GF Window	1	Item	£781.54	£781.54	£18.54	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), PAS 24 -GF Window	1	Item	£781.54	£781.54	£18.54
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
				Total	**£1,562.00**				**Total**	**£1,298.03**				**Total**	**£1,656.54**	**£94.54**				**Total**	**£1,377.08**	**£79.05**

Notes
The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects.

Costs have been sourced from with quotations from manufacturers and suppliers, together with cost from EC Harris internal benchmarking which draws on data from past and present projects.

Composite doors and frames have been included for both small and large development scenarios however we accept that timber doors and frames are still used in a number of cases, particularly on smaller development, however from priced quotations recieved the extra over cost over the baseline to achieve the additional security requirements appears to be generally inline with the above.

Assumptions
Front entrance doors have been assumes as solid doors with side glazed panel

Rear doors are assumed to be doors with 2 glazed panels

All prices are for 'door sets' inclusive of ironmongery

No laminated glazing is allowed to ground floor windows

PAS 24 requirement and criteria relate to the 'enhanced security performance of doorsets and windows, intended to resist attack normally associated with the casual or opportunistic burglar' therefore only ground floor windows have been incorporated within the costs above.

The 1200 x 630 window assumed to have 1Nr opening light; 1200 x 1200 assumed to have 2Nr opening lights and 1200

Exclusions
Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

Housing Standards Review

Domestic Security Standards - 3 Bed Semi Detached House

EC HARRIS
BUILT ASSET CONSULTANCY
AN ARCADIS COMPANY

	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Proposed Standard - Small Development						Proposed Standard - Large Development					
Element	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Small Development)**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Large Development)**
Doors																						
Front and rear entrace door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£202.50	£202.50	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Item	£339.00	£339.00	£27.00	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Item	£228.38	£228.38	£25.88
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Rear Door Sets	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.53	£237.53	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£441.00	£441.00	£49.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£272.16	£272.16	£34.63
Windows																						
External windows	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr) - GF ONLY	1	Item	£763.00	£763.00	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£781.54	£781.54	£18.54	3nr PVCU windows (circa 1200x630, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£781.54	£781.54	£18.54
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
				Total	**£1,562.00**				**Total**	**£1,298.03**				**Total**	**£1,656.54**	**£94.54**				**Total**	**£1,377.08**	**£79.05**

Notes

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects.

Costs have been sourced from with quotations from manufacturers and suppliers, together with cost from EC Harris internal benchmarking which draws on data from past and present projects.

Composite doors and frames have been included for both small and large development scenarios however we accept that timber doors and frames are still used in a number of cases, particularly on smaller development, however from priced quotations recieved the extra over cost over the baseline to achieve the additional security requirements appears to be generally inline with the above.

Assumptions

Front entrance doors have been assumes as solid doors with side glazed panel

Rear doors are assumed to be doors with 2 glazed panels

All prices are for 'door sets' inclusive of ironmongery

No laminated glazing is allowed to ground floor windows

PAS 24 requirement and criteria relate to the 'enhanced security performance of doorsets and windows, intended to resist attack normally associated with the casual or opportunistic burglar' therefore only ground floor windows have been incorporated within the costs above.

The 1200 x 630 window assumed to have 1Nr opening light; 1200 x 1200 assumed to have 2Nr opening lights and 1200

Exclusions

Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

Housing Standards Review

Domestic Security Standards - 4 Bed Detached House

EC HARRIS
BUILT ASSET CONSULTANCY
AN ARCADIS COMPANY

	Current Industry Practice - Small Developments					Current Industry Practice - Large Developments					Proposed Standard - Small Development						Proposed Standard - Large Development					
Element	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Small Development)**	**Item Description**	**Quant**	**Unit**	**Rate**	**Total**	**Extra Over Baseline (Large Development)**
Doors																						
Front and rear entrace door	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£312.00	£312.00	Composite door and softwood frame front entrance door with no glazing inclusive of all ironmongery	1	Item	£202.50	£202.50	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Item	£339.00	£339.00	£27.00	Composite Front Entrance door set to PAS 24 standard; No glazing inclusive of all ironmongery	1	Item	£228.38	£228.38	£25.88
Door restrictor to front entrance door	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
Glass panel / side panel	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00	Single glazed, laminated glass panel / side panel	1	Nr	£95.00	£95.00	£0.00
Rear Door Sets	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£392.00	£392.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of frame and ironmongery	1	Nr	£237.53	£237.53	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£441.00	£441.00	£49.00	Composite rear door set ; assumed halfed glazed (2Nr glazed panels); inclusive of hardwood frame and ironmongery to PAS 24 certification	1	Nr	£272.16	£272.16	£34.63
Windows																						
External windows	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr) - GF ONLY	1	Item	£1,195.00	£1,195.00	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr) - GF ONLY	1	Item	£1,195.00	£1,195.00	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£1,225.90	£1,225.90	£30.90	4nr PVCU windows (circa 1200x630, 1770x1200, 1200x1200-2nr), laminated glass & BS 7950 - GF ONLY	1	Item	£1,225.90	£1,225.90	£30.90
PVCU: BS 7412:2007	Included				£0.00	Included				£0.00	Included				£0.00	£0.00	Included				£0.00	£0.00
				Total	**£1,994.00**				**Total**	**£1,730.03**				**Total**	**£2,100.90**	**£106.90**				**Total**	**£1,821.44**	**£91.41**

Notes

The current industry practice represents the security features that are typically installed for new dwellings this view is based on EC Harris's considerable experience in working on residential projects. This includes basic home office provision (latch to bedroom door) and timber shed for bicycle storage (houses). Although not NHBC standards these

Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects, together with quotations from manufacturers and suppliers.

Composite doors and frames have been included for both small and large development scenarios however we accept that timber doors and frames are still used in a number of cases, particularly on smaller development, however from priced quotations recieved the extra over cost over the baseline to achieve the additional security requirements appears to be generally inline with the above.

Assumptions

Front entrance doors have been assumes as solid doors with side glazed panel.

Rear doors are assumed to be half glazed doors (with no other glazed panel)

All prices are for 'door sets' inclusive of ironmongery

A glazed door or a door with side panel is assumed in all cases to allow natural light - the cost allows for either

Exclusions

Vehicular garage entrance door and link door between garage and house at Level 2 - we are aware there is a cost for this which needs to be quantified seperately for the proportion of houses with garages

Appendix B2 – Proposed, Energy

Appendix Not Used

Appendix B3 – Proposed, Space

Housing Standards Review

Space standards Build Cost Matrix

EC HARRIS BUILT ASSET CONSULTANCY AN ARCADIS COMPANY

	Basecase		Proposed Level			
	GIA	Build Cost	GIA	Variance m²	Build Cost Variance	%
1 bed flat						
Space standard (1b2p)			50 m²		£81,966	
Private (average from survey)	50.0 m²	£ 81,966		.0 m²	£0	0%
HCA Average	51.1 m²	£ 78,032		-1.1 m²	£3,934	5%
Lifetime Homes	48.5 m²	£ 80,549		1.5 m²	£1,416	2%
WHDG	58.0 m²	£ 87,382				
2 bed flat						
Space standard (2b3p)			61 m²		£90,252	
Private (average from survey)	67.0 m²	£ 94,520		-6.0 m²	-£4,268	-5%
HCA Average	64.0 m²	£ 86,752		-3.0 m²	£3,500	4%
Lifetime Homes	63.0 m²	£ 91,413		-2.0 m²	-£1,161	-1%
WHDG	76.0 m²	£ 101,511				
Space standard (2b4p)			70 m²		£96,850	
Private (lower end of size range)	51.0 m²	£ 82,091		19.0 m²	£14,759	18%
Private (average from survey)	67.0 m²	£ 94,520		3.0 m²	£2,330	2%
Private (upper end of size range)	79.0 m²	£ 103,842		-9.0 m²	-£6,991	-7%
HCA Average	71.5 m²	£ 94,520		-1.5 m²	£2,330	2%
Lifetime Homes	72.0 m²	£ 98,403		-2.0 m²	-£1,553	-2%
WHDG	87.0 m²	£ 110,056				
2 bed terraced house						
Space standard (2b/3p)			70 m²		£78,156	
Private (average from survey)	72.0 m²	£ 78,044		-2.0 m²	£113	0%
HCA Average	65.4 m²	£ 70,708		4.6 m²	£7,449	11%
Lifetime Homes	64.0 m²	£ 72,175		6.0 m²	£5,981	8%
WHDG	76.0 m²	£ 80,978				
Space standard (2b4p)			79 m²		£80,544	
Private (lower end of size range)	55.0 m²	£ 65,573		24.0 m²	£14,971	23%
Private (average from survey)	72.0 m²	£ 78,044		7.0 m²	£2,501	3%
Private (upper end of size range)	79.0 m²	£ 83,179		.0 m²	-£2,635	-3%
HCA Average	75.0 m²	£ 74,376		4.0 m²	£6,169	8%
Lifetime Homes	73.0 m²	£ 78,777		6.0 m²	£1,767	2%
WHDG	87.0 m²	£ 92,147				
3 bed semi detached house						
Space standard (3b4p)			84 m²		£95,330	
Private (average from survey)	92.0 m²	£ 95,741		-8.0 m²	-£410	0%
HCA Average	85.0 m²	£ 76,736		-1.0 m²	£18,594	24%
Lifetime Homes	74.0 m²	£ 82,058		10.0 m²	£13,273	16%
WHDG	87.0 m²	£ 91,939				
Space standard (3b5p)			93 m²		£97,718	
Private (lower end of size range)	70.0 m²	£ 79,017		23.0 m²	£18,701	24%
Private (average from survey)	92.0 m²	£ 95,741		1.0 m²	£1,978	2%
Private (upper end of size range)	121.0 m²	£ 117,786		-28.0 m²	-£20,068	-17%
HCA Average	89.0 m²	£ 88,139		4.0 m²	£9,580	11%
Lifetime Homes	86.0 m²	£ 91,180		7.0 m²	£6,539	7%
WHDG	102.0 m²	£ 103,343				
4 bed detached house						
Space standard (4b5p)			97 m²		£117,051	
Private (average from survey)	117.0 m²	£ 121,045		-20.0 m²	-£3,995	-3%
HCA Average	96.5 m²	£ 94,571		.5 m²	£22,480	24%
Lifetime Homes	85.5 m²	£ 96,151		11.5 m²	£20,899	22%
WHDG	102.0 m²	£ 109,191				
Space standard (4b6p)			106 m²		£119,439	
Private (lower end of size range)	93.0 m²	£ 102,078		13.0 m²	£17,360	17%
Private (average from survey)	117.0 m²	£ 121,045		-11.0 m²	-£1,607	-1%
Private (upper end of size range)	158.0 m²	£ 153,447		-52.0 m²	-£34,009	-22%
HCA Average	-	£ 103,659		-	-	-
Lifetime Homes	99.5 m²	£ 107,610		6.5 m²	£11,828	11%
WHDG	119.0 m²	£ 122,626				
Space standard (4b7p)			115 m²		£121,827	
Private	117.0 m²	£ 121,045		-2.0 m²	£781	1%
HCA Average	-	£ 117,094		-	-	-
Lifetime Homes	113.0 m²	£ 117,884		2.0 m²	£3,942	3%
WHDG	137.0 m²	£ 136,851				

Notes:

- Where proposed standards are less than existing a negative cost is included, this would not however be relevant to the impact assessment for private sale dwellings
- No information for the HCA average size of 4 bed detached house units was available.

Housing Standards Review

Space standards - Indicative Cost per m2 by Typology

EC HARRIS BUILT ASSET CONSULTANCY
AN ARCADIS COMPANY

Typology	Current Build Cost	Total Build Cost				
	Basecase	+ 1 sq.m	+ 2 sq.m	+ 3 sq.m	+ 5 sq.m	+ 10 sq.m
1 bed 2 person (Flat)	£81,966	£82,688	£83,410	£84,132	£85,577	£89,188
2 bed 3 person (Flat)	£90,252	£90,974	£91,695	£92,417	£93,861	£97,469
2 bed 4 person (House)	£78,883	£79,515	£80,147	£80,778	£82,041	£85,200
3 bed 5 person (House)	£98,196	£98,827	£99,459	£100,091	£101,354	£104,512
4 bed 6 person (House)	£122,031	£122,571	£123,111	£123,651	£124,732	£127,433

	1B Apartment	2B Apartment	2B Terrace	3B Semi-detached	4B Detached
Total Cost increase per m2					
Current Cost	£81,966	£90,252	£78,883	£98,196	£122,031
+ 1 sq.m	+ £722	£722	£632	£632	£540
+ 2 sq.m	+ £1,444	£1,444	£1,264	£1,264	£1,080
+ 3 sq.m	+ £2,166	£2,166	£1,896	£1,896	£1,620
+ 5 sq.m	+ £3,610	£3,610	£3,175	£3,175	£2,700
+ 10 sq.m	+ £7,220	£7,220	£6,320	£6,320	£5,400

	Height	1 bed flat	2 bed flat	2 bed house	3 bed house	4 bed house
Total Cost Increase						
EC Harris Assumption	2.6m	£1,708	£1,856	£1,337	£2,079	£2,376
Proposed Standard	2.5m	£1,087	£1,181	£850	£1,324	£1,512
Industry standard (Baseline)	2.325m	-	-	-	-	-

Appendix B4 – Proposed, Access

Housing Standards Review

Access Cost Matrix

EC HARRIS BUILT ASSET CONSULTANCY
AN ARCADIS COMPANY

ONE BED FLAT	Access Standard														
	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience
Baseline		Part M	£0		Lifetime Homes	£1,082		WHDG	£10,553		WHDG	£10,553		WHDG	£10,553
Criteria A (Omissions)	£0	£0	£0	£0	£0	£0	-£1,449	£0	-£1,449	-£1,449	£0	-£1,449	-£1,449	£0	-£1,449
Criteria B (Areas Relaxed)	£0	£0	£0	-£142	£0	-£142	-£1,923	£0	-£1,923	-£1,923	£0	-£1,923	-£1,923	£0	-£1,923
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£0	£0	£0	£426	£426	£0	£433	£433	£0	£583	£583
TOTAL CHANGE	£		-	-£		142	-£		2,946	-£		2,939	-£		2,789
Adjusted Cost	£		-	£		940	£		7,607	£		7,614	£		7,764

TWO BED FLAT	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience
Baseline		Part M	£0		Lifetime Homes	£1,083		WHDG	£10,788		WHDG	£10,788		WHDG	£10,788
Criteria A (Omissions)	£0	£0	£0	£0	£0	£0	-£1,449	£0	-£1,449	-£1,449	£0	-£1,449	-£1,449	£0	-£1,449
Criteria B (Areas Relaxed)	£0	£0	£0	-£176	£0	-£176	-£1,923	£0	-£1,923	-£1,923	£0	-£1,923	-£1,923	£0	-£1,923
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£0	£0	£0	£474	£474	£0	£481	£481	£0	£631	£631
TOTAL CHANGE	£		-	-£		176	-£		2,898	-£		2,891	-£		2,741
Adjusted Cost	£		-	£		907	£		7,891	£		7,898	£		8,048

TWO BED TERRACED HOUSE	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience
Baseline		Part M	£0		Lifetime Homes	£1,092		WHDG	£24,568		WHDG	£24,568		WHDG	£24,568
Criteria A (Omissions)	£0	£0	£0	-£68	£0	-£68	-£4,489	£0	-£4,489	-£4,489	£0	-£4,489	-£4,489	£0	-£4,489
Criteria B (Areas Relaxed)	£0	£0	£0	-£527	£0	-£527	-£262	£0	-£262	-£262	£0	-£262	-£262	£0	-£262
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£26	£26	£0	-£10,063	-£10,063	£0	£2,271	£2,271	£0	£2,421	£2,421
TOTAL CHANGE	£		-	-£		568	-£		14,813	-£		2,479	-£		2,329
Adjusted Cost	£		-	£		523	£		9,754	£		22,088	£		22,238

THREE BED SEMI DETACHED HOUSE	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience
Baseline		Part M	£0		Lifetime Homes	£1,097		WHDG	£25,136		WHDG	£25,136		WHDG	£25,136
Criteria A (Omissions)	£0	£0	£0	-£68	£0	-£68	-£4,594	£0	-£4,594	-£4,594	£0	-£4,594	-£4,594	£0	-£4,594
Criteria B (Areas Relaxed)	£0	£0	£0	-£534	£0	-£534	-£262	£0	-£262	-£262	£0	-£262	-£262	£0	-£262
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£26	£26	£0	-£9,974	-£9,974	£0	£2,360	£2,360	£0	£2,510	£2,510
TOTAL CHANGE	£		-	-£		576	-£		14,829	-£		2,495	-£		2,345
Adjusted Cost	£		-	£		521	£		10,307	£		22,641	£		22,791

FOUR BEDROOM DETACHED HOUSE	Category 1			Category 2			Category 3 - Adaptable			Category 3 - Adaptable (London)			Category 3 - Accessible		
	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience	Omit	Add	Cost Varience
Baseline		Part M	£0		Lifetime Homes	£1,100		WHDG	£25,282		WHDG	£25,282		WHDG	£25,282
Criteria A (Omissions)	£0	£0	£0	-£68	£0	-£68	-£4,594	£0	-£4,594	-£4,594	£0	-£4,594	-£4,594	£0	-£4,594
Criteria B (Areas Relaxed)	£0	£0	£0	-£538	£0	-£538	-£262	£0	-£262	-£262	£0	-£262	-£262	£0	-£262
Criteria C (Areas Tightened)	N/A	N/A	N/A	£0	£26	£26	£0	-£9,859	-£9,859	£0	£2,475	£2,475	£0	£2,625	£2,625
TOTAL CHANGE	£		-	-£		579	-£		14,714	-£		2,380	-£		2,230
Adjusted Cost	£		-	£		520	£		10,568	£		22,902	£		23,052

Notes/Assumptions:
- No cost included for the additional build cost associated with larger area dwellings (see space standard review)
- All lift cost based on a 30Nr units over 3 floors (i.e 10Nr Units per floors) to demonstrate the saving
- Item 3b 'Lift Shaft only required in Wheelchair Adaptable' excluded as all other items related to full wheelchair standard, not Wheelchair accessible
- Cost of garages excluded from Wheelchair Unit cost as this is not 'standard' practice
- Costs have been sourced from EC Harris' internal benchmarking database which draws costs from past and present projects.
- The criteria for the 3Nr category standards and the items to be eithier omitted, added or relaxed is based on the latest draft of the standards (June 2014)

Accessibility Standard

		1 Bed Flat		2 Bed Flat		2 Bed Terr		3 Bed Semi		4 Bed Det		
		Omit Cost	Add Cost	Omit Cost	Add Cost	Omit Cost	Add Cost	Omit Cost	Add Cost	Omit Cost	Add Cost	
Ref	Category 1 - Comparison with Part M											
	Approach to dwelling	£0	£0	£0	0	£0	0	£0	0	£0	0	No cost implication expected. Gernerally Part M and good practice
	Private spaces within dwelling	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	No cost implication expected. Gernerally Part M and good practice
Category 1	**Total: Current Base Date 2Q14**	**£0**	**£0**	**£0**	**£0**	**£0**	**£0**	**£0**	**£0**	**£0**	**£0**	
Ref	Category 2 - Comparison with Lifetime Homes	Cost		Cost		Cost		Cost		Cost		
2	**Omissions**											
	Through floor lifts (LTH section 12)	£0	£0	£0	£0	-£65	£0	-£65	£0	-£65	£0	Through floor lift. Typically provided in houses - additional joists/design and space (Just joist not lift fitting costs)
Category 2	**Total: Current Base Date 2Q14**	**£0**	**£0**	**£0**	**£0**	**-£68**	**£0**	**-£68**	**£0**	**-£68**	**£0**	
2	**Areas Relaxed**											
2.11a	Private parking (LTH section 1a)	£0	£0	£0	£0	-£55	£0	-£55	£0	-£55	£0	- 'Standard' Car Park (2.4x4.8) = 11.52m2 - LTH (3.3x6) = 19.8m2 - Additional area = 8.28m2 - Not 'provided therefore third of cost
2.11b	Communal parking (LTH section 1b)	-£55	£0	-£55	£0	£0	£0	£0	£0	£0	£0	- 'Standard' Car Park (2.4x4.8) = 11.52m2 - LTH (3.3x6) = 19.8m2 - Additional area = 8.28m2 - Not 'provided therefor third of cost
2.20d	Internal Doors - Clear opening width 750mm	-£25	£0	-£50	£0	-£75	£0	-£75	£0	-£100	£0	Allowance for narrower frame and door. Say £25 per internal door (as this allowance will affect internal doors). LTH asks for 900mm
2.21c	Reduced stair width 850mm (900mm for Lifetime Homes section 12)	£0	£0	£0	£0	-£20	£0	-£20	£0	-£20	£0	Allowance for supply only timber staircase £800. Saving for width reduction say 2.5% - £20 for houses only.
2.21c	Reduced stair width 850mm (900mm for Lifetime Homes section 12) - Area reduction	£0	£0	£0	£0	-£202	£0	-£202	£0	-£173	£0	NC/ RH meeting 12/06/14 RH advised that an area saving of 0.32m2 would be applicable to the houses as a result of the reduced stair width. Therefore this reduced area requirement will be calculated at 0.32m2 @ £632/m2 (2 & 3 bed houses) and £540/m2 (4 bed houses).
2.27	Lifetime homes asks for strenghtened bathroom ceiling but not required under L2 therefore saving to all unit typologies (LTH section 13)	-£18	£0	-£18	£0	-£91	£0	-£91	£0	-£91	£0	Used the same principles and the IA. - Saving should be offered of £10/ m2 for the bathroom (say 6.25m2 abd primary bedroom 13.5m2)
2.28	Relax height of radiator, boiler and cooker hood (LTH section 16)	-£38	£0	-£45	£0	-£60	£0	-£68	£0	-£75	£0	Lifetime homes requires all controls to be above a certain height. L2 relaxes this requirement on radiators, boilers and cooker hoods. Say £10 per item taken at 75% to take into account underfloor heating and remote facilites fitted on some units as standard.
Category 2	**Total: Current Base Date 2Q14**	**-£142**	**£0**	**-£176**	**£0**	**-£527**	**£0**	**-£534**	**£0**	**-£538**	**£0**	
2	**Areas tightened**											
2.8f	Gate clear opening width 850mm (LTH section 4 800mm)	£0	£0	£0	£0	£0	£25	£0	£25	£0	£25	Additional £25 for enlarged gate to houses only
2.22b	Wheelchair turning circles (LTH section 7)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	- Criteria does not require 'additional space over and above what is currently provided. ('Living rooms/areas and dining rooms/areas should be capable of having either a clear turning circle of 1500mm diameter, or a turning ellipse of 1700mm x 1400mm. Where dwelling layout plans include furniture layouts, occasional items of furniture (typically coffee tables & side tables) can be within or overlap these turning zones.')
	Temporary Bed Space (LTH section 9)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Additional Space dealt with under Space standard
Category 2	**Total: Current Base Date 2Q14**	**£0**	**£0**	**£0**	**£0**	**£0**	**£26**	**£0**	**£26**	**£0**	**£26**	
Ref	Level 3 - Comparison with WHDG											
3	**Omissions**											
	Gardens (WHDG 2.2)	£0	£0	£0	£0	£0	£0	£0	£0	£0	0	Requirements concerned with layout and usability. No specific cost saving
	Garages (WHDG 3.2.4)	£0	£0	£0	£0	£0	£0	£0	£0	£0	0	5.4 X 4.2 Provided (optional) assume 5k standard garage (13m2)=£385m2 SAY £8,732. No cost impact as optional
	Canopy Height (WHDG 3.2.2)	£0	£0	£0	£0	£0	£0	£0	£0	£0	0	Maximum height removed - cost neutral
	Letter boxes (WHDG 5.2.3)	-£30	£0	-£30	£0	-£30	£0	-£30	£0	-£30	0	Cost assumes letter cage requirement removed
	Future Provision for Entrance Phone (WHDG 5.2.4)	£0	£0	£0	£0	£0	£0	-£100	£0	-£100	0	Only larger houses impacted. Dependant on route from kitchen to front entrance (length of cabling required)
	Turning through 180degrees in hall (WHDG 5.2.5)	£0	£0	£0	£0	£0	£0	£0	£0	£0	0	Larger hall required - additional cost for larger unit dealt with under space
	400mm between doors at angles (WHDG 7.2.8)	£0	£0	£0	£0	£0	£0	£0	£0	£0	0	Design standard. Additional costs associated with a larger area dealt with under space standard
	Storage to be shallow (WHDG 7.2.10)	£0	£0	£0	£0	£0	£0	£0	£0	£0	0	Additional space standard
	Windows opening onto paths (WHDG 14.2.4)	£0	£0	£0	£0	£0	£0	£0	£0	£0	0	Design item
	Full plate or large rocker switches (WHDG 15.2.4)	-£12	£0	-£12	£0	-£12	£0	-£12	£0	-£12	0	Assume 6Nr switches @ extra over £2)
	Winding gear to window (WHDG 14.2.3)	-£250	£0	-£250	£0	-£500	£0	-£500	£0	-£500	£0	Window winders for windows above worktops - Say £250 supply and install. Say 1 nr per flat (above kitchen worktop) and say 2 nr required per house. Manual not electronic
	Housing standards do not specify a private car parking space (ref 3.11). WHDG (3.2.1) specifies that a car parking space must be provided.	£0	£0	£0	£0	-£3,750	£0	-£3,750	£0	-£3,750	£0	Assume that 50% of these car parking spaces are provided with an independent canopy. Land take assumption for this say £2,500 per space (DCLG to confirm) covered canopy sav £2.500 @ 50%.
	Housing standards do not specify a communal car parking space (ref 3.11). WHDG (3.2.1) specifies that a car parking space must be provided.	-£1,094	£0	-£1,094	£0	£0	£0	£0	£0	£0	£0	- WHDG area 3.6 x 5.4 = 19.44. Cat 3 only 'where provided'. Cat 3 requires additional 19.44m2 @ £75/m2 - Required to 1 and 2 bed flats only - Assume this occurs to 75% of properties as not all units will have parking spaces.
Category 3	**Total: Current Base Date 2Q14**	**-£1,449**	**£0**	**-£1,449**	**£0**	**-£4,489**	**£0**	**-£4,594**	**£0**	**-£4,594**	**£0**	
3	**Areas Relaxed**											
	WHDG requires 2 lift only where over 30 dwellings (WHDG 3.2.9) *Lift Shaft only required for Wheelchair adaptable* RH email 21/05/14 - lift provision in wheelchair housing (adaptable) from 2 lifts to 1. The London plan requirement asks for 2 therefore saving?? - 2 lifts were not identified at IA stage.	-£1,588		-£1,588		£0		£0				Assume 10Nr units per floor therefore over 4 floors would require additional lift; Lift cost = £47,666 divide by 30Nr dwellings (i.e 3 floors of 10Nr) - WHDG 3.2.9 *Assumed 3 storeys; cost of £22,833 divided by 30 Units (10Nr per floor)= £1589; Shaft Only =£795*
	Sockets 300mm from internal corner	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Dwelling layout no perceived cost impact
	Direct connection from bed to bath	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Dwelling layout no perceived cost impact
	WHDG 10.2.6 requires a hob and built in oven. 3.31d only asks for a space for a built in oven therefore a saving of £250 per unit has been allowed.	-£250	£0	-£250	£0	-£250	£0	-£250	£0	-£250	£0	Saving of say £250 per appliance (built in oven). Total saving £250 per unit.
	Radiator relaxed to normal height	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Cost Neutral
3.45	Wheelchair adaptable saving for sanitary fittings (ref 3.41 and 3.45). Smaller basin material saving say £25 to main bathroom only	-£25	£0	-£25	£0	-£25	£0	-£25	£0	-£25	£0	Confirmation required of the sanitary fittings which could represent a saving. This appears to just be the basin therefore material saving of say £25 for smaller basin.
Category 3	**Total: Current Base Date 2Q14**	**-£1,923**	**£0**	**-£1,923**	**£0**	**-£262**	**£0**	**-£262**	**£0**	**-£262**	**£0**	
3	**Areas tightened**											
3.13e	Communal External Doors - Clear opening width 850mm	£0	£8	£0	£8	£0	£0	£0	£0	£0	£0	Allowance for wider frame and enlarged door and uprated ironmongery. Say £150 per unit for 1 door (as this allowance will affect external doors of a higher specification). WHDG states 800mm 4.2.1. Say additional £150 (x2) per flat block for additional door size and uprated ironmongery. This affects 1 and 2 bed flats and is divided by 40 for an assumed number of flats per block
3.21e	External Doors (primary) - Clear opening width 850mm	£0	£150	£0	£150	£0	£150	£0	£150	£0	£150	Allowance for wider frame and enlarged door and uprated ironmongery. Say £150 per unit for 1 door (as this allowance will affect external doors of a higher specification). WHDG asks for 800mm 4.2.1.
3.22	External Doors (secondary) - Clear opening width 850mm	£0	£150	£0	£150	£0	£150	£0	£150	£0	£150	Allowance for wider frame and enlarged door and uprated ironmongery. Say £150 per unit for 1 door (as this allowance will affect external doors of a higher specification). WHDG asks for 800mm 4.2.1.
3.23a	Clear width in communal hallway 1050mm (WHDH states 900mm). In practice 1050mm is normally adopted as standard.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Space implication - Additional 150mm width on communal hallways. It is assumed that the space requirement for this is covered within the minimum GIFAs specified in 3.38. No additional space allowance has been included in the ECH calculations.
3.23d	Internal Doors - Clear opening width 850mm	£0	£25	£0	£50	£0	£75	£0	£75	£0	£100	Allowance for wider frame and enlarged door. Say £25 per door (as this allowance will affect internal doors). In line with GWHDG allowance. WHDG 800mm 4.2.1.
3.26	Through floor lift space for wheelchair units with more than one floor - Allowance for provision of lift shaft - No additional cost as WHDG asks for the same.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Space implication - It is assumed that the space requirement for this is covered within the minimum GIFAs apecified in category 3 space section. No additional space allowance has been included in the ECH calculations. Lift shaft in 2 storey house 6m x 2m (x2 closed sides) = 24m2 @ £50/m2 = £1,200. Extra over for electrical connection say £250. Total say £1,450
3.27	Through floor lift space for wheelchair units with more than one floor - Allowance for floor cassette and doors for storage (refer to 3.26 for lift shaft allowance)	£0	£0	£0	£0	£0	£765	£0	£765	£0	£765	Adjustment to floor cassette to allow for future removal say £65. Allowance for supply and fix double doors say £350 each opening (£700 total). Total say £765.
3.28	Through floor lift space and lift for wheelchair units with more than one floor - Allowance for the provision of a lift (refer to 3.26 for lift shaft allowance) - No additional cost as WHDG asks for the same.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Provided 'as standard' in most flatted blocks. Additional cost to houses only - Access lifts fitted on Claude Rd Dec 2012 for £12,500k including bwic. Say £13.2k each adjusting for on costs. Say shaft and BWIC £1.4k lift £11.6k.
3.29d	Provision of power socket for future stair lift	£0	£0	£0	£0	£0	£50	£0	£50	£0	£50	Allowance for the provision of a fused spur on the stairs. Say £50 to houses only.
3.32	Future provision for 2000mm/ 2200mm adjustable worktop. No cost implication. Design/ layout.	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	Design/ Layout
3.33b	1.6m additional lowered worktop (sink + w'top + hob) - WHDG asks for 600mm. Level 3 asks for 2200mm therefore additional 1600mm of adjustable worktop.	£0	£150	£0	£150	£0	£150	£0	£150	£0	£150	Full wheelchair only (allowance just for worktop as hob/ oven is included in Habinteg)
3.34c	Ceiling structure to every bedroom suitable for a hoist. WHDG asks for hoist provision to main bedroom only, therefore: 1 bed - No additional cost 2 bed and above allowance for all additional no primary bedrooms.	£0	£0	£0	£21	£0	£125	£0	£210	£0	£295	Requirement is design related and 'requires ceilings throughout to have structural capacity for future possible hoist installation' Flats Cost in flats is an allowance based on additional support in some top floor flats (however subject to structural design and would not necessarily be required in concrete frame building). Flat allowance therefore based on flat bedroom areas (1 bed 13.5m2; 2 bed 26m2)) x £10/m2. Cost divided by 12 plots per block, multiplied by 4 top floor flats. Total cost divided by 50% (assuming 50% units concrete not timber) Houses Cost allowed for double joist/strengthening. Bedroom area: (2 bed = 26m2 (13.5+12.5); 3 bed = 34.5m2 (13.5+12.5+8.5); 4 bed 43m2 (13.5+12.5+8.5+8.5) x £10/m2. All less 13.5m2 as WHDG (12.2.4) asks for hoist provision in the primary bedroom (taken as 13.5m2 Level 3 - 3.28b)
3.35d	Dwelling of more that 5 bed spaces to have fully installed bath and level access shower - affects 3 and 4 bed units only.	£0	£0	£0	£0	£0	£0	£0	£750	£0	£750	Allowance of £750 to supply and install the level access shower in the ground floor WC. This e/o excludes drainage etc which is a requirement of Habinteg.
3.35f	Omission of ceiling strengthening in bathroom and WC (specified WHDG and in 3.31 & 3.32) - Neutral cost impact	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	WHDG 11.2.10 asks for ceiling support therefore saving as Level 3 does not require this. Saving £10/m2 for the bathroom and WC areas. Assumed bathroom area 2.5 x 2.5 = 6.25m2 and WC 1.5 x 2 = 3m2. 3.31 & 3.32 ask for the ceiling strengthening therefore no cost impact.
3.36a	Every dwelling to have a level access shower on the ground floor - linked into 3.35d above. Therefore the only unit affected by this is 2 bed house	£0	£0	£0	£0	£0	£750	£0	£0	£0	£0	Refer to 3.29d above. This requirement is met under 3.35d for 3 and 4 bed units but 2 bed requirement is picked up under 3.36a at the same allowance of £750 per unit.
3.47i	Door entry phone with remote release to bedrooms of all units	£0	£75	£0	£75	£0	£75	£0	£75	£0	£75	Allowance of £75 per unit for the handset only. Habiteg requires provision for future installation.
3.48e	External gate width 900mm	£0	£0	£0	£0	£0	£25	£0	£25	£0	£25	Extra over £25 for wider gate
Category 3	**Total: Current Base Date 2Q14 (Accessible items included)**	**£0**	**£583**	**£0**	**£631**	**£0**	**£2,421**	**£0**	**£2,510**	**£0**	**£2,625**	
	Current Base Date 2Q14 (Accessible items removed) - LONDON	**£0**	**£433**	**£0**	**£481**	**£0**	**£2,271**	**£0**	**£2,360**	**£0**	**£2,475**	
	Current Base Date 2Q14 (Accessible items removed)	**£0**	**£426**	**£0**	**£474**	**£0**	**-£10,063**	**£0**	**-£9,974**	**£0**	**-£9,859**	

Accessibility Standard

Category 3 - Additional Accessible cost over Adaptable

		1 Bed Flat		2 Bed Flat		2 Bed Terr		3 Bed Semi		4 Bed Det		
		Omit Cost	**Add Cost**	**Omit Cost**	**Add Cost**	**Omit Cost**	**Add Cost**	**Omit Cost**	**Add Cost**	**Omit Cost**	**Add Cost**	
3.28	Through floor lift space and lift for wheelchair units with more than one floor - Allowance for the provision of a lift (refer to 3.26 for lift shaft allowance)	£0	£0	£0	£0	£0	£11,785	£0	£11,785	£0	£11,785	Provided 'as standard' in most flatted blocks. Additional cost to houses only - Access lifts fitted on Claude Rd Dec 2012 for £12,500k including bwic. Say £14k each adjusting for on costs. Say shaft and BWIC £2.4k lift £11.6k.
3.33b	1.6m additional lowered worktop (sink + w'top + hob) - WHDG asks for 600mm. Level 3 asks for 2200mm therefore additional 1600mm of adjustable worktop.	£0	£150	£0	£150	£0	£150	£0	£150	£0	£150	Full wheelchair only (allowance just for worktop as hob/ oven is included in Habinteg)
Category 3	**Total: Current Base Date 2Q14**	**£0**	**£157**	**£0**	**£157**	**£0**	**£12,484**	**£0**	**£12,484**	**£0**	**£12,484**	

Appendix B5 – Proposed, Water

Housing Standards Review

Water Standards - 4 bed detached house

Jun-14

EC HARRIS
BUILT ASSET CONSULTANCY
AN ARCADIS COMPANY

CfSH		Proposed Standard		Code Level 5 /6		Comments
Water saving feature	Specification	Specification	E/O Cost	Specification	**E/O cost**	
	120l/p/d	110 l/p/d		80l/p/d		
Physical costs						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower (2 nr)	10 l/min	8 l/min	£ 6	6 l/min	£ 6	Flow restictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,674	Including above / below ground storage tanks
Sub total			£ 9		£ 2,697	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:
EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects
Enquiries made with suppliers
Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications . Similarly a unit without a bath is generally considered to be less desirable , particularly in family dwellings.

All typologies are assumed to have Baths with showers over
Yield co-effiecient for rainwater harvesting assumtion is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office South East Figures)

House roofs assumed to be pitched and tiled

Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

Housing Standards Review

Water Standards - 3 bed semi detached house

EC HARRIS BUILT ASSET CONSULTANCY AN ARCADIS COMPANY

Jun-14

CfSH		Proposed Standard		Code Level 5 /6		Comments
Water saving feature	Base Specification	Specification		Specification	**E/O cost**	
CfSH water consumption (l/p/d)	125 l/p/d	110 l/p/d		80 l/p/d		
Physical costs						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower (2nr)	10 l/min	8 l/min	£ 6	6 l/min	£ 6	Flow restictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,674	Including above / below ground storage tanks
Sub total			£ 9		£ 2,697	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:
EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects
Enquiries made with suppliers
Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications . Similarly a unit without a bath is generally considered to be less desirable , particularly in family dwellings.

All typologies are assumed to have Baths with showers over
Yield co-effiecient for rainwater harvesting assumtion is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office figures for the South East)

House roofs assumed to be tiled and pitched
Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

Housing Standards Review

Water Standards - 2 bed terraced house

EC HARRIS BUILT ASSET CONSULTANCY AN ARCADIS COMPANY

Jun-14

CfSH	Building Regs	Proposed Standard		Code Level 5 /6		Comments
Water saving feature	Specification	Specification		Specification	**E/O cost**	
	125 l/p/d	110 l/p/d		80 l/p/d		
Physical costs						
Low flush WCs (2nr)	6/4 l dual	6/4 l dual	£ -	4/2.6 l dual	£ 14	
Low flow wash basin taps (2 nr)	6/min	4 l/min	£ -	2 l/min	£ -	
Low flow shower	10 l/min	8 l/min	£ 3	6 l/min	£ 3	Flow restictor used to achieve reduced flow rates
Bath capacity	170 l	145 l	£ -	145 l	£ -	
Kitchen tap flow rate	8 l/min	6 l/min	£ 3	4 l/min	£ 3	Flow restictor used to achieve reduced flow rates
Water efficient washing machine	No	No	£ -	No	£ -	
Water efficient dishwasher	No	No	£ -	No	£ -	
Greywater reuse	No	No	£ -	No	£ -	
Rainwater harvesting	No	No	£ -	Yes	£ 2,181	Including above / below ground storage tanks
Sub total	£ -		£ 6		£ 2,201	

For each Code level, the Water Calculator was used to determine an approximate specification of water saving features to deliver the respective water consumption levels given in the CfSH technical guide.

Costs are based on:
EC Harris' internal benchmarking database which draws on costs data from past and present CfSH projects
Enquiries made with suppliers
Discussions with a leading M&E consultancy specialising in sustainability

Base Level sanitaryware is assumed to be basic spec in which case there is a cost premium for water efficient fittings. Note, for instances where higher spec sanitaryware would be the norm, extra over costs for sanitaryware could be zero.

To achieve Code Level 5/6 rainwater harvesting has been incorporated within the costs. An alternative to the significant cost and complexity of greywater reuse/rainwater harvesting could be a 6 litres/minute shower (typical for an electric shower) and no bath. Although this would save on the cost of installing a bath and reduce the bathroom space this would not be a direct comparison with the other specifications . Similarly a unit without a bath is generally considered to be less desirable , particularly in family dwellings.

All typologies are assumed to have Baths with showers over
Yield co-effiecient for rainwater harvesting assumtion is based on BS8515 Calculations based on rainfall average of 650mm/yr (based on Met office figures for South East)

House roofs assumed to be pitched tiled roofs
Minimum flow rates on CfSH taps are inline with AECB Best Practice Guidelines

Appendix C1 – Process and Transition

Housing Standards Review
Transition Costs

Time to familiarise professionals with new standards in excess of ongoing changes to current standards

Profession	Hours	Rate	Total	Approx Nr. Of Professionals	Source
Architect	8	£52	£416	20,000	RIBA
Building Control Surveyor	8	£46	£368	810	RICS
Building Surveyor	4	£46	£184	13,334	RICS
Quantity Surveyor	4	£57	£228	9,421	RICS
Construction Energy Assessors	5	£48	£240	981	-
Building Services Engineer	4	£46	£184	3,317	CIBSE
Civil Engineer	2	£47	£94	26,033	ICE
Mechanical Engineer	4	£49	£196	Incl	IME
Construction Manager	4	£57	£228	Incl	RICS / CIOB
Project Manager	4	£57	£228	Incl	RICS / CIOB
Town and Country Planner	5	£61	£305	19,966	RTPI
Skilled Trades	1.5	£18	£27	660,000	Business register

Time for professionals firms to update processes etc

Profession Type	Resource	Rate	Total	Approx Nr. Of Firms	Source
Architects	30	£52	£1,560	2,983	RIBA
Planners	30	£61	£1,830	810	RICS
Surveyors	15	£57	£855	12,000	RICS
Engineers	15	£47	£705	703	RICS
Management	15	£57	£855	Incl	RICS

Overhead type process costs

Current:

Firm size	Current resource dedicated	Cost per year per firm
Micro (1-4 employees)	0.015 Full time equivalent design manager	£1,287 (0.015 x £52/hr x 7.5hr day x 220)
Micro (4-7 employees)	0.05 Full time equivalent design manager	£4,290 (0.05 x £52/hr x 7.5hr day x 220)
Small (e.g. local home builder)	0.15 Full time equivalent design manager	£12,870 (0.15 x £52/hr x 7.5hr day x 220)
Medium (e.g. regional home builder)	0.75 Full time equivalent design manager	£64,350 (0.75 x £52/hr x 7.5hr day x 220)
Large (e.g. national home builder with multiple regions)	4 Full time equivalent design managers	£343,200 (4 x £52/hr x 7.5hr day x 220)

Proposed:

Firm size	Proposed resource dedicated	Cost per year per firm
Micro (1-4 employees)	0.01 Full time equivalent design manager	£858 (0.01 x £52/hr x 7.5hr day x 220)
Micro (4-7 employees)	0.03 Full time equivalent design manager	£2,574 (0.03 x £52/hr x 7.5hr day x 220)
Small (e.g. local home builder)	0.10 Full time equivalent design manager	£8,580 (0.10 x £52/hr x 7.5hr day x 220)
Medium (e.g. regional home builder)	0.40 Full time equivalent design manager	£34,320 (0.40 x £52/hr x 7.5hr day x 220)
Large (e.g. national home builder with multiple regions)	2 Full time equivalent design managers	£171,600 (2 x £52/hr x 7.5hr day x 220)

Housebuilding firms transition cost

Size of Firm (by number employed)	Number of House Builders	Hours	Rate	Total per Firm
1	10,301	0	£52	£0
2 to 3	6,456	0	£52	£0
4 to 7	2,988	0	£52	£0
8 to 13	1,101	0	£52	£0
14-24	607	0	£52	£0
25-34	202	7.5	£52	£390
35-59	238	7.5	£52	£390
60-79	81	15	£52	£780
80-114	76	15	£52	£780
115-299	99	15	£52	£780
300-599	29	22.5	£52	£1,170
600-1,199	8	37.5	£52	£1,950
1,200+	14	37.5	£52	£1,950
	22,200			

Small	5 units	2 unit types
Medium	50 units	5 unit types
Large	100 units	10 unit types

Proposed Standards

Space

Small

Professional	Total hours	Hourly Rate	Total
Design Team	3.5	£52	£182
Total	3.5		**£182**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£91
		£/dwelling	£36

Medium

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
Total	8		**£416**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£83
		£/dwelling	£8

Large

Professional	Total hours	Hourly Rate	Total
Design Team	16	£52	£832
Total	16		**£832**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£83
		£/dwelling	£8

Recipient Costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.5	£23	£5
Medium	50	£46	2	£92	£2
Large	100	£46	4	£184	£2

Type Approval (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
Total	8		**£416**

Type Approval Recipient Costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2	£92	£92

Water

None - substitution cost

Security

Small

Professional	Total hours	Hourly Rate	Total
Design Team	0.2	£52	£10
Total	0.2		**£10**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£5
		£/dwelling	£2

Medium

Professional	Total hours	Hourly Rate	Total
Design Team	0.4	£52	£21
Total	0.4		**£21**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£4
		£/dwelling	£0.4

Large

Professional	Total hours	Hourly Rate	Total
Design Team	0.8	£52	£42
Total	0.8		**£42**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£4
		£/dwelling	£0.4

Recipient Costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.1	£5	£0.9
Medium	50	£46	0.2	£9	£0.2
Large	100	£46	0.4	£18	£0.2

Access - level 1

No cost - equivalent to Part M

Access - level 2

Small

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	8	£52.00	£416
Architect (External Design Work)	8	£52.00	£416
Buyer	3	£57.00	£171
Construction Manager	3	£57.00	£171
Total	22		**£1,174**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£587
		£/dwelling	£235

Medium

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	20	£52.00	£1,040
Architect (External Design Work)	10	£52.00	£520
Buyer	7.5	£57.00	£428
Construction Manager	7.5	£57.00	£428
Total	45		**£2,415**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£483
		£/dwelling	£48

Large

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	40	£52.00	£2,080
Architect (External Design Work)	15	£52.00	£780
Buyer	15	£57.00	£855
Construction Manager	15	£57.00	£855
Total	85		**£4,570**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£457
		£/dwelling	£46

Recipient Costs

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	0.5	£23	£5
Medium	50	£46	4	£184	£4
Large	100	£46	8	£368	£4

Type Approval (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	8	£52	£416
Total	8		**£416**

Type Approval Recipient Costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2	£92	£92

Access - level 3

Small

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	7.5	£52.00	£390
Construction Manager	4	£57.00	£228
Total	11.5		**£618**
		Nr dwelling types	1
		Nr Wheelchair dwellings	1
		£/type	£618
		£/dwelling	£618

Medium

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	22.5	£52.00	£1,170
Construction Manager	12	£57.00	£684
Total	34.5		**£1,854**
		Nr dwelling types	3
		Nr Wheelchair dwellings	5
		£/type	£618
		£/dwelling	£371

Large

Professional	Total hours	Hourly Rate	Total
Architect (Internal Design Work)	45	£52.00	£2,340
Construction Manager	24	£57.00	£1,368
Total	69		**£3,708**
		Nr dwelling types	6
		Nr Wheelchair dwellings	10
		£/type	£618
		£/dwelling	£371

Recipient Costs

	Wheelchair Dwellings	Rate	Hrs	Total	£/dwelling
Small	1	£46	0.5	£23	£23
Medium	5	£46	3.5	£161	£32
Large	10	£46	7	£322	£32

Type Approval (per dwelling type)

Professional	Total hours	Hourly Rate	Total
Design Team	10	£52	£520
Total	10		**£520**

Type Approval Recipient Costs

Dwelling Type	Rate	Hrs	Total	£/dwelling
1	£46	2.5	£115	£115

Small Scheme Process

Lifetime Homes

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	15	£52.00	£780
Architect (external items)	12	£52.00	£624
Buyer	4	£57.00	£228
Construction Manager	4	£57.00	£228
Total	**35**		**£1,860**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£930
		£/dwelling	£372

Current Space Standard

Professional	Total hours	Hourly Rate	Total
Architect	15	£52.00	£780
Total	**15**		**£780**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£390
		£/dwelling	£156

The Planning and Energy Act

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	3	£49.00	£147
Total	3		**£147**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£74
		£/dwelling	£29

Wheelchair Housing Design Guide

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	7.5	£57.00	£428
Construction Manager	15	£57.00	£855
Total	67.5		**£3,623**
		Nr dwelling types	1
		Nr of wheelchair dwellings	1
		£/type	£3,623
		£/dwelling	£3,623

Secured by Design

Professional	Total hours	Hourly Rate	Total
Design Team	12.5	£52	£650
Total	12.5		**£650**
		Nr dwelling types	2
		Nr dwellings	5
		£/type	£325
		£/dwelling	£130

Code for Sustainable Homes

- Refer to separate spreadsheet

Medium Scheme Process

Lifetime Homes

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	37.5	£52.00	£1,950
Architect (external items)	15	£52.00	£780
Buyer	10	£57.00	£570
Construction Manager	10	£57.00	£570
Total	**72.5**		**£3,870**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£774
		£/dwelling	£77

Current Space Standard

Professional	Total hours	Hourly Rate	Total
Architect	30	£52.00	£1,560
Total	**30**		**£1,560**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£312
		£/dwelling	£31

The Planning and Energy Act

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	3	£49.00	£147
Total	3		**£147**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£29
		£/dwelling	£3

Wheelchair Housing Design Guide

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	11.5	£57.00	£656
Construction Manager	11	£57.00	£627
Total	67.5		**£3,623**
		Nr dwelling types	3
		Nr of wheelchair dwellings	5
		£/type	£1,208
		£/dwelling	£725

Secured by Design

Professional	Total hours	Hourly Rate	Total
Design Team	15	£52	£780
Total	15		**£780**
		Nr dwelling types	5
		Nr dwellings	50
		£/type	£156
		£/dwelling	£16

Large Scheme Process

Lifetime Homes

Professional	Total hours	Hourly Rate	Total
Architect (internal items)	75	£52.00	£3,900
Architect (external items)	20	£52.00	£1,040
Buyer	20	£57.00	£1,140
Construction Manager	20	£57.00	£1,140
Total	**135**		**£7,220**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£722
		£/dwelling	£72

Current Space Standard

Professional	Total hours	Hourly Rate	Total
Architect	50	£52.00	£2,600
Total	**50**		**£2,600**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£260
		£/dwelling	£26

The Planning and Energy Act

Professional	Total hours	Hourly Rate	Total
Mechanical & Electrical Engineer / Sustainability specialist (100%)	7.5	£49.00	£368
Total	7.5		**£368**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£37
		£/dwelling	£4

Wheelchair Housing Design Guide

Professional	Total hours	Hourly Rate	Total
Architect	45	£52.00	£2,340
Buyer	7.5	£57.00	£428
Construction Manager	15	£57.00	£855
Total	67.5		**£3,623**
		Nr dwelling types	6
		Nr of wheelchair dwellings	10
		£/type	£604
		£/dwelling	£362

Secured by Design

Professional	Total hours	Hourly Rate	Total
Design Team	20	£52	£1,040
Total	20		**£1,040**
		Nr dwelling types	10
		Nr dwellings	100
		£/type	£104
		£/dwelling	£10

Recipient Process

Lifetime Homes

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	5	£230	£46
Medium	50	£46	7.5	£345	£7
Large	100	£46	14	£644	£6

Current Space Standard

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	5	£230	£46
Medium	50	£46	7.5	£345	£7
Large	100	£46	14	£644	£6

The Planning and Energy Act

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	4	£184	£37
Medium	50	£46	6	£276	£6
Large	100	£46	12	£552	£6

Wheelchair Housing Design Guide

	Wheelchair Dwellings	Rate	Hrs	Total	£/dwelling
Small	1	£46	2	£92	£92
Medium	5	£46	4	£184	£37
Large	10	£46	8	£368	£37

Secured by Design

	Dwellings	Rate	Hrs	Total	£/dwelling
Small	5	£46	4	£184	£37
Medium	50	£46	6	£276	£6
Large	100	£46	12	£552	£6

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Appendix C3- BCIS Durham

£/m2 study

Description: Rate per m2 gross internal floor area for the building Cost including prelims.

Last updated: 25-Nov-2017 12:20

› Rebased to Durham (93; sample 130)

Maximum age of results: Default period

Building function (Maximum age of projects)	£/m² gross internal floor area						Sample
	Mean	Lowest	Lower quartiles	Median	Upper quartiles	Highest	
New build							
810.1 Estate housing							
Generally (15)	1,106	541	947	1,078	1,218	3,537	1848
Single storey (15)	1,229	632	1,056	1,190	1,395	2,076	309
2-storey (15)	1,078	541	938	1,054	1,184	2,164	1400
3-storey (15)	1,092	706	898	1,037	1,217	2,277	136
4-storey or above (20)	2,257	1,176	-	2,060	-	3,537	3
810.11 Estate housing detached (15)	1,290	849	1,020	1,265	1,449	2,060	21
810.12 Estate housing semi detached							
Generally (15)	1,106	559	956	1,082	1,221	2,076	431
Single storey (15)	1,262	772	1,087	1,236	1,402	2,076	77
2-storey (15)	1,076	559	951	1,054	1,185	1,910	334
3-storey (15)	1,013	758	842	960	1,099	1,632	20
810.13 Estate housing terraced							
Generally (15)	1,124	543	942	1,081	1,251	3,537	398
Single storey (15)	1,224	830	1,024	1,150	1,444	1,876	51
2-storey (15)	1,103	543	938	1,077	1,220	2,164	287
3-storey (15)	1,096	713	891	1,033	1,181	2,277	59
4-storey or above (5)	3,537	-	-	-	-	-	1
816. Flats (apartments)							
Generally (15)	1,316	649	1,100	1,258	1,487	4,481	947
1-2 storey (15)	1,247	761	1,069	1,203	1,381	2,371	231
3-5 storey (15)	1,297	649	1,099	1,248	1,476	2,615	635
6+ storey (15)	1,668	962	1,372	1,599	1,751	4,481	77

APPENDIX D1	TEST 1 BASE APPRAISALS								
Site Type	Value Area	Land	Total Dwellings	Gross (Ha)	TLV (£ per gross Ha)	Residual Land Value	Surplus	Surplus % of TLV	Viable?
1	Highest	Greenfield	5	0.19	£ 900,000	£ 284,469	£ 117,802	70.68%	YES
2	Highest	Greenfield	20	0.74	£ 900,000	£ 1,036,263	£ 369,596	55.44%	YES
3	Highest	Greenfield	50	1.81	£ 900,000	£ 3,066,212	£ 1,437,253	88.23%	YES
4	Highest	Greenfield	80	2.90	£ 900,000	£ 4,869,723	£ 2,263,388	86.84%	YES
5	Highest	Greenfield	125	4.81	£ 900,000	£ 7,477,713	£ 3,150,790	72.82%	YES
6	Highest	Greenfield	200	7.14	£ 900,000	£ 11,470,760	£ 5,042,189	78.43%	YES
7	Highest	Greenfield	350	12.50	£ 900,000	£ 19,211,265	£ 7,961,265	70.77%	YES
1	High	Greenfield	5	0.19	£ 500,000	£ 158,179	£ 65,586	70.83%	YES
2	High	Greenfield	20	0.74	£ 500,000	£ 566,568	£ 196,198	52.97%	YES
3	High	Greenfield	50	1.81	£ 500,000	£ 1,938,632	£ 1,033,655	114.22%	YES
4	High	Greenfield	80	2.90	£ 500,000	£ 3,087,674	£ 1,639,710	113.24%	YES
5	High	Greenfield	125	4.81	£ 500,000	£ 4,779,278	£ 2,375,432	98.82%	YES
6	High	Greenfield	200	7.14	£ 500,000	£ 7,345,093	£ 3,773,664	105.66%	YES
7	High	Greenfield	350	12.50	£ 500,000	£ 12,557,992	£ 6,307,992	100.93%	YES
1	Medium	Greenfield	5	0.19	£ 325,000	£ 65,627	£ 5,442	9.04%	YES
2	Medium	Greenfield	20	0.74	£ 325,000	£ 230,522	-£ 10,219	-4.24%	NO
3	Medium	Greenfield	50	1.81	£ 325,000	£ 1,133,218	£ 544,983	92.65%	YES
4	Medium	Greenfield	80	2.90	£ 325,000	£ 1,814,782	£ 873,606	92.82%	YES
5	Medium	Greenfield	125	4.81	£ 325,000	£ 2,851,606	£ 1,289,106	82.50%	YES
6	Medium	Greenfield	200	7.14	£ 325,000	£ 4,396,408	£ 2,074,979	89.38%	YES
7	Medium	Greenfield	350	12.50	£ 325,000	£ 7,788,454	£ 3,725,954	91.72%	YES
1	Low	Greenfield	5	0.19	£ 250,000	£ 10,000	-£ 36,296	-78.40%	NO
2	Low	Greenfield	20	0.74	£ 250,000	£ 20,895	-£ 164,290	-88.72%	NO
3	Low	Greenfield	50	1.81	£ 250,000	£ 649,969	£ 197,480	43.64%	YES
4	Low	Greenfield	80	2.90	£ 250,000	£ 1,051,047	£ 327,065	45.18%	YES
5	Low	Greenfield	125	4.81	£ 250,000	£ 1,694,876	£ 492,953	41.01%	YES
6	Low	Greenfield	200	7.14	£ 250,000	£ 2,623,846	£ 838,132	46.94%	YES
7	Low	Greenfield	350	12.50	£ 250,000	£ 4,873,133	£ 1,748,133	55.94%	YES
1	Highest	PDL	5	0.19	£ 800,000	£ 235,289	£ 87,141	58.82%	YES
2	Highest	PDL	20	0.74	£ 800,000	£ 928,503	£ 335,910	56.68%	YES
3	Highest	PDL	50	1.81	£ 800,000	£ 2,724,500	£ 1,276,536	88.16%	YES
4	Highest	PDL	80	2.90	£ 800,000	£ 4,332,091	£ 2,015,349	86.99%	YES
5	Highest	PDL	125	4.81	£ 800,000	£ 6,670,315	£ 2,824,161	73.43%	YES
6	Highest	PDL	200	7.14	£ 800,000	£ 10,751,770	£ 5,037,484	88.16%	YES
7	Highest	PDL	350	12.50	£ 800,000	£ 18,012,092	£ 8,012,092	80.12%	YES
1	High	PDL	5	0.19	£ 450,000	£ 111,031	£ 27,698	33.24%	YES
2	High	PDL	20	0.74	£ 450,000	£ 461,612	£ 128,279	38.48%	YES
3	High	PDL	50	1.81	£ 450,000	£ 1,617,255	£ 802,775	98.56%	YES
4	High	PDL	80	2.90	£ 450,000	£ 2,581,603	£ 1,278,436	98.10%	YES
5	High	PDL	125	4.81	£ 450,000	£ 4,017,402	£ 1,853,940	85.69%	YES
6	High	PDL	200	7.14	£ 450,000	£ 6,625,901	£ 3,411,615	106.14%	YES
7	High	PDL	350	12.50	£ 450,000	£ 11,357,275	£ 5,732,275	101.91%	YES
1	Medium	PDL	5	0.19	£ 275,000	£ 21,076	-£ 29,850	-58.61%	NO
2	Medium	PDL	20	0.74	£ 275,000	£ 124,086	-£ 79,618	-39.09%	NO
3	Medium	PDL	50	1.81	£ 275,000	£ 826,364	£ 328,626	66.02%	YES
4	Medium	PDL	80	2.90	£ 275,000	£ 1,331,254	£ 534,874	67.16%	YES
5	Medium	PDL	125	4.81	£ 275,000	£ 2,122,134	£ 800,019	60.51%	YES
6	Medium	PDL	200	7.14	£ 275,000	£ 3,676,746	£ 1,712,460	87.18%	YES
7	Medium	PDL	350	12.50	£ 275,000	£ 6,580,834	£ 3,143,334	91.44%	YES
1	Low	PDL	5	0.19	£ 175,000	-£ 33,460	-£ 65,867	-203.25%	NO
2	Low	PDL	20	0.74	£ 175,000	-£ 87,478	-£ 217,108	-167.48%	NO
3	Low	PDL	50	1.81	£ 175,000	£ 351,832	£ 35,090	11.08%	YES
4	Low	PDL	80	2.90	£ 175,000	£ 581,045	£ 74,258	14.65%	YES
5	Low	PDL	125	4.81	£ 175,000	£ 984,538	£ 143,192	17.02%	YES
6	Low	PDL	200	7.14	£ 175,000	£ 1,900,764	£ 650,764	52.06%	YES
7	Low	PDL	350	12.50	£ 175,000	£ 3,645,991	£ 1,458,491	66.67%	YES

APPENDIX D2		TEST 2 - BASE APPRAISALS PLUS AFFORDABLE HOUSING AND OLDER PERSON HOUSING							
Site Type	Value Area	Land	MV	OPH	Total Dwellings	TLV (£ per gross Ha)	Residual Land Value	Surplus	Surplus % of TLV	Viable?
1	Highest	Greenfield	4	1	5	£ 900,000	£ 285,235	£ 118,568	71.14%	YES
2	Highest	Greenfield	17	2	20	£ 900,000	£ 956,854	£ 290,187	43.53%	YES
3	Highest	Greenfield	42	5	50	£ 900,000	£ 2,878,104	£ 1,249,145	76.68%	YES
4	Highest	Greenfield	68	8	80	£ 900,000	£ 4,605,883	£ 1,999,548	76.72%	YES
5	Highest	Greenfield	106	13	125	£ 900,000	£ 7,052,233	£ 2,725,310	62.98%	YES
6	Highest	Greenfield	170	20	200	£ 900,000	£ 10,876,407	£ 4,447,836	69.19%	YES
7	Highest	Greenfield	297	35	350	£ 900,000	£ 18,189,158	£ 6,939,158	61.68%	YES
1	High	Greenfield	4	1	5	£ 500,000	£ 162,473	£ 69,880	75.47%	YES
2	High	Greenfield	17	2	20	£ 500,000	£ 505,677	£ 135,307	36.53%	YES
3	High	Greenfield	42	5	50	£ 500,000	£ 1,794,718	£ 889,741	98.32%	YES
4	High	Greenfield	68	8	80	£ 500,000	£ 2,887,218	£ 1,439,254	99.40%	YES
5	High	Greenfield	106	13	125	£ 500,000	£ 4,462,426	£ 2,058,580	85.64%	YES
6	High	Greenfield	170	20	200	£ 500,000	£ 6,895,053	£ 3,323,624	93.06%	YES
7	High	Greenfield	297	35	350	£ 500,000	£ 11,777,347	£ 5,527,347	88.44%	YES
1	Medium	Greenfield	4	1	5	£ 325,000	£ 75,758	£ 15,573	25.87%	YES
2	Medium	Greenfield	17	2	20	£ 325,000	£ 187,451	-£ 53,290	-22.14%	NO
3	Medium	Greenfield	42	5	50	£ 325,000	£ 1,035,073	£ 446,838	75.96%	YES
4	Medium	Greenfield	68	8	80	£ 325,000	£ 1,649,863	£ 708,687	75.30%	YES
5	Medium	Greenfield	106	13	125	£ 325,000	£ 2,645,521	£ 1,083,021	69.31%	YES
6	Medium	Greenfield	170	20	200	£ 325,000	£ 4,101,538	£ 1,780,109	76.68%	YES
7	Medium	Greenfield	297	35	350	£ 325,000	£ 7,264,000	£ 3,201,500	78.81%	YES
1	Low	Greenfield	4	1	5	£ 250,000	£ 21,663	-£ 24,633	-53.21%	NO
2	Low	Greenfield	17	2	20	£ 250,000	-£ 14,926	-£ 200,111	-108.06%	NO
3	Low	Greenfield	42	5	50	£ 250,000	£ 570,740	£ 118,251	26.13%	YES
4	Low	Greenfield	68	8	80	£ 250,000	£ 945,394	£ 221,412	30.58%	YES
5	Low	Greenfield	106	13	125	£ 250,000	£ 1,535,382	£ 333,459	27.74%	YES
6	Low	Greenfield	170	20	200	£ 250,000	£ 2,391,089	£ 605,375	33.90%	YES
7	Low	Greenfield	297	35	350	£ 250,000	£ 4,446,883	£ 1,321,883	42.30%	YES
1	Highest	PDL	4	1	5	£ 800,000	£ 236,802	£ 88,654	59.84%	YES
2	Highest	PDL	17	2	20	£ 800,000	£ 850,765	£ 258,172	43.57%	YES
3	Highest	PDL	42	5	50	£ 800,000	£ 2,548,352	£ 1,100,388	76.00%	YES
4	Highest	PDL	68	8	80	£ 800,000	£ 4,084,403	£ 1,767,661	76.30%	YES
5	Highest	PDL	106	13	125	£ 800,000	£ 6,268,666	£ 2,422,512	62.99%	YES
6	Highest	PDL	170	20	200	£ 800,000	£ 10,161,619	£ 4,447,333	77.83%	YES
7	Highest	PDL	297	35	350	£ 800,000	£ 16,996,682	£ 6,996,682	69.97%	YES
1	High	PDL	4	1	5	£ 450,000	£ 116,028	£ 32,695	39.23%	YES
2	High	PDL	17	2	20	£ 450,000	£ 402,214	£ 68,881	20.66%	YES
3	High	PDL	42	5	50	£ 450,000	£ 1,483,673	£ 669,193	82.16%	YES
4	High	PDL	68	8	80	£ 450,000	£ 2,394,870	£ 1,091,703	83.77%	YES
5	High	PDL	106	13	125	£ 450,000	£ 3,721,434	£ 1,557,972	72.01%	YES
6	High	PDL	170	20	200	£ 450,000	£ 6,180,087	£ 2,965,801	92.27%	YES
7	High	PDL	297	35	350	£ 450,000	£ 10,583,396	£ 4,958,396	88.15%	YES
1	Medium	PDL	4	1	5	£ 275,000	£ 31,644	-£ 19,282	-37.86%	NO
2	Medium	PDL	17	2	20	£ 275,000	£ 81,562	-£ 122,142	-59.96%	NO
3	Medium	PDL	42	5	50	£ 275,000	£ 737,358	£ 239,620	48.14%	YES
4	Medium	PDL	68	8	80	£ 275,000	£ 1,312,799	£ 516,419	64.85%	YES
5	Medium	PDL	106	13	125	£ 275,000	£ 1,934,228	£ 612,113	46.30%	YES
6	Medium	PDL	170	20	200	£ 275,000	£ 3,386,154	£ 1,421,868	72.39%	YES
7	Medium	PDL	297	35	350	£ 275,000	£ 6,062,459	£ 2,624,959	76.36%	YES
1	Low	PDL	4	1	5	£ 175,000	-£ 33,460	-£ 65,867	-203.25%	NO
2	Low	PDL	17	2	20	£ 175,000	£ -	-£ 129,630	-100.00%	NO
3	Low	PDL	42	5	50	£ 175,000	£ 280,843	-£ 35,899	-11.33%	NO
4	Low	PDL	68	8	80	£ 175,000	£ 486,256	-£ 20,531	-4.05%	NO
5	Low	PDL	106	13	125	£ 175,000	£ 841,978	£ 632	0.08%	YES
6	Low	PDL	170	20	200	£ 175,000	£ 1,671,419	£ 421,419	33.71%	YES
7	Low	PDL	297	35	350	£ 175,000	£ 3,224,933	£ 1,037,433	47.43%	YES

APPENDIX D2	TEST 2 - BASE APPRAISALS PLUS 15% AFFORDABLE HOUSING AND OLDER PERSON HOUSING									
Site Type	Value Area	Land	2 storey	OPH	Total Dwellings	TLV (£ per gross Ha)	Residual Land Value	Surplus	Surplus % of TLV	Viable?
2	Highest	Greenfield	15	2	20	£ 900,000	£ 849,781	£ 183,114	27.47%	YES
3	Highest	Greenfield	37	5	50	£ 900,000	£ 2,581,449	£ 952,490	58.47%	YES
4	Highest	Greenfield	60	8	80	£ 900,000	£ 4,146,061	£ 1,539,726	59.08%	YES
5	Highest	Greenfield	93	13	125	£ 900,000	£ 6,312,502	£ 1,985,579	45.89%	YES
6	Highest	Greenfield	150	20	200	£ 900,000	£ 9,795,356	£ 3,366,785	52.37%	YES
7	Highest	Greenfield	263	35	350	£ 900,000	£ 16,479,448	£ 5,229,448	46.48%	YES
2	High	Greenfield	15	2	20	£ 500,000	£ 418,747	£ 48,377	13.06%	YES
3	High	Greenfield	37	5	50	£ 500,000	£ 1,550,551	£ 645,574	71.34%	YES
4	High	Greenfield	60	8	80	£ 500,000	£ 2,509,018	£ 1,061,054	73.28%	YES
5	High	Greenfield	93	13	125	£ 500,000	£ 3,853,284	£ 1,449,438	60.30%	YES
6	High	Greenfield	150	20	200	£ 500,000	£ 6,005,321	£ 2,433,892	68.15%	YES
7	High	Greenfield	263	35	350	£ 500,000	£ 10,368,282	£ 4,118,282	65.89%	YES
2	Medium	Greenfield	15	2	20	£ 325,000	£ -	-£ 240,741	-100.00%	NO
3	Medium	Greenfield	37	5	50	£ 325,000	£ 828,580	£ 240,345	40.86%	YES
4	Medium	Greenfield	60	8	80	£ 325,000	£ 1,362,389	£ 421,213	44.75%	YES
5	Medium	Greenfield	93	13	125	£ 325,000	£ 2,130,103	£ 567,603	36.33%	YES
6	Medium	Greenfield	150	20	200	£ 325,000	£ 3,349,180	£ 1,027,751	44.27%	YES
7	Medium	Greenfield	263	35	350	£ 325,000	£ 6,313,387	£ 2,250,887	55.41%	YES
2	Low	Greenfield	15	2	20	£ 250,000	£ -	-£ 185,185	-100.00%	NO
3	Low	Greenfield	37	5	50	£ 250,000	£ 386,717	-£ 65,772	-14.54%	NO
4	Low	Greenfield	60	8	80	£ 250,000	£ 660,721	-£ 63,261	-8.74%	NO
5	Low	Greenfield	93	13	125	£ 250,000	£ 1,075,846	-£ 126,077	-10.49%	NO
6	Low	Greenfield	150	20	200	£ 250,000	£ 1,716,102	-£ 69,612	-3.90%	NO
7	Low	Greenfield	263	35	350	£ 250,000	£ 3,351,321	£ 226,321	7.24%	YES
2	Highest	PDL	15	2	20	£ 800,000	£ 746,425	£ 153,832	25.96%	YES
3	Highest	PDL	37	5	50	£ 800,000	£ 2,266,967	£ 819,003	56.56%	YES
4	Highest	PDL	60	8	80	£ 800,000	£ 3,649,381	£ 1,332,639	57.52%	YES
5	Highest	PDL	93	13	125	£ 800,000	£ 5,568,825	£ 1,722,671	44.79%	YES
6	Highest	PDL	150	20	200	£ 800,000	£ 9,085,749	£ 3,371,463	59.00%	YES
7	Highest	PDL	263	35	350	£ 800,000	£ 15,294,912	£ 5,294,912	52.95%	YES
2	High	PDL	15	2	20	£ 450,000	£ 317,726	-£ 15,607	-4.68%	NO
3	High	PDL	37	5	50	£ 450,000	£ 1,252,845	£ 438,365	53.82%	YES
4	High	PDL	60	8	80	£ 450,000	£ 2,038,588	£ 735,421	56.43%	YES
5	High	PDL	93	13	125	£ 450,000	£ 3,147,102	£ 983,640	45.47%	YES
6	High	PDL	150	20	200	£ 450,000	£ 5,295,539	£ 2,081,253	64.75%	YES
7	High	PDL	263	35	350	£ 450,000	£ 9,182,223	£ 3,557,223	63.24%	YES
2	Medium	PDL	15	2	20	£ 275,000	£ -	-£ 203,704	-100.00%	NO
3	Medium	PDL	37	5	50	£ 275,000	£ 542,629	£ 44,891	9.02%	YES
4	Medium	PDL	60	8	80	£ 275,000	£ 910,367	£ 113,987	14.31%	YES
5	Medium	PDL	93	13	125	£ 275,000	£ 1,450,109	£ 127,994	9.68%	YES
6	Medium	PDL	150	20	200	£ 275,000	£ 2,638,971	£ 674,685	34.35%	YES
7	Medium	PDL	263	35	350	£ 275,000	£ 4,866,406	£ 1,428,906	41.57%	YES
2	Low	PDL	15	2	20	£ 175,000	£ -	-£ 129,630	-100.00%	NO
3	Low	PDL	37	5	50	£ 175,000	£ -	-£ 316,742	-100.00%	NO
4	Low	PDL	60	8	80	£ 175,000	£ -	-£ 506,787	-100.00%	NO
5	Low	PDL	93	13	125	£ 175,000	£ -	-£ 841,346	-100.00%	NO
6	Low	PDL	150	20	200	£ 175,000	£ 996,708	-£ 253,292	-20.26%	NO
7	Low	PDL	263	35	350	£ 175,000	£ 2,131,861	-£ 55,639	-2.54%	NO

APPENDIX D2	TEST 2 - BASE APPRAISALS PLUS 25% AFFORDABLE HOUSING AND OLDER PERSON HOUSING									
Site Type	Value Area	Land	2 storey	OPH	Total Dwellings	TLV (£ per gross Ha)	Residual Land Value	Surplus	Surplus % of TLV	Viable?
2	Highest	Greenfield	13	2	20	£ 900,000	£ 743,038	£ 76,371	11.46%	YES
3	Highest	Greenfield	32	5	50	£ 900,000	£ 2,313,011	£ 684,052	41.99%	YES
4	Highest	Greenfield	52	8	80	£ 900,000	£ 3,638,362	£ 1,032,027	39.60%	YES
5	Highest	Greenfield	81	13	125	£ 900,000	£ 5,801,162	£ 1,474,239	34.07%	YES
6	Highest	Greenfield	130	20	200	£ 900,000	£ 8,739,553	£ 2,310,982	35.95%	YES
7	Highest	Greenfield	227	35	350	£ 900,000	£ 14,677,762	£ 3,427,762	30.47%	YES
2	High	Greenfield	13	2	20	£ 500,000	£ 320,517	-£ 49,853	-13.46%	NO
3	High	Greenfield	32	5	50	£ 500,000	£ 1,330,624	£ 425,647	47.03%	YES
4	High	Greenfield	52	8	80	£ 500,000	£ 2,131,660	£ 683,696	47.22%	YES
5	High	Greenfield	81	13	125	£ 500,000	£ 3,296,085	£ 892,239	37.12%	YES
6	High	Greenfield	130	20	200	£ 500,000	£ 5,137,315	£ 1,565,886	43.84%	YES
7	High	Greenfield	227	35	350	£ 500,000	£ 8,883,986	£ 2,633,986	42.14%	YES
2	Medium	Greenfield	13	2	20	£ 350,000	£ -	-£ 259,259	-100.00%	NO
3	Medium	Greenfield	32	5	50	£ 325,000	£ 643,577	£ 55,342	9.41%	YES
4	Medium	Greenfield	52	8	80	£ 325,000	£ 1,043,588	£ 102,412	10.88%	YES
5	Medium	Greenfield	81	13	125	£ 350,000	£ 1,658,876	-£ 23,816	-1.42%	NO
6	Medium	Greenfield	130	20	200	£ 325,000	£ 2,616,277	£ 294,848	12.70%	YES
7	Medium	Greenfield	227	35	350	£ 325,000	£ 4,794,993	£ 732,493	18.03%	YES
2	Low	Greenfield	13	2	20	£ 250,000	£ -	-£ 185,185	-100.00%	NO
3	Low	Greenfield	32	5	50	£ 250,000	£ -	-£ 452,489	-100.00%	NO
4	Low	Greenfield	52	8	80	£ 250,000	£ -	-£ 723,982	-100.00%	NO
5	Low	Greenfield	81	13	125	£ 250,000	£ -	-£ 1,201,923	-100.00%	NO
6	Low	Greenfield	130	20	200	£ 250,000	£ -	-£ 1,785,714	-100.00%	NO
7	Low	Greenfield	227	35	350	£ 250,000	£ -	-£ 3,125,000	-100.00%	NO
2	Highest	PDL	13	2	20	£ 800,000	£ 642,295	£ 49,702	8.39%	YES
3	Highest	PDL	32	5	50	£ 800,000	£ 2,014,300	£ 566,336	39.11%	YES
4	Highest	PDL	52	8	80	£ 800,000	£ 3,213,210	£ 896,468	38.70%	YES
5	Highest	PDL	81	13	125	£ 800,000	£ 4,926,009	£ 1,079,855	28.08%	YES
6	Highest	PDL	130	20	200	£ 800,000	£ 8,035,135	£ 2,320,849	40.61%	YES
7	Highest	PDL	227	35	350	£ 800,000	£ 13,501,658	£ 3,501,658	35.02%	YES
2	High	PDL	13	2	20	£ 450,000	£ 232,940	-£ 100,393	-30.12%	NO
3	High	PDL	32	5	50	£ 450,000	£ 1,046,688	£ 232,208	28.51%	YES
4	High	PDL	52	8	80	£ 450,000	£ 1,681,052	£ 377,885	29.00%	YES
5	High	PDL	81	13	125	£ 450,000	£ 2,619,771	£ 456,309	21.09%	YES
6	High	PDL	130	20	200	£ 450,000	£ 4,432,744	£ 1,218,458	37.91%	YES
7	High	PDL	227	35	350	£ 450,000	£ 7,706,314	£ 2,081,314	37.00%	YES
2	Medium	PDL	13	2	20	£ 300,000	£ -	-£ 222,222	-100.00%	NO
3	Medium	PDL	32	5	50	£ 300,000	£ -	-£ 542,986	-100.00%	NO
4	Medium	PDL	52	8	80	£ 300,000	£ -	-£ 868,778	-100.00%	NO
5	Medium	PDL	81	13	125	£ 300,000	£ -	-£ 1,442,308	-100.00%	NO
6	Medium	PDL	130	20	200	£ 300,000	£ 1,911,284	-£ 231,573	-10.81%	NO
7	Medium	PDL	227	35	350	£ 300,000	£ 3,595,846	-£ 154,154	-4.11%	NO
2	Low	PDL	13	2	20	£ 175,000	-£ 87,478	-£ 217,108	-167.48%	NO
3	Low	PDL	32	5	50	£ 175,000	£ -	-£ 316,742	-100.00%	NO
4	Low	PDL	52	8	80	£ 175,000	£ -	-£ 506,787	-100.00%	NO
5	Low	PDL	81	13	125	£ 175,000	£ -	-£ 841,346	-100.00%	NO
6	Low	PDL	130	20	200	£ 175,000	£ -	-£ 1,250,000	-100.00%	NO
7	Low	PDL	227	35	350	£ 175,000	£ -	-£ 2,187,500	-100.00%	NO

APPENDIX D3	TEST 3 - AS TEST 2 PLUS 5% AFFORDABLE HOUSING, OPEN SPACE AND SUDS									
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Residual Land Value	Test 2 surplus	Open Space	SUDS	Adjusted Surplus	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 285,235	£ 118,568	£ 17,390	£ 4,630	£ 96,549	YES
2	Highest	Greenfield	20	£ 900,000	£ 956,854	£ 290,187	£ 69,560	£ 18,519	£ 202,109	YES
3	Highest	Greenfield	50	£ 900,000	£ 2,878,104	£ 1,249,145	£ 173,900	£ 45,249	£ 1,029,996	YES
4	Highest	Greenfield	80	£ 900,000	£ 4,605,883	£ 1,999,548	£ 278,240	£ 72,398	£ 1,648,910	YES
5	Highest	Greenfield	125	£ 900,000	£ 7,052,233	£ 2,725,310	£ 434,750	£ 120,192	£ 2,170,368	YES
6	Highest	Greenfield	200	£ 900,000	£ 10,876,407	£ 4,447,836	£ 695,600	£ 178,571	£ 3,573,664	YES
7	Highest	Greenfield	350	£ 900,000	£ 18,189,158	£ 6,939,158	£ 1,217,300	£ 312,500	£ 5,409,358	YES
1	High	Greenfield	5	£ 500,000	£ 162,473	£ 69,880	£ 17,390	£ 4,630	£ 47,861	YES
2	High	Greenfield	20	£ 500,000	£ 505,677	£ 135,307	£ 69,560	£ 18,519	£ 47,228	YES
3	High	Greenfield	50	£ 500,000	£ 1,794,718	£ 889,741	£ 173,900	£ 45,249	£ 670,592	YES
4	High	Greenfield	80	£ 500,000	£ 2,887,218	£ 1,439,254	£ 278,240	£ 72,398	£ 1,088,616	YES
5	High	Greenfield	125	£ 500,000	£ 4,462,426	£ 2,058,580	£ 434,750	£ 120,192	£ 1,503,638	YES
6	High	Greenfield	200	£ 500,000	£ 6,895,053	£ 3,323,624	£ 695,600	£ 178,571	£ 2,449,453	YES
7	High	Greenfield	350	£ 500,000	£ 11,777,347	£ 5,527,347	£ 1,217,300	£ 312,500	£ 3,997,547	YES
1	Medium	Greenfield	5	£ 325,000	£ 75,758	£ 15,573	£ 17,390	£ 4,630	-£ 6,447	NO
2	Medium	Greenfield	20	£ 325,000	£ 187,451	-£ 53,290	£ 69,560	£ 18,519	-£ 141,368	NO
3	Medium	Greenfield	50	£ 325,000	£ 1,035,073	£ 446,838	£ 173,900	£ 45,249	£ 227,689	YES
4	Medium	Greenfield	80	£ 325,000	£ 1,649,863	£ 708,687	£ 278,240	£ 72,398	£ 358,048	YES
5	Medium	Greenfield	125	£ 325,000	£ 2,645,521	£ 1,083,021	£ 434,750	£ 120,192	£ 528,079	YES
6	Medium	Greenfield	200	£ 325,000	£ 4,101,538	£ 1,780,109	£ 695,600	£ 178,571	£ 905,938	YES
7	Medium	Greenfield	350	£ 325,000	£ 7,264,000	£ 3,201,500	£ 1,217,300	£ 312,500	£ 1,671,700	YES
1	Low	Greenfield	5	£ 250,000	£ 21,663	-£ 24,633	£ 17,390	£ 4,630	-£ 46,653	NO
2	Low	Greenfield	20	£ 250,000	-£ 14,926	-£ 200,111	£ 69,560	£ 18,519	-£ 288,190	NO
3	Low	Greenfield	50	£ 250,000	£ 570,740	£ 118,251	£ 173,900	£ 45,249	-£ 100,898	NO
4	Low	Greenfield	80	£ 250,000	£ 945,394	£ 221,412	£ 278,240	£ 72,398	-£ 129,226	NO
5	Low	Greenfield	125	£ 250,000	£ 1,535,382	£ 333,459	£ 434,750	£ 120,192	-£ 221,483	NO
6	Low	Greenfield	200	£ 250,000	£ 2,488,328	£ 702,614	£ 695,600	£ 178,571	-£ 171,558	NO
7	Low	Greenfield	350	£ 250,000	£ 4,446,883	£ 1,321,883	£ 1,217,300	£ 312,500	-£ 207,917	NO
1	Highest	PDL	5	£ 800,000	£ 236,802	£ 88,654	£ 17,390	£ 4,630	£ 66,634	YES
2	Highest	PDL	20	£ 800,000	£ 850,765	£ 258,172	£ 69,560	£ 18,519	£ 170,094	YES
3	Highest	PDL	50	£ 800,000	£ 2,548,352	£ 1,100,388	£ 173,900	£ 45,249	£ 881,239	YES
4	Highest	PDL	80	£ 800,000	£ 4,134,333	£ 1,817,591	£ 278,240	£ 72,398	£ 1,466,953	YES
5	Highest	PDL	125	£ 800,000	£ 6,268,666	£ 2,422,512	£ 434,750	£ 120,192	£ 1,867,570	YES
6	Highest	PDL	200	£ 800,000	£ 10,161,619	£ 4,447,333	£ 695,600	£ 178,571	£ 3,573,162	YES
7	Highest	PDL	350	£ 800,000	£ 16,996,682	£ 6,996,682	£ 1,217,300	£ 312,500	£ 5,466,882	YES
1	High	PDL	5	£ 450,000	£ 116,028	£ 32,695	£ 17,390	£ 4,630	£ 10,675	YES
2	High	PDL	20	£ 450,000	£ 402,214	£ 68,881	£ 69,560	£ 18,519	-£ 19,198	NO
3	High	PDL	50	£ 450,000	£ 1,483,673	£ 669,193	£ 173,900	£ 45,249	£ 450,044	YES
4	High	PDL	80	£ 450,000	£ 2,394,870	£ 1,091,703	£ 278,240	£ 72,398	£ 741,064	YES
5	High	PDL	125	£ 450,000	£ 3,721,434	£ 1,557,972	£ 434,750	£ 120,192	£ 1,003,030	YES
6	High	PDL	200	£ 450,000	£ 6,180,087	£ 2,965,801	£ 695,600	£ 178,571	£ 2,091,630	YES
7	High	PDL	350	£ 450,000	£ 10,583,396	£ 4,958,396	£ 1,217,300	£ 312,500	£ 3,428,596	YES
1	Medium	PDL	5	£ 275,000	£ 31,644	-£ 19,282	£ 17,390	£ 4,630	-£ 41,302	NO
2	Medium	PDL	20	£ 275,000	£ 81,562	-£ 122,142	£ 69,560	£ 18,519	-£ 210,220	NO
3	Medium	PDL	50	£ 275,000	£ 737,358	£ 239,620	£ 173,900	£ 45,249	£ 20,472	YES
4	Medium	PDL	80	£ 275,000	£ 1,312,799	£ 516,419	£ 278,240	£ 72,398	£ 165,781	YES
5	Medium	PDL	125	£ 300,000	£ 1,934,228	£ 491,920	£ 434,750	£ 120,192	-£ 63,022	NO
6	Medium	PDL	200	£ 275,000	£ 3,386,154	£ 1,421,868	£ 695,600	£ 178,571	£ 547,697	YES
7	Medium	PDL	350	£ 275,000	£ 6,062,459	£ 2,624,959	£ 1,217,300	£ 312,500	£ 1,095,159	YES
1	Low	PDL	5	£ 175,000	-£ 33,460	-£ 65,867	£ 17,390	£ 4,630	-£ 87,887	NO
2	Low	PDL	20	£ 175,000	£ -	-£ 129,630	£ 69,560	£ 18,519	-£ 217,708	NO
3	Low	PDL	50	£ 175,000	£ 280,843	-£ 35,899	£ 173,900	£ 45,249	-£ 255,048	NO
4	Low	PDL	80	£ 175,000	£ 486,256	-£ 20,531	£ 278,240	£ 72,398	-£ 371,170	NO
5	Low	PDL	125	£ 175,000	£ 841,978	£ 632	£ 434,750	£ 120,192	-£ 554,310	NO
6	Low	PDL	200	£ 175,000	£ 1,671,419	£ 421,419	£ 695,600	£ 178,571	-£ 452,752	NO
7	Low	PDL	350	£ 175,000	£ 3,224,933	£ 1,037,433	£ 1,217,300	£ 312,500	-£ 492,367	NO

APPENDIX D3		TEST 3 - AS TEST 2 PLUS 15% AFFORDABLE HOUSING, OPEN SPACE AND SUDS								
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Residual Land Value	Test 2 surplus	Open Space	SUDS	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 849,781	£ 183,114	£ 69,560	£ 18,519	£ 95,036	YES
3	Highest	Greenfield	50	£ 900,000	£ 2,581,449	£ 952,490	£ 173,900	£ 45,249	£ 733,341	YES
4	Highest	Greenfield	80	£ 900,000	£ 4,146,061	£ 1,539,726	£ 278,240	£ 72,398	£ 1,189,088	YES
5	Highest	Greenfield	125	£ 900,000	£ 6,312,502	£ 1,985,579	£ 434,750	£ 120,192	£ 1,430,637	YES
6	Highest	Greenfield	200	£ 900,000	£ 9,795,356	£ 3,366,785	£ 695,600	£ 178,571	£ 2,492,613	YES
7	Highest	Greenfield	350	£ 900,000	£ 16,479,448	£ 5,229,448	£ 1,217,300	£ 312,500	£ 3,699,648	YES
2	High	Greenfield	20	£ 500,000	£ 418,747	£ 48,377	£ 69,560	£ 18,519	-£ 39,702	NO
3	High	Greenfield	50	£ 500,000	£ 1,550,551	£ 645,574	£ 173,900	£ 45,249	£ 426,425	YES
4	High	Greenfield	80	£ 500,000	£ 2,509,018	£ 1,061,054	£ 278,240	£ 72,398	£ 710,416	YES
5	High	Greenfield	125	£ 500,000	£ 3,853,284	£ 1,449,438	£ 434,750	£ 120,192	£ 894,496	YES
6	High	Greenfield	200	£ 500,000	£ 6,005,321	£ 2,433,892	£ 695,600	£ 178,571	£ 1,559,721	YES
7	High	Greenfield	350	£ 500,000	£ 10,368,282	£ 4,118,282	£ 1,217,300	£ 312,500	£ 2,588,482	YES
3	Medium	Greenfield	50	£ 325,000	£ 828,580	£ 240,345	£ 173,900	£ 45,249	£ 21,196	YES
4	Medium	Greenfield	80	£ 325,000	£ 1,362,389	£ 421,213	£ 278,240	£ 72,398	£ 70,574	YES
5	Medium	Greenfield	125	£ 325,000	£ 2,130,103	£ 567,603	£ 434,750	£ 120,192	£ 12,661	YES
6	Medium	Greenfield	200	£ 325,000	£ 3,349,180	£ 1,027,751	£ 695,600	£ 178,571	£ 153,580	YES
7	Medium	Greenfield	350	£ 325,000	£ 6,313,387	£ 2,250,887	£ 1,217,300	£ 312,500	£ 721,087	YES
2	Highest	PDL	20	£ 800,000	£ 746,425	£ 153,832	£ 69,560	£ 18,519	£ 65,754	YES
3	Highest	PDL	50	£ 800,000	£ 2,266,967	£ 819,003	£ 173,900	£ 45,249	£ 599,854	YES
4	Highest	PDL	80	£ 800,000	£ 3,649,381	£ 1,332,639	£ 278,240	£ 72,398	£ 982,001	YES
5	Highest	PDL	125	£ 800,000	£ 5,568,825	£ 1,722,671	£ 434,750	£ 120,192	£ 1,167,729	YES
6	Highest	PDL	200	£ 800,000	£ 9,085,749	£ 3,371,463	£ 695,600	£ 178,571	£ 2,497,292	YES
7	Highest	PDL	350	£ 800,000	£ 15,294,912	£ 5,294,912	£ 1,217,300	£ 312,500	£ 3,765,112	YES
3	High	PDL	50	£ 450,000	£ 1,252,845	£ 438,365	£ 173,900	£ 45,249	£ 219,216	YES
4	High	PDL	80	£ 450,000	£ 2,038,588	£ 735,421	£ 278,240	£ 72,398	£ 384,782	YES
5	High	PDL	125	£ 450,000	£ 3,147,102	£ 983,640	£ 434,750	£ 120,192	£ 428,698	YES
6	High	PDL	200	£ 450,000	£ 5,295,539	£ 2,081,253	£ 695,600	£ 178,571	£ 1,207,082	YES
7	High	PDL	350	£ 450,000	£ 9,182,223	£ 3,557,223	£ 1,217,300	£ 312,500	£ 2,027,423	YES
4	Medium	PDL	80	£ 275,000	£ 910,367	£ 113,987	£ 278,240	£ 72,398	-£ 236,651	NO
5	Medium	PDL	125	£ 275,000	£ 1,450,109	£ 127,994	£ 434,750	£ 120,192	-£ 426,949	NO
6	Medium	PDL	200	£ 275,000	£ 2,638,971	£ 674,685	£ 695,600	£ 178,571	-£ 199,486	NO
7	Medium	PDL	350	£ 275,000	£ 4,866,406	£ 1,428,906	£ 1,217,300	£ 312,500	-£ 100,894	NO

APPENDIX D3		TEST 3 - AS TEST 2 PLUS 25% AFFORDABLE HOUSING, OPEN SPACE AND SUDS								
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Residual Land Value	Test 2 surplus	Open space	SUDS	Surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 743,038	£ 76,371	£ 69,560	£ 18,519	-£ 11,707	NO
3	Highest	Greenfield	50	£ 900,000	£ 2,313,011	£ 684,052	£ 173,900	£ 45,249	£ 464,903	YES
4	Highest	Greenfield	80	£ 900,000	£ 3,638,362	£ 1,032,027	£ 278,240	£ 72,398	£ 681,389	YES
5	Highest	Greenfield	125	£ 900,000	£ 5,801,162	£ 1,474,239	£ 434,750	£ 120,192	£ 919,297	YES
6	Highest	Greenfield	200	£ 900,000	£ 8,739,553	£ 2,310,982	£ 695,600	£ 178,571	£ 1,436,810	YES
7	Highest	Greenfield	350	£ 900,000	£ 14,677,762	£ 3,427,762	£ 1,217,300	£ 312,500	£ 1,897,962	YES
2	High	Greenfield	20	£ 500,000	£ 320,517	-£ 49,853	£ 69,560	£ 18,519	-£ 137,932	NO
3	High	Greenfield	50	£ 500,000	£ 1,330,624	£ 425,647	£ 173,900	£ 45,249	£ 206,498	YES
4	High	Greenfield	80	£ 500,000	£ 2,131,660	£ 683,696	£ 278,240	£ 72,398	£ 333,058	YES
5	High	Greenfield	125	£ 500,000	£ 3,296,085	£ 892,239	£ 434,750	£ 120,192	£ 337,297	YES
6	High	Greenfield	200	£ 500,000	£ 5,137,315	£ 1,565,886	£ 695,600	£ 178,571	£ 691,715	YES
7	High	Greenfield	350	£ 500,000	£ 8,883,986	£ 2,633,986	£ 1,217,300	£ 312,500	£ 1,104,186	YES
2	Highest	PDL	20	£ 800,000	£ 642,295	£ 49,702	£ 69,560	£ 18,519	-£ 38,376	NO
3	Highest	PDL	50	£ 800,000	£ 2,014,300	£ 566,336	£ 173,900	£ 45,249	£ 347,187	YES
4	Highest	PDL	80	£ 800,000	£ 3,213,210	£ 896,468	£ 278,240	£ 72,398	£ 545,830	YES
5	Highest	PDL	125	£ 800,000	£ 4,926,009	£ 1,079,855	£ 434,750	£ 120,192	£ 524,913	YES
6	Highest	PDL	200	£ 800,000	£ 8,035,135	£ 2,320,849	£ 695,600	£ 178,571	£ 1,446,678	YES
7	Highest	PDL	350	£ 800,000	£ 13,501,658	£ 3,501,658	£ 1,217,300	£ 312,500	£ 1,971,858	YES
5	High	PDL	125	£ 450,000	£ 2,619,771	£ 456,309	£ 434,750	£ 120,192	-£ 98,633	NO
3	High	PDL	50	£ 450,000	£ 1,046,688	£ 232,208	£ 173,900	£ 45,249	£ 13,059	YES
4	High	PDL	80	£ 450,000	£ 1,681,052	£ 377,885	£ 278,240	£ 72,398	£ 27,246	YES
6	High	PDL	200	£ 450,000	£ 4,432,744	£ 1,218,458	£ 695,600	£ 178,571	£ 344,287	YES
7	High	PDL	350	£ 450,000	£ 7,706,314	£ 2,081,314	£ 1,217,300	£ 312,500	£ 551,514	YES

APPENDIX D4	TEST 4 - AS TEST 3 WITH 5% AFFORDABLE HOUSING AND EDUCATION £2,500 PER DWELLING											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Education	Adjusted Surplus	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 166,667	£ 285,235	£ 118,568	£ 17,390	£ 4,630	£ 12,500	£ 84,049	YES
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 956,854	£ 290,187	£ 69,560	£ 18,519	£ 50,000	£ 152,109	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,878,104	£ 1,249,145	£ 173,900	£ 45,249	£ 125,000	£ 904,996	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,605,883	£ 1,999,548	£ 278,240	£ 72,398	£ 200,000	£1,448,910	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 7,052,233	£ 2,725,310	£ 434,750	£ 120,192	£ 312,500	£1,857,868	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 10,876,407	£ 4,447,836	£ 695,600	£ 178,571	£ 500,000	£3,073,664	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 18,189,158	£ 6,939,158	£ 1,217,300	£ 312,500	£ 875,000	£4,534,358	YES
1	High	Greenfield	5	£ 500,000	£ 92,593	£ 162,473	£ 69,880	£ 17,390	£ 4,630	£ 12,500	£ 35,361	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 505,677	£ 135,307	£ 69,560	£ 18,519	£ 50,000	-£ 2,772	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,794,718	£ 889,741	£ 173,900	£ 45,249	£ 125,000	£ 545,592	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,887,218	£ 1,439,254	£ 278,240	£ 72,398	£ 200,000	£ 888,616	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 4,462,426	£ 2,058,580	£ 434,750	£ 120,192	£ 312,500	£1,191,138	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,895,053	£ 3,323,624	£ 695,600	£ 178,571	£ 500,000	£1,949,453	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 11,777,347	£ 5,527,347	£ 1,217,300	£ 312,500	£ 875,000	£3,122,547	YES
1	Medium	Greenfield	5	£ 325,000	£ 60,185	£ 75,758	£ 15,573	£ 17,390	£ 4,630	£ 12,500	-£ 18,947	NO
2	Medium	Greenfield	20	£ 325,000	£ 240,741	£ 187,451	-£ 53,290	£ 69,560	£ 18,519	£ 50,000	-£ 191,368	NO
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 1,035,073	£ 446,838	£ 173,900	£ 45,249	£ 125,000	£ 102,689	YES
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,649,863	£ 708,687	£ 278,240	£ 72,398	£ 200,000	£ 158,048	YES
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,645,521	£ 1,083,021	£ 434,750	£ 120,192	£ 312,500	£ 215,579	YES
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 4,101,538	£ 1,780,109	£ 695,600	£ 178,571	£ 500,000	£ 405,938	YES
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 7,264,000	£ 3,201,500	£ 1,217,300	£ 312,500	£ 875,000	£ 796,700	YES
1	Low	Greenfield	5	£ 250,000	£ 46,296	£ 21,663	-£ 24,633	£ 17,390	£ 4,630	£ 12,500	-£ 59,153	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	-£ 14,926	-£ 200,111	£ 69,560	£ 18,519	£ 50,000	-£ 338,190	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ 570,740	£ 118,251	£ 173,900	£ 45,249	£ 125,000	-£ 225,898	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ 945,394	£ 221,412	£ 278,240	£ 72,398	£ 200,000	-£ 329,226	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ 1,535,382	£ 333,459	£ 434,750	£ 120,192	£ 312,500	-£ 533,983	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ 2,488,328	£ 702,614	£ 695,600	£ 178,571	£ 500,000	-£ 671,558	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ 4,446,883	£ 1,321,883	£ 1,217,300	£ 312,500	£ 875,000	-£1,082,917	NO
1	Highest	PDL	5	£ 800,000	£ 148,148	£ 236,802	£ 88,654	£ 17,390	£ 4,630	£ 12,500	£ 54,134	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 850,765	£ 258,172	£ 69,560	£ 18,519	£ 50,000	£ 120,094	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,548,352	£ 1,100,388	£ 173,900	£ 45,249	£ 125,000	£ 756,239	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 4,134,333	£ 1,817,591	£ 278,240	£ 72,398	£ 200,000	£1,266,953	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 6,268,666	£ 2,422,512	£ 434,750	£ 120,192	£ 312,500	£1,555,070	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 10,161,619	£ 4,447,333	£ 695,600	£ 178,571	£ 500,000	£3,073,162	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 16,996,682	£ 6,996,682	£ 1,217,300	£ 312,500	£ 875,000	£4,591,882	YES
1	High	PDL	5	£ 450,000	£ 83,333	£ 116,028	£ 32,695	£ 17,390	£ 4,630	£ 12,500	-£ 1,825	NO
2	High	PDL	20	£ 450,000	£ 333,333	£ 402,214	£ 68,881	£ 69,560	£ 18,519	£ 50,000	-£ 69,198	NO
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,483,673	£ 669,193	£ 173,900	£ 45,249	£ 125,000	£ 325,044	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,394,870	£ 1,091,703	£ 278,240	£ 72,398	£ 200,000	£ 541,064	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,721,434	£ 1,557,972	£ 434,750	£ 120,192	£ 312,500	£ 690,530	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 6,180,087	£ 2,965,801	£ 695,600	£ 178,571	£ 500,000	£1,591,630	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 10,583,396	£ 4,958,396	£ 1,217,300	£ 312,500	£ 875,000	£2,553,596	YES
1	Medium	PDL	5	£ 275,000	£ 50,926	£ 31,644	-£ 19,282	£ 17,390	£ 4,630	£ 12,500	-£ 53,802	NO
2	Medium	PDL	20	£ 275,000	£ 203,704	£ 81,562	-£ 122,142	£ 69,560	£ 18,519	£ 50,000	-£ 260,220	NO
3	Medium	PDL	50	£ 275,000	£ 497,738	£ 737,358	£ 239,620	£ 173,900	£ 45,249	£ 125,000	-£ 104,528	NO
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 1,312,799	£ 516,419	£ 278,240	£ 72,398	£ 200,000	-£ 34,219	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,934,228	£ 612,113	£ 434,750	£ 120,192	£ 312,500	-£ 255,330	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 3,386,154	£ 1,421,868	£ 695,600	£ 178,571	£ 500,000	£ 47,697	YES
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 6,062,459	£ 2,624,959	£ 1,217,300	£ 312,500	£ 875,000	£ 220,159	YES
1	Low	PDL	5	£ 175,000	£ 32,407	-£ 33,460	-£ 65,867	£ 17,390	£ 4,630	£ 12,500	-£ 100,387	NO
2	Low	PDL	20	£ 175,000	£ 129,630	£ -	-£ 129,630	£ 69,560	£ 18,519	£ 50,000	-£ 267,708	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ 280,843	-£ 35,899	£ 173,900	£ 45,249	£ 125,000	-£ 380,048	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ 486,256	-£ 20,531	£ 278,240	£ 72,398	£ 200,000	-£ 571,170	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ 841,978	£ 632	£ 434,750	£ 120,192	£ 312,500	-£ 866,810	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ 1,671,419	£ 421,419	£ 695,600	£ 178,571	£ 500,000	-£ 952,752	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ 3,224,933	£ 1,037,433	£ 1,217,300	£ 312,500	£ 875,000	-£1,367,367	NO

APPENDIX D4	TEST 4 - AS TEST 3 WITH 5% AFFORDABLE HOUSING AND EDUCATION £5,000 PER DWELLING											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Education	Adjusted Surplus	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 166,667	£ 285,235	£ 118,568	£ 17,390	£ 4,630	£ 25,000	£ 71,549	YES
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 956,854	£ 290,187	£ 69,560	£ 18,519	£ 100,000	£ 102,109	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,878,104	£ 1,249,145	£ 173,900	£ 45,249	£ 250,000	£ 779,996	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,605,883	£ 1,999,548	£ 278,240	£ 72,398	£ 400,000	£1,248,910	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 7,052,233	£ 2,725,310	£ 434,750	£ 120,192	£ 625,000	£1,545,368	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 10,876,407	£ 4,447,836	£ 695,600	£ 178,571	£ 1,000,000	£2,573,664	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 18,189,158	£ 6,939,158	£ 1,217,300	£ 312,500	£ 1,750,000	£3,659,358	YES
1	High	Greenfield	5	£ 500,000	£ 92,593	£ 162,473	£ 69,880	£ 17,390	£ 4,630	£ 25,000	£ 22,861	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 505,677	£ 135,307	£ 69,560	£ 18,519	£ 100,000	-£ 52,772	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,794,718	£ 889,741	£ 173,900	£ 45,249	£ 250,000	£ 420,592	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,887,218	£ 1,439,254	£ 278,240	£ 72,398	£ 400,000	£ 688,616	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 4,462,426	£ 2,058,580	£ 434,750	£ 120,192	£ 625,000	£ 878,638	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,895,053	£ 3,323,624	£ 695,600	£ 178,571	£ 1,000,000	£1,449,453	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 11,777,347	£ 5,527,347	£ 1,217,300	£ 312,500	£ 1,750,000	£2,247,547	YES
1	Medium	Greenfield	5	£ 325,000	£ 60,185	£ 75,758	£ 15,573	£ 17,390	£ 4,630	£ 25,000	-£ 31,447	NO
2	Medium	Greenfield	20	£ 325,000	£ 240,741	£ 187,451	-£ 53,290	£ 69,560	£ 18,519	£ 100,000	-£ 241,368	NO
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 1,035,073	£ 446,838	£ 173,900	£ 45,249	£ 250,000	-£ 22,311	NO
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,649,863	£ 708,687	£ 278,240	£ 72,398	£ 400,000	-£ 41,952	NO
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,645,521	£ 1,083,021	£ 434,750	£ 120,192	£ 625,000	-£ 96,921	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 4,101,538	£ 1,780,109	£ 695,600	£ 178,571	£ 1,000,000	-£ 94,062	NO
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 7,264,000	£ 3,201,500	£ 1,217,300	£ 312,500	£ 1,750,000	-£ 78,300	NO
1	Low	Greenfield	5	£ 250,000	£ 46,296	£ 21,663	-£ 24,633	£ 17,390	£ 4,630	£ 25,000	-£ 71,653	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	-£ 14,926	-£ 200,111	£ 69,560	£ 18,519	£ 100,000	-£ 388,190	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ 570,740	£ 118,251	£ 173,900	£ 45,249	£ 250,000	-£ 350,898	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ 945,394	£ 221,412	£ 278,240	£ 72,398	£ 400,000	-£ 529,226	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ 1,535,382	£ 333,459	£ 434,750	£ 120,192	£ 625,000	-£ 846,483	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ 2,488,328	£ 702,614	£ 695,600	£ 178,571	£ 1,000,000	-£1,171,558	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ 4,446,883	£ 1,321,883	£ 1,217,300	£ 312,500	£ 1,750,000	-£1,957,917	NO
1	Highest	PDL	5	£ 800,000	£ 148,148	£ 236,802	£ 88,654	£ 17,390	£ 4,630	£ 25,000	£ 41,634	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 850,765	£ 258,172	£ 69,560	£ 18,519	£ 100,000	£ 70,094	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,548,352	£ 1,100,388	£ 173,900	£ 45,249	£ 250,000	£ 631,239	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 4,134,333	£ 1,817,591	£ 278,240	£ 72,398	£ 400,000	£1,066,953	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 6,268,666	£ 2,422,512	£ 434,750	£ 120,192	£ 625,000	£1,242,570	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 10,161,619	£ 4,447,333	£ 695,600	£ 178,571	£ 1,000,000	£2,573,162	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 16,996,682	£ 6,996,682	£ 1,217,300	£ 312,500	£ 1,750,000	£3,716,882	YES
1	High	PDL	5	£ 450,000	£ 83,333	£ 116,028	£ 32,695	£ 17,390	£ 4,630	£ 25,000	-£ 14,325	NO
2	High	PDL	20	£ 450,000	£ 333,333	£ 402,214	£ 68,881	£ 69,560	£ 18,519	£ 100,000	-£ 119,198	NO
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,483,673	£ 669,193	£ 173,900	£ 45,249	£ 250,000	£ 200,044	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,394,870	£ 1,091,703	£ 278,240	£ 72,398	£ 400,000	£ 341,064	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,721,434	£ 1,557,972	£ 434,750	£ 120,192	£ 625,000	£ 378,030	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 6,180,087	£ 2,965,801	£ 695,600	£ 178,571	£ 1,000,000	£1,091,630	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 10,583,396	£ 4,958,396	£ 1,217,300	£ 312,500	£ 1,750,000	£1,678,596	YES
1	Medium	PDL	5	£ 275,000	£ 50,926	£ 31,644	-£ 19,282	£ 17,390	£ 4,630	£ 25,000	-£ 66,302	NO
2	Medium	PDL	20	£ 275,000	£ 203,704	£ 81,562	-£ 122,142	£ 69,560	£ 18,519	£ 100,000	-£ 310,220	NO
3	Medium	PDL	50	£ 275,000	£ 497,738	£ 737,358	£ 239,620	£ 173,900	£ 45,249	£ 250,000	-£ 229,528	NO
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 1,312,799	£ 516,419	£ 278,240	£ 72,398	£ 400,000	-£ 234,219	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,934,228	£ 612,113	£ 434,750	£ 120,192	£ 625,000	-£ 567,830	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 3,386,154	£ 1,421,868	£ 695,600	£ 178,571	£ 1,000,000	-£ 452,303	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 6,062,459	£ 2,624,959	£ 1,217,300	£ 312,500	£ 1,750,000	-£ 654,841	NO
1	Low	PDL	5	£ 175,000	£ 32,407	-£ 33,460	-£ 65,867	£ 17,390	£ 4,630	£ 25,000	-£ 112,887	NO
2	Low	PDL	20	£ 175,000	£ 129,630	£ -	-£ 129,630	£ 69,560	£ 18,519	£ 100,000	-£ 317,708	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ 280,843	-£ 35,899	£ 173,900	£ 45,249	£ 250,000	-£ 505,048	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ 486,256	-£ 20,531	£ 278,240	£ 72,398	£ 400,000	-£ 771,170	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ 841,978	£ 632	£ 434,750	£ 120,192	£ 625,000	-£1,179,310	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ 1,671,419	£ 421,419	£ 695,600	£ 178,571	£ 1,000,000	-£1,452,752	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ 3,224,933	£ 1,037,433	£ 1,217,300	£ 312,500	£ 1,750,000	-£2,242,367	NO

APPENDIX D4 **TEST 4 - AS TEST 3 WITH 5% AFFORDABLE HOUSING AND EDUCATION £10,000 PER DWELLING**

Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Education	Adjusted Surplus	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 166,667	£ 285,235	£ 118,568	£ 17,390	£ 4,630	£ 50,000	£ 46,549	YES
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 956,854	£ 290,187	£ 69,560	£ 18,519	£ 200,000	£ 2,109	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,878,104	£ 1,249,145	£ 173,900	£ 45,249	£ 500,000	£ 529,996	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,605,883	£ 1,999,548	£ 278,240	£ 72,398	£ 800,000	£ 848,910	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 7,052,233	£ 2,725,310	£ 434,750	£ 120,192	£ 1,250,000	£ 920,368	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 10,876,407	£ 4,447,836	£ 695,600	£ 178,571	£ 2,000,000	£1,573,664	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 18,189,158	£ 6,939,158	£ 1,217,300	£ 312,500	£ 3,500,000	£1,909,358	YES
1	High	Greenfield	5	£ 500,000	£ 92,593	£ 162,473	£ 69,880	£ 17,390	£ 4,630	£ 50,000	-£ 2,139	NO
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 505,677	£ 135,307	£ 69,560	£ 18,519	£ 200,000	-£ 152,772	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,794,718	£ 889,741	£ 173,900	£ 45,249	£ 500,000	£ 170,592	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,887,218	£ 1,439,254	£ 278,240	£ 72,398	£ 800,000	£ 288,616	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 4,462,426	£ 2,058,580	£ 434,750	£ 120,192	£ 1,250,000	£ 253,638	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,895,053	£ 3,323,624	£ 695,600	£ 178,571	£ 2,000,000	£ 449,453	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 11,777,347	£ 5,527,347	£ 1,217,300	£ 312,500	£ 3,500,000	£ 497,547	YES
1	Medium	Greenfield	5	£ 325,000	£ 60,185	£ 75,758	£ 15,573	£ 17,390	£ 4,630	£ 50,000	-£ 56,447	NO
2	Medium	Greenfield	20	£ 325,000	£ 240,741	£ 187,451	-£ 53,290	£ 69,560	£ 18,519	£ 200,000	-£ 341,368	NO
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 1,035,073	£ 446,838	£ 173,900	£ 45,249	£ 500,000	-£ 272,311	NO
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,649,863	£ 708,687	£ 278,240	£ 72,398	£ 800,000	-£ 441,952	NO
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,645,521	£ 1,083,021	£ 434,750	£ 120,192	£ 1,250,000	-£ 721,921	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 4,101,538	£ 1,780,109	£ 695,600	£ 178,571	£ 2,000,000	-£1,094,062	NO
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 7,264,000	£ 3,201,500	£ 1,217,300	£ 312,500	£ 3,500,000	-£1,828,300	NO
1	Low	Greenfield	5	£ 250,000	£ 46,296	£ 21,663	-£ 24,633	£ 17,390	£ 4,630	£ 50,000	-£ 96,653	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	-£ 14,926	-£ 200,111	£ 69,560	£ 18,519	£ 200,000	-£ 488,190	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ 570,740	£ 118,251	£ 173,900	£ 45,249	£ 500,000	-£ 600,898	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ 945,394	£ 221,412	£ 278,240	£ 72,398	£ 800,000	-£ 929,226	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ 1,535,382	£ 333,459	£ 434,750	£ 120,192	£ 1,250,000	-£1,471,483	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ 2,488,328	£ 702,614	£ 695,600	£ 178,571	£ 2,000,000	-£2,171,558	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ 4,446,883	£ 1,321,883	£ 1,217,300	£ 312,500	£ 3,500,000	-£3,707,917	NO
1	Highest	PDL	5	£ 800,000	£ 148,148	£ 236,802	£ 88,654	£ 17,390	£ 4,630	£ 50,000	£ 16,634	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 850,765	£ 258,172	£ 69,560	£ 18,519	£ 200,000	-£ 29,906	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,548,352	£ 1,100,388	£ 173,900	£ 45,249	£ 500,000	£ 381,239	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 4,134,333	£ 1,817,591	£ 278,240	£ 72,398	£ 800,000	£ 666,953	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 6,268,666	£ 2,422,512	£ 434,750	£ 120,192	£ 1,250,000	£ 617,570	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 10,161,619	£ 4,447,333	£ 695,600	£ 178,571	£ 2,000,000	£1,573,162	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 16,996,682	£ 6,996,682	£ 1,217,300	£ 312,500	£ 3,500,000	£1,966,882	YES
1	High	PDL	5	£ 450,000	£ 83,333	£ 116,028	£ 32,695	£ 17,390	£ 4,630	£ 50,000	-£ 39,325	NO
2	High	PDL	20	£ 450,000	£ 333,333	£ 402,214	£ 68,881	£ 69,560	£ 18,519	£ 200,000	-£ 219,198	NO
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,483,673	£ 669,193	£ 173,900	£ 45,249	£ 500,000	-£ 49,956	NO
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,394,870	£ 1,091,703	£ 278,240	£ 72,398	£ 800,000	-£ 58,936	NO
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,721,434	£ 1,557,972	£ 434,750	£ 120,192	£ 1,250,000	-£ 246,970	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 6,180,087	£ 2,965,801	£ 695,600	£ 178,571	£ 2,000,000	£ 91,630	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 10,583,396	£ 4,958,396	£ 1,217,300	£ 312,500	£ 3,500,000	-£ 71,404	NO
1	Medium	PDL	5	£ 275,000	£ 50,926	£ 31,644	-£ 19,282	£ 17,390	£ 4,630	£ 50,000	-£ 91,302	NO
2	Medium	PDL	20	£ 275,000	£ 203,704	£ 81,562	-£ 122,142	£ 69,560	£ 18,519	£ 200,000	-£ 410,220	NO
3	Medium	PDL	50	£ 275,000	£ 497,738	£ 737,358	£ 239,620	£ 173,900	£ 45,249	£ 500,000	-£ 479,528	NO
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 1,312,799	£ 516,419	£ 278,240	£ 72,398	£ 800,000	-£ 634,219	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,934,228	£ 612,113	£ 434,750	£ 120,192	£ 1,250,000	-£1,192,830	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 3,386,154	£ 1,421,868	£ 695,600	£ 178,571	£ 2,000,000	-£1,452,303	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 6,062,459	£ 2,624,959	£ 1,217,300	£ 312,500	£ 3,500,000	-£2,404,841	NO
1	Low	PDL	5	£ 175,000	£ 32,407	-£ 33,460	-£ 65,867	£ 17,390	£ 4,630	£ 50,000	-£ 137,887	NO
2	Low	PDL	20	£ 175,000	£ 129,630	£ -	-£ 129,630	£ 69,560	£ 18,519	£ 200,000	-£ 417,708	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ 280,843	-£ 35,899	£ 173,900	£ 45,249	£ 500,000	-£ 755,048	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ 486,256	-£ 20,531	£ 278,240	£ 72,398	£ 800,000	-£1,171,170	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ 841,978	£ 632	£ 434,750	£ 120,192	£ 1,250,000	-£1,804,310	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ 1,671,419	£ 421,419	£ 695,600	£ 178,571	£ 2,000,000	-£2,452,752	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ 3,224,933	£ 1,037,433	£ 1,217,300	£ 312,500	£ 3,500,000	-£3,992,367	NO

APPENDIX D4		TEST 4 - AS TEST 3 WITH 15% AFFORDABLE HOUSING AND EDUCATION £2,500 PER DWELLING											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Education	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 849,781	£ 183,114	£ 69,560	£ 18,519	£ 50,000	£ 45,036	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,581,449	£ 952,490	£ 173,900	£ 45,249	£ 125,000	£ 608,341	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,146,061	£ 1,539,726	£ 278,240	£ 72,398	£ 200,000	£ 989,088	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 6,312,502	£ 1,985,579	£ 434,750	£ 120,192	£ 312,500	£ 1,118,137	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 9,795,356	£ 3,366,785	£ 695,600	£ 178,571	£ 500,000	£ 1,992,613	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 16,479,448	£ 5,229,448	£ 1,217,300	£ 312,500	£ 875,000	£ 2,824,648	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 418,747	£ 48,377	£ 69,560	£ 18,519	£ 50,000	-£ 89,702	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,550,551	£ 645,574	£ 173,900	£ 45,249	£ 125,000	£ 301,425	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,509,018	£ 1,061,054	£ 278,240	£ 72,398	£ 200,000	£ 510,416	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,853,284	£ 1,449,438	£ 434,750	£ 120,192	£ 312,500	£ 581,996	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,005,321	£ 2,433,892	£ 695,600	£ 178,571	£ 500,000	£ 1,059,721	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 10,368,282	£ 4,118,282	£ 1,217,300	£ 312,500	£ 875,000	£ 1,713,482	YES
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 828,580	£ 240,345	£ 173,900	£ 45,249	£ 125,000	-£ 103,804	NO
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,362,389	£ 421,213	£ 278,240	£ 72,398	£ 200,000	-£ 129,426	NO
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,130,103	£ 567,603	£ 434,750	£ 120,192	£ 312,500	-£ 299,839	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 3,349,180	£ 1,027,751	£ 695,600	£ 178,571	£ 500,000	-£ 346,420	NO
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 6,313,387	£ 2,250,887	£ 1,217,300	£ 312,500	£ 875,000	-£ 153,913	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 746,425	£ 153,832	£ 69,560	£ 18,519	£ 50,000	£ 15,754	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,266,967	£ 819,003	£ 173,900	£ 45,249	£ 125,000	£ 474,854	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,649,381	£ 1,332,639	£ 278,240	£ 72,398	£ 200,000	£ 782,001	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 5,568,825	£ 1,722,671	£ 434,750	£ 120,192	£ 312,500	£ 855,229	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 9,085,749	£ 3,371,463	£ 695,600	£ 178,571	£ 500,000	£ 1,997,292	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 15,294,912	£ 5,294,912	£ 1,217,300	£ 312,500	£ 875,000	£ 2,890,112	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,252,845	£ 438,365	£ 173,900	£ 45,249	£ 125,000	£ 94,216	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,038,588	£ 735,421	£ 278,240	£ 72,398	£ 200,000	£ 184,782	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,147,102	£ 983,640	£ 434,750	£ 120,192	£ 312,500	£ 116,198	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 5,295,539	£ 2,081,253	£ 695,600	£ 178,571	£ 500,000	£ 707,082	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 9,182,223	£ 3,557,223	£ 1,217,300	£ 312,500	£ 875,000	£ 1,152,423	YES
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 910,367	£ 113,987	£ 278,240	£ 72,398	£ 200,000	-£ 436,651	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,450,109	£ 127,994	£ 434,750	£ 120,192	£ 312,500	-£ 739,449	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 2,638,971	£ 674,685	£ 695,600	£ 178,571	£ 500,000	-£ 699,486	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 4,866,406	£ 1,428,906	£ 1,217,300	£ 312,500	£ 875,000	-£ 975,894	NO

APPENDIX D4		TEST 4 - AS TEST 3 WITH 15% AFFORDABLE HOUSING AND EDUCATION £5,000 PER DWELLING											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Education	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 849,781	£ 183,114	£ 69,560	£ 18,519	£ 100,000	-£ 4,964	NO
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,581,449	£ 952,490	£ 173,900	£ 45,249	£ 250,000	£ 483,341	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,146,061	£ 1,539,726	£ 278,240	£ 72,398	£ 400,000	£ 789,088	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 6,312,502	£ 1,985,579	£ 434,750	£ 120,192	£ 625,000	£ 805,637	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 9,795,356	£ 3,366,785	£ 695,600	£ 178,571	£ 1,000,000	£ 1,492,613	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 16,479,448	£ 5,229,448	£ 1,217,300	£ 312,500	£ 1,750,000	£ 1,949,648	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 418,747	£ 48,377	£ 69,560	£ 18,519	£ 100,000	-£ 139,702	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,550,551	£ 645,574	£ 173,900	£ 45,249	£ 250,000	£ 176,425	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,509,018	£ 1,061,054	£ 278,240	£ 72,398	£ 400,000	£ 310,416	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,853,284	£ 1,449,438	£ 434,750	£ 120,192	£ 625,000	£ 269,496	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,005,321	£ 2,433,892	£ 695,600	£ 178,571	£ 1,000,000	£ 559,721	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 10,368,282	£ 4,118,282	£ 1,217,300	£ 312,500	£ 1,750,000	£ 838,482	YES
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 828,580	£ 240,345	£ 173,900	£ 45,249	£ 250,000	-£ 228,804	NO
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,362,389	£ 421,213	£ 278,240	£ 72,398	£ 400,000	-£ 329,426	NO
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,130,103	£ 567,603	£ 434,750	£ 120,192	£ 625,000	-£ 612,339	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 3,349,180	£ 1,027,751	£ 695,600	£ 178,571	£ 1,000,000	-£ 846,420	NO
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 6,313,387	£ 2,250,887	£ 1,217,300	£ 312,500	£ 1,750,000	-£ 1,028,913	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 746,425	£ 153,832	£ 69,560	£ 18,519	£ 100,000	-£ 34,246	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,266,967	£ 819,003	£ 173,900	£ 45,249	£ 250,000	£ 349,854	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,649,381	£ 1,332,639	£ 278,240	£ 72,398	£ 400,000	£ 582,001	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 5,568,825	£ 1,722,671	£ 434,750	£ 120,192	£ 625,000	£ 542,729	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 9,085,749	£ 3,371,463	£ 695,600	£ 178,571	£ 1,000,000	£ 1,497,292	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 15,294,912	£ 5,294,912	£ 1,217,300	£ 312,500	£ 1,750,000	£ 2,015,112	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,252,845	£ 438,365	£ 173,900	£ 45,249	£ 250,000	-£ 30,784	NO
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,038,588	£ 735,421	£ 278,240	£ 72,398	£ 400,000	-£ 15,218	NO
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,147,102	£ 983,640	£ 434,750	£ 120,192	£ 625,000	-£ 196,302	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 5,295,539	£ 2,081,253	£ 695,600	£ 178,571	£ 1,000,000	£ 207,082	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 9,182,223	£ 3,557,223	£ 1,217,300	£ 312,500	£ 1,750,000	£ 277,423	YES
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 910,367	£ 113,987	£ 278,240	£ 72,398	£ 400,000	-£ 636,651	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,450,109	£ 127,994	£ 434,750	£ 120,192	£ 625,000	-£ 1,051,949	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 2,638,971	£ 674,685	£ 695,600	£ 178,571	£ 1,000,000	-£ 1,199,486	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 4,866,406	£ 1,428,906	£ 1,217,300	£ 312,500	£ 1,750,000	-£ 1,850,894	NO

APPENDIX D4		TEST 4 - AS TEST 3 WITH 15% AFFORDABLE HOUSING AND EDUCATION £10,000 PER DWELLING											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Education	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 849,781	£ 183,114	£ 69,560	£ 18,519	£ 200,000	-£ 104,964	NO
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,581,449	£ 952,490	£ 173,900	£ 45,249	£ 500,000	£ 233,341	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,146,061	£ 1,539,726	£ 278,240	£ 72,398	£ 800,000	£ 389,088	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 6,312,502	£ 1,985,579	£ 434,750	£ 120,192	£ 1,250,000	£ 180,637	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 9,795,356	£ 3,366,785	£ 695,600	£ 178,571	£ 2,000,000	£ 492,613	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 16,479,448	£ 5,229,448	£ 1,217,300	£ 312,500	£ 3,500,000	£ 199,648	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 418,747	£ 48,377	£ 69,560	£ 18,519	£ 200,000	-£ 239,702	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,550,551	£ 645,574	£ 173,900	£ 45,249	£ 500,000	-£ 73,575	NO
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,509,018	£ 1,061,054	£ 278,240	£ 72,398	£ 800,000	-£ 89,584	NO
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,853,284	£ 1,449,438	£ 434,750	£ 120,192	£ 1,250,000	-£ 355,504	NO
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,005,321	£ 2,433,892	£ 695,600	£ 178,571	£ 2,000,000	-£ 440,279	NO
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 10,368,282	£ 4,118,282	£ 1,217,300	£ 312,500	£ 3,500,000	-£ 911,518	NO
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 828,580	£ 240,345	£ 173,900	£ 45,249	£ 500,000	-£ 478,804	NO
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,362,389	£ 421,213	£ 278,240	£ 72,398	£ 800,000	-£ 729,426	NO
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,130,103	£ 567,603	£ 434,750	£ 120,192	£ 1,250,000	-£ 1,237,339	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 3,349,180	£ 1,027,751	£ 695,600	£ 178,571	£ 2,000,000	-£ 1,846,420	NO
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 6,313,387	£ 2,250,887	£ 1,217,300	£ 312,500	£ 3,500,000	-£ 2,778,913	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 746,425	£ 153,832	£ 69,560	£ 18,519	£ 200,000	-£ 134,246	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,266,967	£ 819,003	£ 173,900	£ 45,249	£ 500,000	£ 99,854	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,649,381	£ 1,332,639	£ 278,240	£ 72,398	£ 800,000	£ 182,001	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 5,568,825	£ 1,722,671	£ 434,750	£ 120,192	£ 1,250,000	-£ 82,271	NO
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 9,085,749	£ 3,371,463	£ 695,600	£ 178,571	£ 2,000,000	£ 497,292	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 15,294,912	£ 5,294,912	£ 1,217,300	£ 312,500	£ 3,500,000	£ 265,112	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,252,845	£ 438,365	£ 173,900	£ 45,249	£ 500,000	-£ 280,784	NO
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,038,588	£ 735,421	£ 278,240	£ 72,398	£ 800,000	-£ 415,218	NO
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,147,102	£ 983,640	£ 434,750	£ 120,192	£ 1,250,000	-£ 821,302	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 5,295,539	£ 2,081,253	£ 695,600	£ 178,571	£ 2,000,000	-£ 792,918	NO
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 9,182,223	£ 3,557,223	£ 1,217,300	£ 312,500	£ 3,500,000	-£ 1,472,577	NO
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 910,367	£ 113,987	£ 278,240	£ 72,398	£ 800,000	-£ 1,036,651	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,450,109	£ 127,994	£ 434,750	£ 120,192	£ 1,250,000	-£ 1,676,949	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 2,638,971	£ 674,685	£ 695,600	£ 178,571	£ 2,000,000	-£ 2,199,486	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 4,866,406	£ 1,428,906	£ 1,217,300	£ 312,500	£ 3,500,000	-£ 3,600,894	NO

APPENDIX D4	TEST 4 - AS TEST 3 WITH 25% AFFORDABLE HOUSING AND EDUCATION £2,500 PER DWELLING											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open space	SUDS	Education	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 743,038	£ 76,371	£ 69,560	£ 18,519	£ 50,000	-£ 61,707	NO
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,313,011	£ 684,052	£ 173,900	£ 45,249	£ 125,000	£ 339,903	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 3,638,362	£ 1,032,027	£ 278,240	£ 72,398	£ 200,000	£ 481,389	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 5,801,162	£ 1,474,239	£ 434,750	£120,192	£ 312,500	£ 606,797	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 8,739,553	£ 2,310,982	£ 695,600	£178,571	£ 500,000	£ 936,810	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 14,677,762	£ 3,427,762	£1,217,300	£312,500	£ 875,000	£ 1,022,962	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 320,517	-£ 49,853	£ 69,560	£ 18,519	£ 50,000	-£ 187,932	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,330,624	£ 425,647	£ 173,900	£ 45,249	£ 125,000	£ 81,498	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,131,660	£ 683,696	£ 278,240	£ 72,398	£ 200,000	£ 133,058	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,296,085	£ 892,239	£ 434,750	£120,192	£ 312,500	£ 24,797	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 5,137,315	£ 1,565,886	£ 695,600	£178,571	£ 500,000	£ 191,715	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 8,883,986	£ 2,633,986	£1,217,300	£312,500	£ 875,000	£ 229,186	YES
2	Medium	Greenfield	20	£ 350,000	£ 259,259	£ -	£ -	£ 69,560	£ 18,519	£ 50,000	-£ 397,338	NO
5	Medium	Greenfield	125	£ 350,000	£ 1,682,692	£ 1,658,876	-£ 23,816	£ 434,750	£120,192	£ 312,500	-£ 891,259	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	£ -	£ -	£ 69,560	£ 18,519	£ 50,000	-£ 323,264	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ -	£ -	£ 173,900	£ 45,249	£ 125,000	-£ 796,638	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ -	£ -	£ 278,240	£ 72,398	£ 200,000	-£ 1,274,620	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ -	£ -	£ 434,750	£120,192	£ 312,500	-£ 2,069,365	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ -	£ -	£ 695,600	£178,571	£ 500,000	-£ 3,159,886	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ -	£ -	£1,217,300	£312,500	£ 875,000	-£ 5,529,800	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 642,295	£ 49,702	£ 69,560	£ 18,519	£ 50,000	-£ 88,376	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,014,300	£ 566,336	£ 173,900	£ 45,249	£ 125,000	£ 222,187	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,213,210	£ 896,468	£ 278,240	£ 72,398	£ 200,000	£ 345,830	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 4,926,009	£ 1,079,855	£ 434,750	£120,192	£ 312,500	£ 212,413	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 8,035,135	£ 2,320,849	£ 695,600	£178,571	£ 500,000	£ 946,678	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 13,501,658	£ 3,501,658	£1,217,300	£312,500	£ 875,000	£ 1,096,858	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,046,688	£ 232,208	£ 173,900	£ 45,249	£ 125,000	-£ 111,941	NO
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 1,681,052	£ 377,885	£ 278,240	£ 72,398	£ 200,000	-£ 172,754	NO
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 2,619,771	£ 456,309	£ 434,750	£120,192	£ 312,500	-£ 411,133	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 4,432,744	£ 1,218,458	£ 695,600	£178,571	£ 500,000	-£ 155,713	NO
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 7,706,314	£ 2,081,314	£1,217,300	£312,500	£ 875,000	-£ 323,486	NO
7	Medium	PDL	350	£ 300,000	£ 3,750,000	£ 3,595,846	-£ 154,154	£1,217,300	£312,500	£ 875,000	-£ 2,558,954	NO
2	Low	PDL	20	£ 175,000	£ 129,630	-£ 87,478	-£ 217,108	£ 69,560	£ 18,519	£ 50,000	-£ 355,186	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ -	£ -	£ 173,900	£ 45,249	£ 125,000	-£ 660,891	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ -	£ -	£ 278,240	£ 72,398	£ 200,000	-£ 1,057,426	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ -	£ -	£ 434,750	£120,192	£ 312,500	-£ 1,708,788	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ -	£ -	£ 695,600	£178,571	£ 500,000	-£ 2,624,171	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ -	£ -	£1,217,300	£312,500	£ 875,000	-£ 4,592,300	NO

APPENDIX D4	TEST 4 - AS TEST 3 WITH 25% AFFORDABLE HOUSING AND EDUCATION £5,000 PER DWELLING											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open space	SUDS	Education	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 743,038	£ 76,371	£ 69,560	£ 18,519	£ 100,000	-£ 111,707	NO
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,313,011	£ 684,052	£ 173,900	£ 45,249	£ 250,000	£ 214,903	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 3,638,362	£ 1,032,027	£ 278,240	£ 72,398	£ 400,000	£ 281,389	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 5,801,162	£ 1,474,239	£ 434,750	£120,192	£ 625,000	£ 294,297	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 8,739,553	£ 2,310,982	£ 695,600	£178,571	£ 1,000,000	£ 436,810	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 14,677,762	£ 3,427,762	£1,217,300	£312,500	£ 1,750,000	£ 147,962	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 320,517	-£ 49,853	£ 69,560	£ 18,519	£ 100,000	-£ 237,932	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,330,624	£ 425,647	£ 173,900	£ 45,249	£ 250,000	-£ 43,502	NO
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,131,660	£ 683,696	£ 278,240	£ 72,398	£ 400,000	-£ 66,942	NO
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,296,085	£ 892,239	£ 434,750	£120,192	£ 625,000	-£ 287,703	NO
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 5,137,315	£ 1,565,886	£ 695,600	£178,571	£ 1,000,000	-£ 308,285	NO
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 8,883,986	£ 2,633,986	£1,217,300	£312,500	£ 1,750,000	-£ 645,814	NO
2	Medium	Greenfield	20	£ 350,000	£ 259,259	£ -	£ -	£ 69,560	£ 18,519	£ 100,000	-£ 447,338	NO
5	Medium	Greenfield	125	£ 350,000	£ 1,682,692	£ 1,658,876	-£ 23,816	£ 434,750	£120,192	£ 625,000	-£ 1,203,759	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	£ -	£ -	£ 69,560	£ 18,519	£ 100,000	-£ 373,264	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ -	£ -	£ 173,900	£ 45,249	£ 250,000	-£ 921,638	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ -	£ -	£ 278,240	£ 72,398	£ 400,000	-£ 1,474,620	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ -	£ -	£ 434,750	£120,192	£ 625,000	-£ 2,381,865	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ -	£ -	£ 695,600	£178,571	£ 1,000,000	-£ 3,659,886	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ -	£ -	£1,217,300	£312,500	£ 1,750,000	-£ 6,404,800	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 642,295	£ 49,702	£ 69,560	£ 18,519	£ 100,000	-£ 138,376	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,014,300	£ 566,336	£ 173,900	£ 45,249	£ 250,000	£ 97,187	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,213,210	£ 896,468	£ 278,240	£ 72,398	£ 400,000	£ 145,830	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 4,926,009	£ 1,079,855	£ 434,750	£120,192	£ 625,000	-£ 100,087	NO
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 8,035,135	£ 2,320,849	£ 695,600	£178,571	£ 1,000,000	£ 446,678	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 13,501,658	£ 3,501,658	£1,217,300	£312,500	£ 1,750,000	£ 221,858	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,046,688	£ 232,208	£ 173,900	£ 45,249	£ 250,000	-£ 236,941	NO
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 1,681,052	£ 377,885	£ 278,240	£ 72,398	£ 400,000	-£ 372,754	NO
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 2,619,771	£ 456,309	£ 434,750	£120,192	£ 625,000	-£ 723,633	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 4,432,744	£ 1,218,458	£ 695,600	£178,571	£ 1,000,000	-£ 655,713	NO
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 7,706,314	£ 2,081,314	£1,217,300	£312,500	£ 1,750,000	-£ 1,198,486	NO
7	Medium	PDL	350	£ 300,000	£ 3,750,000	£ 3,595,846	-£ 154,154	£1,217,300	£312,500	£ 1,750,000	-£ 3,433,954	NO
2	Low	PDL	20	£ 175,000	£ 129,630	-£ 87,478	-£ 217,108	£ 69,560	£ 18,519	£ 100,000	-£ 405,186	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ -	£ -	£ 173,900	£ 45,249	£ 250,000	-£ 785,891	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ -	£ -	£ 278,240	£ 72,398	£ 400,000	-£ 1,257,426	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ -	£ -	£ 434,750	£120,192	£ 625,000	-£ 2,021,288	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ -	£ -	£ 695,600	£178,571	£ 1,000,000	-£ 3,124,171	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ -	£ -	£1,217,300	£312,500	£ 1,750,000	-£ 5,467,300	NO

APPENDIX D4	TEST 4 - AS TEST 3 WITH 25% AFFORDABLE HOUSING AND EDUCATION £10,000 PER DWELLING											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open space	SUDS	Education	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 743,038	£ 76,371	£ 69,560	£ 18,519	£ 200,000	-£ 211,707	NO
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,313,011	£ 684,052	£ 173,900	£ 45,249	£ 500,000	-£ 35,097	NO
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 3,638,362	£ 1,032,027	£ 278,240	£ 72,398	£ 800,000	-£ 118,611	NO
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 5,801,162	£ 1,474,239	£ 434,750	£120,192	£ 1,250,000	-£ 330,703	NO
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 8,739,553	£ 2,310,982	£ 695,600	£178,571	£ 2,000,000	-£ 563,190	NO
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 14,677,762	£ 3,427,762	£1,217,300	£312,500	£ 3,500,000	-£ 1,602,038	NO
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 320,517	-£ 49,853	£ 69,560	£ 18,519	£ 200,000	-£ 337,932	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,330,624	£ 425,647	£ 173,900	£ 45,249	£ 500,000	-£ 293,502	NO
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,131,660	£ 683,696	£ 278,240	£ 72,398	£ 800,000	-£ 466,942	NO
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,296,085	£ 892,239	£ 434,750	£120,192	£ 1,250,000	-£ 912,703	NO
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 5,137,315	£ 1,565,886	£ 695,600	£178,571	£ 2,000,000	-£ 1,308,285	NO
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 8,883,986	£ 2,633,986	£1,217,300	£312,500	£ 3,500,000	-£ 2,395,814	NO
2	Medium	Greenfield	20	£ 350,000	£ 259,259	£ -	£ -	£ 69,560	£ 18,519	£ 200,000	-£ 547,338	NO
5	Medium	Greenfield	125	£ 350,000	£ 1,682,692	£ 1,658,876	-£ 23,816	£ 434,750	£120,192	£ 1,250,000	-£ 1,828,759	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	£ -	£ -	£ 69,560	£ 18,519	£ 200,000	-£ 473,264	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ -	£ -	£ 173,900	£ 45,249	£ 500,000	-£ 1,171,638	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ -	£ -	£ 278,240	£ 72,398	£ 800,000	-£ 1,874,620	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ -	£ -	£ 434,750	£120,192	£ 1,250,000	-£ 3,006,865	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ -	£ -	£ 695,600	£178,571	£ 2,000,000	-£ 4,659,886	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ -	£ -	£1,217,300	£312,500	£ 3,500,000	-£ 8,154,800	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 642,295	£ 49,702	£ 69,560	£ 18,519	£ 200,000	-£ 238,376	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,014,300	£ 566,336	£ 173,900	£ 45,249	£ 500,000	-£ 152,813	NO
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,213,210	£ 896,468	£ 278,240	£ 72,398	£ 800,000	-£ 254,170	NO
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 4,926,009	£ 1,079,855	£ 434,750	£120,192	£ 1,250,000	-£ 725,087	NO
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 8,035,135	£ 2,320,849	£ 695,600	£178,571	£ 2,000,000	-£ 553,322	NO
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 13,501,658	£ 3,501,658	£1,217,300	£312,500	£ 3,500,000	-£ 1,528,142	NO
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,046,688	£ 232,208	£ 173,900	£ 45,249	£ 500,000	-£ 486,941	NO
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 1,681,052	£ 377,885	£ 278,240	£ 72,398	£ 800,000	-£ 772,754	NO
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 2,619,771	£ 456,309	£ 434,750	£120,192	£ 1,250,000	-£ 1,348,633	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 4,432,744	£ 1,218,458	£ 695,600	£178,571	£ 2,000,000	-£ 1,655,713	NO
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 7,706,314	£ 2,081,314	£1,217,300	£312,500	£ 3,500,000	-£ 2,948,486	NO
7	Medium	PDL	350	£ 300,000	£ 3,750,000	£ 3,595,846	-£ 154,154	£1,217,300	£312,500	£ 3,500,000	-£ 5,183,954	NO
2	Low	PDL	20	£ 175,000	£ 129,630	-£ 87,478	-£ 217,108	£ 69,560	£ 18,519	£ 200,000	-£ 505,186	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ -	£ -	£ 173,900	£ 45,249	£ 500,000	-£ 1,035,891	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ -	£ -	£ 278,240	£ 72,398	£ 800,000	-£ 1,657,426	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ -	£ -	£ 434,750	£120,192	£ 1,250,000	-£ 2,646,288	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ -	£ -	£ 695,600	£178,571	£ 2,000,000	-£ 4,124,171	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ -	£ -	£1,217,300	£312,500	£ 3,500,000	-£ 7,217,300	NO

APPENDIX D5	TEST 5 - AS TEST 3 WITH 5% AFFORDABLE HOUSING AND SPACE STANDARD £2,000 PER DWELLING											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Space standard	Adjusted Surplus	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 166,667	£ 285,235	£ 118,568	£ 17,390	£ 4,630	£ 10,000	£ 86,549	YES
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 956,854	£ 290,187	£ 69,560	£ 18,519	£ 40,000	£ 162,109	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,878,104	£ 1,249,145	£ 173,900	£ 45,249	£ 100,000	£ 929,996	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,605,883	£ 1,999,548	£ 278,240	£ 72,398	£ 160,000	£1,488,910	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 7,052,233	£ 2,725,310	£ 434,750	£ 120,192	£ 250,000	£1,920,368	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 10,876,407	£ 4,447,836	£ 695,600	£ 178,571	£ 400,000	£3,173,664	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 18,189,158	£ 6,939,158	£ 1,217,300	£ 312,500	£ 700,000	£4,709,358	YES
1	High	Greenfield	5	£ 500,000	£ 92,593	£ 162,473	£ 69,880	£ 17,390	£ 4,630	£ 10,000	£ 37,861	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 505,677	£ 135,307	£ 69,560	£ 18,519	£ 40,000	£ 7,228	YES
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,794,718	£ 889,741	£ 173,900	£ 45,249	£ 100,000	£ 570,592	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,887,218	£ 1,439,254	£ 278,240	£ 72,398	£ 160,000	£ 928,616	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 4,462,426	£ 2,058,580	£ 434,750	£ 120,192	£ 250,000	£1,253,638	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,895,053	£ 3,323,624	£ 695,600	£ 178,571	£ 400,000	£2,049,453	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 11,777,347	£ 5,527,347	£ 1,217,300	£ 312,500	£ 700,000	£3,297,547	YES
1	Medium	Greenfield	5	£ 325,000	£ 60,185	£ 75,758	£ 15,573	£ 17,390	£ 4,630	£ 10,000	-£ 16,447	NO
2	Medium	Greenfield	20	£ 325,000	£ 240,741	£ 187,451	-£ 53,290	£ 69,560	£ 18,519	£ 40,000	-£ 181,368	NO
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 1,035,073	£ 446,838	£ 173,900	£ 45,249	£ 100,000	£ 127,689	YES
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,649,863	£ 708,687	£ 278,240	£ 72,398	£ 160,000	£ 198,048	YES
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,645,521	£ 1,083,021	£ 434,750	£ 120,192	£ 250,000	£ 278,079	YES
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 4,101,538	£ 1,780,109	£ 695,600	£ 178,571	£ 400,000	£ 505,938	YES
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 7,264,000	£ 3,201,500	£ 1,217,300	£ 312,500	£ 700,000	£ 971,700	YES
1	Low	Greenfield	5	£ 250,000	£ 46,296	£ 21,663	-£ 24,633	£ 17,390	£ 4,630	£ 10,000	-£ 56,653	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	-£ 14,926	-£ 200,111	£ 69,560	£ 18,519	£ 40,000	-£ 328,190	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ 570,740	£ 118,251	£ 173,900	£ 45,249	£ 100,000	-£ 200,898	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ 945,394	£ 221,412	£ 278,240	£ 72,398	£ 160,000	-£ 289,226	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ 1,535,382	£ 333,459	£ 434,750	£ 120,192	£ 250,000	-£ 471,483	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ 2,488,328	£ 702,614	£ 695,600	£ 178,571	£ 400,000	-£ 571,558	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ 4,446,883	£ 1,321,883	£ 1,217,300	£ 312,500	£ 700,000	-£ 907,917	NO
1	Highest	PDL	5	£ 800,000	£ 148,148	£ 236,802	£ 88,654	£ 17,390	£ 4,630	£ 10,000	£ 56,634	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 850,765	£ 258,172	£ 69,560	£ 18,519	£ 40,000	£ 130,094	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,548,352	£ 1,100,388	£ 173,900	£ 45,249	£ 100,000	£ 781,239	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 4,134,333	£ 1,817,591	£ 278,240	£ 72,398	£ 160,000	£1,306,953	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 6,268,666	£ 2,422,512	£ 434,750	£ 120,192	£ 250,000	£1,617,570	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 10,161,619	£ 4,447,333	£ 695,600	£ 178,571	£ 400,000	£3,173,162	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 16,996,682	£ 6,996,682	£ 1,217,300	£ 312,500	£ 700,000	£4,766,882	YES
1	High	PDL	5	£ 450,000	£ 83,333	£ 116,028	£ 32,695	£ 17,390	£ 4,630	£ 10,000	£ 675	YES
2	High	PDL	20	£ 450,000	£ 333,333	£ 402,214	£ 68,881	£ 69,560	£ 18,519	£ 40,000	-£ 59,198	NO
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,483,673	£ 669,193	£ 173,900	£ 45,249	£ 100,000	£ 350,044	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,394,870	£ 1,091,703	£ 278,240	£ 72,398	£ 160,000	£ 581,064	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,721,434	£ 1,557,972	£ 434,750	£ 120,192	£ 250,000	£ 753,030	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 6,180,087	£ 2,965,801	£ 695,600	£ 178,571	£ 400,000	£1,691,630	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 10,583,396	£ 4,958,396	£ 1,217,300	£ 312,500	£ 700,000	£2,728,596	YES
1	Medium	PDL	5	£ 275,000	£ 50,926	£ 31,644	-£ 19,282	£ 17,390	£ 4,630	£ 10,000	-£ 51,302	NO
2	Medium	PDL	20	£ 275,000	£ 203,704	£ 81,562	-£ 122,142	£ 69,560	£ 18,519	£ 40,000	-£ 250,220	NO
3	Medium	PDL	50	£ 275,000	£ 497,738	£ 737,358	£ 239,620	£ 173,900	£ 45,249	£ 100,000	-£ 79,528	NO
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 1,312,799	£ 516,419	£ 278,240	£ 72,398	£ 160,000	£ 5,781	YES
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,934,228	£ 612,113	£ 434,750	£ 120,192	£ 250,000	-£ 192,830	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 3,386,154	£ 1,421,868	£ 695,600	£ 178,571	£ 400,000	£ 147,697	YES
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 6,062,459	£ 2,624,959	£ 1,217,300	£ 312,500	£ 700,000	£ 395,159	YES
1	Low	PDL	5	£ 175,000	£ 32,407	-£ 33,460	-£ 65,867	£ 17,390	£ 4,630	£ 10,000	-£ 97,887	NO
2	Low	PDL	20	£ 175,000	£ 129,630	£ -	-£ 129,630	£ 69,560	£ 18,519	£ 40,000	-£ 257,708	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ 280,843	-£ 35,899	£ 173,900	£ 45,249	£ 100,000	-£ 355,048	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ 486,256	-£ 20,531	£ 278,240	£ 72,398	£ 160,000	-£ 531,170	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ 841,978	£ 632	£ 434,750	£ 120,192	£ 250,000	-£ 804,310	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ 1,671,419	£ 421,419	£ 695,600	£ 178,571	£ 400,000	-£ 852,752	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ 3,224,933	£ 1,037,433	£ 1,217,300	£ 312,500	£ 700,000	-£1,192,367	NO

APPENDIX D5	TEST 5 - AS TEST 3 WITH 15% AFFORDABLE HOUSING AND SPACE STANDARD £2,000 PER DWELLING												
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Space standard	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 849,781	£ 183,114	£ 69,560	£ 18,519	£ 40,000	£ 55,036	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,581,449	£ 952,490	£ 173,900	£ 45,249	£ 100,000	£ 633,341	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,146,061	£ 1,539,726	£ 278,240	£ 72,398	£ 160,000	£ 1,029,088	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 6,312,502	£ 1,985,579	£ 434,750	£ 120,192	£ 250,000	£ 1,180,637	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 9,795,356	£ 3,366,785	£ 695,600	£ 178,571	£ 400,000	£ 2,092,613	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 16,479,448	£ 5,229,448	£ 1,217,300	£ 312,500	£ 700,000	£ 2,999,648	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 418,747	£ 48,377	£ 69,560	£ 18,519	£ 40,000	-£ 79,702	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,550,551	£ 645,574	£ 173,900	£ 45,249	£ 100,000	£ 326,425	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,509,018	£ 1,061,054	£ 278,240	£ 72,398	£ 160,000	£ 550,416	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,853,284	£ 1,449,438	£ 434,750	£ 120,192	£ 250,000	£ 644,496	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,005,321	£ 2,433,892	£ 695,600	£ 178,571	£ 400,000	£ 1,159,721	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 10,368,282	£ 4,118,282	£ 1,217,300	£ 312,500	£ 700,000	£ 1,888,482	YES
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 828,580	£ 240,345	£ 173,900	£ 45,249	£ 100,000	-£ 78,804	NO
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,362,389	£ 421,213	£ 278,240	£ 72,398	£ 160,000	-£ 89,426	NO
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,130,103	£ 567,603	£ 434,750	£ 120,192	£ 250,000	-£ 237,339	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 3,349,180	£ 1,027,751	£ 695,600	£ 178,571	£ 400,000	-£ 246,420	NO
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 6,313,387	£ 2,250,887	£ 1,217,300	£ 312,500	£ 700,000	£ 21,087	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 746,425	£ 153,832	£ 69,560	£ 18,519	£ 40,000	£ 25,754	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,266,967	£ 819,003	£ 173,900	£ 45,249	£ 100,000	£ 499,854	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,649,381	£ 1,332,639	£ 278,240	£ 72,398	£ 160,000	£ 822,001	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 5,568,825	£ 1,722,671	£ 434,750	£ 120,192	£ 250,000	£ 917,729	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 9,085,749	£ 3,371,463	£ 695,600	£ 178,571	£ 400,000	£ 2,097,292	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 15,294,912	£ 5,294,912	£ 1,217,300	£ 312,500	£ 700,000	£ 3,065,112	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,252,845	£ 438,365	£ 173,900	£ 45,249	£ 100,000	£ 119,216	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,038,588	£ 735,421	£ 278,240	£ 72,398	£ 160,000	£ 224,782	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,147,102	£ 983,640	£ 434,750	£ 120,192	£ 250,000	£ 178,698	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 5,295,539	£ 2,081,253	£ 695,600	£ 178,571	£ 400,000	£ 807,082	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 9,182,223	£ 3,557,223	£ 1,217,300	£ 312,500	£ 700,000	£ 1,327,423	YES
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 910,367	£ 113,987	£ 278,240	£ 72,398	£ 160,000	-£ 396,651	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,450,109	£ 127,994	£ 434,750	£ 120,192	£ 250,000	-£ 676,949	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 2,638,971	£ 674,685	£ 695,600	£ 178,571	£ 400,000	-£ 599,486	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 4,866,406	£ 1,428,906	£ 1,217,300	£ 312,500	£ 700,000	-£ 800,894	NO

APPENDIX D5	TEST 5 - AS TEST 3 WITH 25% AFFORDABLE HOUSING AND SPACE STANDARD £2,000 PER DWELLING												
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open space	SUDS	Space standard	Adjusted surplus	Viable?	
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 743,038	£ 76,371	£ 69,560	£ 18,519	£ 40,000	-£ 51,707	NO	
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,313,011	£ 684,052	£ 173,900	£ 45,249	£ 100,000	£ 364,903	YES	
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 3,638,362	£ 1,032,027	£ 278,240	£ 72,398	£ 160,000	£ 521,389	YES	
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 5,801,162	£ 1,474,239	£ 434,750	£120,192	£ 250,000	£ 669,297	YES	
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 8,739,553	£ 2,310,982	£ 695,600	£178,571	£ 400,000	£ 1,036,810	YES	
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 14,677,762	£ 3,427,762	£1,217,300	£312,500	£ 700,000	£ 1,197,962	YES	
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 320,517	-£ 49,853	£ 69,560	£ 18,519	£ 40,000	-£ 177,932	NO	
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,330,624	£ 425,647	£ 173,900	£ 45,249	£ 100,000	£ 106,498	YES	
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,131,660	£ 683,696	£ 278,240	£ 72,398	£ 160,000	£ 173,058	YES	
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,296,085	£ 892,239	£ 434,750	£120,192	£ 250,000	£ 87,297	YES	
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 5,137,315	£ 1,565,886	£ 695,600	£178,571	£ 400,000	£ 291,715	YES	
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 8,883,986	£ 2,633,986	£1,217,300	£312,500	£ 700,000	£ 404,186	YES	
2	Medium	Greenfield	20	£ 350,000	£ 259,259	£ -	£ -	£ 69,560	£ 18,519	£ 40,000	-£ 387,338	NO	
5	Medium	Greenfield	125	£ 350,000	£ 1,682,692	£ 1,658,876	-£ 23,816	£ 434,750	£120,192	£ 250,000	-£ 828,759	NO	
2	Low	Greenfield	20	£ 250,000	£ 185,185	£ -	£ -	£ 69,560	£ 18,519	£ 40,000	-£ 313,264	NO	
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ -	£ -	£ 173,900	£ 45,249	£ 100,000	-£ 771,638	NO	
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ -	£ -	£ 278,240	£ 72,398	£ 160,000	-£ 1,234,620	NO	
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ -	£ -	£ 434,750	£120,192	£ 250,000	-£ 2,006,865	NO	
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ -	£ -	£ 695,600	£178,571	£ 400,000	-£ 3,059,886	NO	
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ -	£ -	£1,217,300	£312,500	£ 700,000	-£ 5,354,800	NO	
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 642,295	£ 49,702	£ 69,560	£ 18,519	£ 40,000	-£ 78,376	NO	
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,014,300	£ 566,336	£ 173,900	£ 45,249	£ 100,000	£ 247,187	YES	
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,213,210	£ 896,468	£ 278,240	£ 72,398	£ 160,000	£ 385,830	YES	
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 4,926,009	£ 1,079,855	£ 434,750	£120,192	£ 250,000	£ 274,913	YES	
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 8,035,135	£ 2,320,849	£ 695,600	£178,571	£ 400,000	£ 1,046,678	YES	
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 13,501,658	£ 3,501,658	£1,217,300	£312,500	£ 700,000	£ 1,271,858	YES	
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,046,688	£ 232,208	£ 173,900	£ 45,249	£ 100,000	-£ 86,941	NO	
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 1,681,052	£ 377,885	£ 278,240	£ 72,398	£ 160,000	-£ 132,754	NO	
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 2,619,771	£ 456,309	£ 434,750	£120,192	£ 250,000	-£ 348,633	NO	
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 4,432,744	£ 1,218,458	£ 695,600	£178,571	£ 400,000	-£ 55,713	NO	
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 7,706,314	£ 2,081,314	£1,217,300	£312,500	£ 700,000	-£ 148,486	NO	
7	Medium	PDL	350	£ 300,000	£ 3,750,000	£ 3,595,846	-£ 154,154	£1,217,300	£312,500	£ 700,000	-£ 2,383,954	NO	
2	Low	PDL	20	£ 175,000	£ 129,630	-£ 87,478	-£ 217,108	£ 69,560	£ 18,519	£ 40,000	-£ 345,186	NO	
3	Low	PDL	50	£ 175,000	£ 316,742	£ -	£ -	£ 173,900	£ 45,249	£ 100,000	-£ 635,891	NO	
4	Low	PDL	80	£ 175,000	£ 506,787	£ -	£ -	£ 278,240	£ 72,398	£ 160,000	-£ 1,017,426	NO	
5	Low	PDL	125	£ 175,000	£ 841,346	£ -	£ -	£ 434,750	£120,192	£ 250,000	-£ 1,646,288	NO	
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ -	£ -	£ 695,600	£178,571	£ 400,000	-£ 2,524,171	NO	
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ -	£ -	£1,217,300	£312,500	£ 700,000	-£ 4,417,300	NO	

APPENDIX D6	TEST 6 - AS TEST 3 WITH 5% AFFORDABLE HOUSING AND EMBEDDED ENERGY											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Embedded energy	Adjusted Surplus	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 166,667	£ 285,235	£ 118,568	£ 17,390	£ 4,630	£ 1,225	£ 95,324	YES
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 956,854	£ 290,187	£ 69,560	£ 18,519	£ 4,900	£ 197,209	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,878,104	£ 1,249,145	£ 173,900	£ 45,249	£ 12,250	£1,017,746	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,605,883	£ 1,999,548	£ 278,240	£ 72,398	£ 19,600	£1,629,310	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 7,052,233	£ 2,725,310	£ 434,750	£ 120,192	£ 30,625	£2,139,743	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 10,876,407	£ 4,447,836	£ 695,600	£ 178,571	£ 49,000	£3,524,664	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 18,189,158	£ 6,939,158	£ 1,217,300	£ 312,500	£ 85,750	£5,323,608	YES
1	High	Greenfield	5	£ 500,000	£ 92,593	£ 162,473	£ 69,880	£ 17,390	£ 4,630	£ 1,225	£ 46,636	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 505,677	£ 135,307	£ 69,560	£ 18,519	£ 4,900	£ 42,328	YES
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,794,718	£ 889,741	£ 173,900	£ 45,249	£ 12,250	£ 658,342	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,887,218	£ 1,439,254	£ 278,240	£ 72,398	£ 19,600	£1,069,016	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 4,462,426	£ 2,058,580	£ 434,750	£ 120,192	£ 30,625	£1,473,013	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,895,053	£ 3,323,624	£ 695,600	£ 178,571	£ 49,000	£2,400,453	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 11,777,347	£ 5,527,347	£ 1,217,300	£ 312,500	£ 85,750	£3,911,797	YES
1	Medium	Greenfield	5	£ 325,000	£ 60,185	£ 75,758	£ 15,573	£ 17,390	£ 4,630	£ 1,225	-£ 7,672	NO
2	Medium	Greenfield	20	£ 325,000	£ 240,741	£ 187,451	-£ 53,290	£ 69,560	£ 18,519	£ 4,900	-£ 146,268	NO
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 1,035,073	£ 446,838	£ 173,900	£ 45,249	£ 12,250	£ 215,439	YES
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,649,863	£ 708,687	£ 278,240	£ 72,398	£ 19,600	£ 338,448	YES
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,645,521	£ 1,083,021	£ 434,750	£ 120,192	£ 30,625	£ 497,454	YES
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 4,101,538	£ 1,780,109	£ 695,600	£ 178,571	£ 49,000	£ 856,938	YES
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 7,264,000	£ 3,201,500	£ 1,217,300	£ 312,500	£ 85,750	£1,585,950	YES
1	Low	Greenfield	5	£ 250,000	£ 46,296	£ 21,663	-£ 24,633	£ 17,390	£ 4,630	£ 1,225	-£ 47,878	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	-£ 14,926	-£ 200,111	£ 69,560	£ 18,519	£ 4,900	-£ 293,090	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ 570,740	£ 118,251	£ 173,900	£ 45,249	£ 12,250	-£ 113,148	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ 945,394	£ 221,412	£ 278,240	£ 72,398	£ 19,600	-£ 148,826	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ 1,535,382	£ 333,459	£ 434,750	£ 120,192	£ 30,625	-£ 252,108	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ 2,488,328	£ 702,614	£ 695,600	£ 178,571	£ 49,000	-£ 220,558	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ 4,446,883	£ 1,321,883	£ 1,217,300	£ 312,500	£ 85,750	-£ 293,667	NO
1	Highest	PDL	5	£ 800,000	£ 148,148	£ 236,802	£ 88,654	£ 17,390	£ 4,630	£ 1,225	£ 65,409	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 850,765	£ 258,172	£ 69,560	£ 18,519	£ 4,900	£ 165,194	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,548,352	£ 1,100,388	£ 173,900	£ 45,249	£ 12,250	£ 868,989	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 4,134,333	£ 1,817,591	£ 278,240	£ 72,398	£ 19,600	£1,447,353	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 6,268,666	£ 2,422,512	£ 434,750	£ 120,192	£ 30,625	£1,836,945	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 10,161,619	£ 4,447,333	£ 695,600	£ 178,571	£ 49,000	£3,524,162	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 16,996,682	£ 6,996,682	£ 1,217,300	£ 312,500	£ 85,750	£5,381,132	YES
1	High	PDL	5	£ 450,000	£ 83,333	£ 116,028	£ 32,695	£ 17,390	£ 4,630	£ 1,225	£ 9,450	YES
2	High	PDL	20	£ 450,000	£ 333,333	£ 402,214	£ 68,881	£ 69,560	£ 18,519	£ 4,900	-£ 24,098	NO
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,483,673	£ 669,193	£ 173,900	£ 45,249	£ 12,250	£ 437,794	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,394,870	£ 1,091,703	£ 278,240	£ 72,398	£ 19,600	£ 721,464	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,721,434	£ 1,557,972	£ 434,750	£ 120,192	£ 30,625	£ 972,405	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 6,180,087	£ 2,965,801	£ 695,600	£ 178,571	£ 49,000	£2,042,630	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 10,583,396	£ 4,958,396	£ 1,217,300	£ 312,500	£ 85,750	£3,342,846	YES
1	Medium	PDL	5	£ 275,000	£ 50,926	£ 31,644	-£ 19,282	£ 17,390	£ 4,630	£ 1,225	-£ 42,527	NO
2	Medium	PDL	20	£ 275,000	£ 203,704	£ 81,562	-£ 122,142	£ 69,560	£ 18,519	£ 4,900	-£ 215,120	NO
3	Medium	PDL	50	£ 275,000	£ 497,738	£ 737,358	£ 239,620	£ 173,900	£ 45,249	£ 12,250	£ 8,222	YES
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 1,312,799	£ 516,419	£ 278,240	£ 72,398	£ 19,600	£ 146,181	YES
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,934,228	£ 612,113	£ 434,750	£ 120,192	£ 30,625	£ 26,545	YES
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 3,386,154	£ 1,421,868	£ 695,600	£ 178,571	£ 49,000	£ 498,697	YES
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 6,062,459	£ 2,624,959	£ 1,217,300	£ 312,500	£ 85,750	£1,009,409	YES
1	Low	PDL	5	£ 175,000	£ 32,407	-£ 33,460	-£ 65,867	£ 17,390	£ 4,630	£ 1,225	-£ 89,112	NO
2	Low	PDL	20	£ 175,000	£ 129,630	£ -	-£ 129,630	£ 69,560	£ 18,519	£ 4,900	-£ 222,608	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ 280,843	-£ 35,899	£ 173,900	£ 45,249	£ 12,250	-£ 267,298	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ 486,256	-£ 20,531	£ 278,240	£ 72,398	£ 19,600	-£ 390,770	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ 841,978	£ 632	£ 434,750	£ 120,192	£ 30,625	-£ 584,935	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ 1,671,419	£ 421,419	£ 695,600	£ 178,571	£ 49,000	-£ 501,752	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ 3,224,933	£ 1,037,433	£ 1,217,300	£ 312,500	£ 85,750	-£ 578,117	NO

APPENDIX D6		TEST 6 - AS TEST 3 WITH 15% AFFORDABLE HOUSING AND EMBEDDED ENERGY											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Embedded energy	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 849,781	£ 183,114	£ 69,560	£ 18,519	£ 4,900	£ 90,136	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,581,449	£ 952,490	£ 173,900	£ 45,249	£ 12,250	£ 721,091	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,146,061	£ 1,539,726	£ 278,240	£ 72,398	£ 19,600	£ 1,169,488	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 6,312,502	£ 1,985,579	£ 434,750	£ 120,192	£ 30,625	£ 1,400,012	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 9,795,356	£ 3,366,785	£ 695,600	£ 178,571	£ 49,000	£ 2,443,613	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 16,479,448	£ 5,229,448	£ 1,217,300	£ 312,500	£ 85,750	£ 3,613,898	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 418,747	£ 48,377	£ 69,560	£ 18,519	£ 4,900	-£ 44,602	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,550,551	£ 645,574	£ 173,900	£ 45,249	£ 12,250	£ 414,175	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,509,018	£ 1,061,054	£ 278,240	£ 72,398	£ 19,600	£ 690,816	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,853,284	£ 1,449,438	£ 434,750	£ 120,192	£ 30,625	£ 863,871	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,005,321	£ 2,433,892	£ 695,600	£ 178,571	£ 49,000	£ 1,510,721	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 10,368,282	£ 4,118,282	£ 1,217,300	£ 312,500	£ 85,750	£ 2,502,732	YES
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 828,580	£ 240,345	£ 173,900	£ 45,249	£ 12,250	£ 8,946	YES
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,362,389	£ 421,213	£ 278,240	£ 72,398	£ 19,600	£ 50,974	YES
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,130,103	£ 567,603	£ 434,750	£ 120,192	£ 30,625	-£ 17,964	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 3,349,180	£ 1,027,751	£ 695,600	£ 178,571	£ 49,000	£ 104,580	YES
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 6,313,387	£ 2,250,887	£ 1,217,300	£ 312,500	£ 85,750	£ 635,337	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 746,425	£ 153,832	£ 69,560	£ 18,519	£ 4,900	£ 60,854	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,266,967	£ 819,003	£ 173,900	£ 45,249	£ 12,250	£ 587,604	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,649,381	£ 1,332,639	£ 278,240	£ 72,398	£ 19,600	£ 962,401	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 5,568,825	£ 1,722,671	£ 434,750	£ 120,192	£ 30,625	£ 1,137,104	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 9,085,749	£ 3,371,463	£ 695,600	£ 178,571	£ 49,000	£ 2,448,292	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 15,294,912	£ 5,294,912	£ 1,217,300	£ 312,500	£ 85,750	£ 3,679,362	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,252,845	£ 438,365	£ 173,900	£ 45,249	£ 12,250	£ 206,966	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,038,588	£ 735,421	£ 278,240	£ 72,398	£ 19,600	£ 365,182	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,147,102	£ 983,640	£ 434,750	£ 120,192	£ 30,625	£ 398,073	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 5,295,539	£ 2,081,253	£ 695,600	£ 178,571	£ 49,000	£ 1,158,082	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 9,182,223	£ 3,557,223	£ 1,217,300	£ 312,500	£ 85,750	£ 1,941,673	YES
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 910,367	£ 113,987	£ 278,240	£ 72,398	£ 19,600	-£ 256,251	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,450,109	£ 127,994	£ 434,750	£ 120,192	£ 30,625	-£ 457,574	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 2,638,971	£ 674,685	£ 695,600	£ 178,571	£ 49,000	-£ 248,486	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 4,866,406	£ 1,428,906	£ 1,217,300	£ 312,500	£ 85,750	-£ 186,644	NO

APPENDIX D6	TEST 6 - AS TEST 3 WITH 25% AFFORDABLE HOUSING AND EMBEDDED ENERGY												
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open space	SUDS	Embedded energy	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 743,038	£ 76,371	£ 69,560	£ 18,519	£ 4,900	-£ 16,607	NO
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,313,011	£ 684,052	£ 173,900	£ 45,249	£ 12,250	£ 452,653	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 3,638,362	£ 1,032,027	£ 278,240	£ 72,398	£ 19,600	£ 661,789	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 5,801,162	£ 1,474,239	£ 434,750	£120,192	£ 30,625	£ 888,672	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 8,739,553	£ 2,310,982	£ 695,600	£178,571	£ 49,000	£ 1,387,810	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 14,677,762	£ 3,427,762	£1,217,300	£312,500	£ 85,750	£ 1,812,212	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 320,517	-£ 49,853	£ 69,560	£ 18,519	£ 4,900	-£ 142,832	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,330,624	£ 425,647	£ 173,900	£ 45,249	£ 12,250	£ 194,248	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,131,660	£ 683,696	£ 278,240	£ 72,398	£ 19,600	£ 313,458	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,296,085	£ 892,239	£ 434,750	£120,192	£ 30,625	£ 306,672	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 5,137,315	£ 1,565,886	£ 695,600	£178,571	£ 49,000	£ 642,715	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 8,883,986	£ 2,633,986	£1,217,300	£312,500	£ 85,750	£ 1,018,436	YES
2	Medium	Greenfield	20	£ 350,000	£ 259,259	£ -	£ -	£ 69,560	£ 18,519	£ 4,900	-£ 352,238	NO
5	Medium	Greenfield	125	£ 350,000	£ 1,682,692	£ 1,658,876	-£ 23,816	£ 434,750	£120,192	£ 30,625	-£ 609,384	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	£ -	£ -	£ 69,560	£ 18,519	£ 4,900	-£ 278,164	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ -	£ -	£ 173,900	£ 45,249	£ 12,250	-£ 683,888	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ -	£ -	£ 278,240	£ 72,398	£ 19,600	-£ 1,094,220	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ -	£ -	£ 434,750	£120,192	£ 30,625	-£ 1,787,490	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ -	£ -	£ 695,600	£178,571	£ 49,000	-£ 2,708,886	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ -	£ -	£1,217,300	£312,500	£ 85,750	-£ 4,740,550	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 642,295	£ 49,702	£ 69,560	£ 18,519	£ 4,900	-£ 43,276	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,014,300	£ 566,336	£ 173,900	£ 45,249	£ 12,250	£ 334,937	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,213,210	£ 896,468	£ 278,240	£ 72,398	£ 19,600	£ 526,230	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 4,926,009	£ 1,079,855	£ 434,750	£120,192	£ 30,625	£ 494,288	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 8,035,135	£ 2,320,849	£ 695,600	£178,571	£ 49,000	£ 1,397,678	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 13,501,658	£ 3,501,658	£1,217,300	£312,500	£ 85,750	£ 1,886,108	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,046,688	£ 232,208	£ 173,900	£ 45,249	£ 12,250	£ 809	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 1,681,052	£ 377,885	£ 278,240	£ 72,398	£ 19,600	£ 7,646	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 2,619,771	£ 456,309	£ 434,750	£120,192	£ 30,625	-£ 129,258	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 4,432,744	£ 1,218,458	£ 695,600	£178,571	£ 49,000	£ 295,287	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 7,706,314	£ 2,081,314	£1,217,300	£312,500	£ 85,750	£ 465,764	YES
7	Medium	PDL	350	£ 300,000	£ 3,750,000	£ 3,595,846	-£ 154,154	£1,217,300	£312,500	£ 85,750	-£ 1,769,704	NO
2	Low	PDL	20	£ 175,000	£ 129,630	-£ 87,478	-£ 217,108	£ 69,560	£ 18,519	£ 4,900	-£ 310,086	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ -	£ -	£ 173,900	£ 45,249	£ 12,250	-£ 548,141	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ -	£ -	£ 278,240	£ 72,398	£ 19,600	-£ 877,026	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ -	£ -	£ 434,750	£120,192	£ 30,625	-£ 1,426,913	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ -	£ -	£ 695,600	£178,571	£ 49,000	-£ 2,173,171	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ -	£ -	£1,217,300	£312,500	£ 85,750	-£ 3,803,050	NO

APPENDIX D7		TEST 7 - AS TEST 3 WITH 5% AFFORDABLE HOUSING & TESTS 4, 5 & 6												
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Tests 4, 5 & 6	S106 per dwelling	Adjusted Surplus	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 166,667	£ 285,235	£ 118,568	£ 17,390	£ 4,630	£ 36,225	£ 11,649	£ 60,324	YES
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 956,854	£ 290,187	£ 69,560	£ 18,519	£ 144,900	£ 11,649	£ 57,209	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,878,104	£ 1,249,145	£ 173,900	£ 45,249	£ 362,250	£ 11,628	£ 667,746	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,605,883	£ 1,999,548	£ 278,240	£ 72,398	£ 579,600	£ 11,628	£1,069,310	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 7,052,233	£ 2,725,310	£ 434,750	£ 120,192	£ 905,625	£ 11,685	£1,264,743	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 10,876,407	£ 4,447,836	£ 695,600	£ 178,571	£1,449,000	£ 11,616	£2,124,664	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 18,189,158	£ 6,939,158	£ 1,217,300	£ 312,500	£2,535,750	£ 11,616	£2,873,608	YES
1	High	Greenfield	5	£ 500,000	£ 92,593	£ 162,473	£ 69,880	£ 17,390	£ 4,630	£ 36,225	£ 11,649	£ 11,636	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 505,677	£ 135,307	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 97,672	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,794,718	£ 889,741	£ 173,900	£ 45,249	£ 362,250	£ 11,628	£ 308,342	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,887,218	£ 1,439,254	£ 278,240	£ 72,398	£ 579,600	£ 11,628	£ 509,016	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 4,462,426	£ 2,058,580	£ 434,750	£ 120,192	£ 905,625	£ 11,685	£ 598,013	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,895,053	£ 3,323,624	£ 695,600	£ 178,571	£1,449,000	£ 11,616	£1,000,453	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 11,777,347	£ 5,527,347	£ 1,217,300	£ 312,500	£2,535,750	£ 11,616	£1,461,797	YES
1	Medium	Greenfield	5	£ 325,000	£ 60,185	£ 75,758	£ 15,573	£ 17,390	£ 4,630	£ 36,225	£ 11,649	-£ 42,672	NO
2	Medium	Greenfield	20	£ 325,000	£ 240,741	£ 187,451	-£ 53,290	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 286,268	NO
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 1,035,073	£ 446,838	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 134,561	NO
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,649,863	£ 708,687	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 221,552	NO
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,645,521	£ 1,083,021	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 377,546	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 4,101,538	£ 1,780,109	£ 695,600	£ 178,571	£1,449,000	£ 11,616	-£ 543,062	NO
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 7,264,000	£ 3,201,500	£ 1,217,300	£ 312,500	£2,535,750	£ 11,616	-£ 864,050	NO
1	Low	Greenfield	5	£ 250,000	£ 46,296	£ 21,663	-£ 24,633	£ 17,390	£ 4,630	£ 36,225	£ 11,649	-£ 82,878	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	-£ 14,926	-£ 200,111	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 433,090	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ 570,740	£ 118,251	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 463,148	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ 945,394	£ 221,412	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 708,826	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ 1,535,382	£ 333,459	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£1,127,108	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ 2,488,328	£ 702,614	£ 695,600	£ 178,571	£1,449,000	£ 11,616	-£1,620,558	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ 4,446,883	£ 1,321,883	£ 1,217,300	£ 312,500	£2,535,750	£ 11,616	-£2,743,667	NO
1	Highest	PDL	5	£ 800,000	£ 148,148	£ 236,802	£ 88,654	£ 17,390	£ 4,630	£ 36,225	£ 11,649	£ 30,409	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 850,765	£ 258,172	£ 69,560	£ 18,519	£ 144,900	£ 11,649	£ 25,194	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,548,352	£ 1,100,388	£ 173,900	£ 45,249	£ 362,250	£ 11,628	£ 518,989	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 4,134,333	£ 1,817,591	£ 278,240	£ 72,398	£ 579,600	£ 11,628	£ 887,353	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 6,268,666	£ 2,422,512	£ 434,750	£ 120,192	£ 905,625	£ 11,685	£ 961,945	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 10,161,619	£ 4,447,333	£ 695,600	£ 178,571	£1,449,000	£ 11,616	£2,124,162	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 16,996,682	£ 6,996,682	£ 1,217,300	£ 312,500	£2,535,750	£ 11,616	£2,931,132	YES
1	High	PDL	5	£ 450,000	£ 83,333	£ 116,028	£ 32,695	£ 17,390	£ 4,630	£ 36,225	£ 11,649	-£ 25,550	NO
2	High	PDL	20	£ 450,000	£ 333,333	£ 402,214	£ 68,881	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 164,098	NO
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,483,673	£ 669,193	£ 173,900	£ 45,249	£ 362,250	£ 11,628	£ 87,794	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,394,870	£ 1,091,703	£ 278,240	£ 72,398	£ 579,600	£ 11,628	£ 161,464	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,721,434	£ 1,557,972	£ 434,750	£ 120,192	£ 905,625	£ 11,685	£ 97,405	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 6,180,087	£ 2,965,801	£ 695,600	£ 178,571	£1,449,000	£ 11,616	£ 642,630	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 10,583,396	£ 4,958,396	£ 1,217,300	£ 312,500	£2,535,750	£ 11,616	£ 892,846	YES
1	Medium	PDL	5	£ 275,000	£ 50,926	£ 31,644	-£ 19,282	£ 17,390	£ 4,630	£ 36,225	£ 11,649	-£ 77,527	NO
2	Medium	PDL	20	£ 275,000	£ 203,704	£ 81,562	-£ 122,142	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 355,120	NO
3	Medium	PDL	50	£ 275,000	£ 497,738	£ 737,358	£ 239,620	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 341,778	NO
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 1,312,799	£ 516,419	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 413,819	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,934,228	£ 612,113	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 848,455	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 3,386,154	£ 1,421,868	£ 695,600	£ 178,571	£1,449,000	£ 11,616	-£ 901,303	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 6,062,459	£ 2,624,959	£ 1,217,300	£ 312,500	£2,535,750	£ 11,616	-£1,440,591	NO
1	Low	PDL	5	£ 175,000	£ 32,407	-£ 33,460	-£ 65,867	£ 17,390	£ 4,630	£ 36,225	£ 11,649	-£ 124,112	NO
2	Low	PDL	20	£ 175,000	£ 129,630	£ -	-£ 129,630	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 362,608	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ 280,843	-£ 35,899	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 617,298	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ 486,256	-£ 20,531	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 950,770	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ 841,978	£ 632	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£1,459,935	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ 1,671,419	£ 421,419	£ 695,600	£ 178,571	£1,449,000	£ 11,616	-£1,901,752	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ 3,224,933	£ 1,037,433	£ 1,217,300	£ 312,500	£2,535,750	£ 11,616	-£3,028,117	NO

APPENDIX D7		TEST 7 - AS TEST 3 WITH 15% AFFORDABLE HOUSING & TESTS 4, 5 & 6												
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Tests 4, 5 & 6	S106 per dwelling	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 849,781	£ 183,114	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 49,864	NO
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,581,449	£ 952,490	£ 173,900	£ 45,249	£ 362,250	£ 11,628	£ 371,091	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,146,061	£ 1,539,726	£ 278,240	£ 72,398	£ 579,600	£ 11,628	£ 609,488	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 6,312,502	£ 1,985,579	£ 434,750	£ 120,192	£ 905,625	£ 11,685	£ 525,012	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 9,795,356	£ 3,366,785	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	£ 1,043,613	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 16,479,448	£ 5,229,448	£ 1,217,300	£ 312,500	£ 2,535,750	£ 11,616	£ 1,163,898	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 418,747	£ 48,377	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 184,602	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,550,551	£ 645,574	£ 173,900	£ 45,249	£ 362,250	£ 11,628	£ 64,175	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,509,018	£ 1,061,054	£ 278,240	£ 72,398	£ 579,600	£ 11,628	£ 130,816	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,853,284	£ 1,449,438	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 11,129	NO
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,005,321	£ 2,433,892	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	£ 110,721	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 10,368,282	£ 4,118,282	£ 1,217,300	£ 312,500	£ 2,535,750	£ 11,616	£ 52,732	YES
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 828,580	£ 240,345	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 341,054	NO
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,362,389	£ 421,213	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 509,026	NO
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,130,103	£ 567,603	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 892,964	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 3,349,180	£ 1,027,751	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	-£ 1,295,420	NO
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 6,313,387	£ 2,250,887	£ 1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 1,814,663	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 746,425	£ 153,832	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 79,146	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,266,967	£ 819,003	£ 173,900	£ 45,249	£ 362,250	£ 11,628	£ 237,604	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,649,381	£ 1,332,639	£ 278,240	£ 72,398	£ 579,600	£ 11,628	£ 402,401	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 5,568,825	£ 1,722,671	£ 434,750	£ 120,192	£ 905,625	£ 11,685	£ 262,104	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 9,085,749	£ 3,371,463	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	£ 1,048,292	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 15,294,912	£ 5,294,912	£ 1,217,300	£ 312,500	£ 2,535,750	£ 11,616	£ 1,229,362	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,252,845	£ 438,365	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 143,034	NO
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,038,588	£ 735,421	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 194,818	NO
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,147,102	£ 983,640	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 476,927	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 5,295,539	£ 2,081,253	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	-£ 241,918	NO
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 9,182,223	£ 3,557,223	£ 1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 508,327	NO
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 910,367	£ 113,987	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 816,251	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,450,109	£ 127,994	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 1,332,574	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 2,638,971	£ 674,685	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	-£ 1,648,486	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 4,866,406	£ 1,428,906	£ 1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 2,636,644	NO

APPENDIX D7 **TEST 7 - AS TEST 3 WITH 25% AFFORDABLE HOUSING & TESTS 4, 5 & 6**

Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open space	SUDS	Tests 4, 5 & 6	S106 per dwelling	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 743,038	£ 76,371	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 156,607	NO
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,313,011	£ 684,052	£ 173,900	£ 45,249	£ 362,250	£ 11,628	£ 102,653	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 3,638,362	£ 1,032,027	£ 278,240	£ 72,398	£ 579,600	£ 11,628	£ 101,789	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 5,801,162	£ 1,474,239	£ 434,750	£ 120,192	£ 905,625	£ 11,685	£ 13,672	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 8,739,553	£ 2,310,982	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	-£ 12,190	NO
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 14,677,762	£ 3,427,762	£1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 637,788	NO
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 320,517	-£ 49,853	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 282,832	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,330,624	£ 425,647	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 155,752	NO
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,131,660	£ 683,696	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 246,542	NO
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,296,085	£ 892,239	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 568,328	NO
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 5,137,315	£ 1,565,886	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	-£ 757,285	NO
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 8,883,986	£ 2,633,986	£1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 1,431,564	NO
2	Medium	Greenfield	20	£ 350,000	£ 259,259	£ -	£ -	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 492,238	NO
5	Medium	Greenfield	125	£ 350,000	£ 1,682,692	£ 1,658,876	-£ 23,816	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 1,484,384	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	£ -	£ -	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 418,164	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ -	£ -	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 1,033,888	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ -	£ -	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 1,654,220	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ -	£ -	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 2,662,490	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ -	£ -	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	-£ 4,108,886	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ -	£ -	£1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 7,190,550	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 642,295	£ 49,702	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 183,276	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,014,300	£ 566,336	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 15,063	NO
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,213,210	£ 896,468	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 33,770	NO
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 4,926,009	£ 1,079,855	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 380,712	NO
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 8,035,135	£ 2,320,849	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	-£ 2,322	NO
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 13,501,658	£ 3,501,658	£1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 563,892	NO
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,046,688	£ 232,208	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 349,191	NO
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 1,681,052	£ 377,885	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 552,354	NO
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 2,619,771	£ 456,309	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 1,004,258	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 4,432,744	£ 1,218,458	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	-£ 1,104,713	NO
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 7,706,314	£ 2,081,314	£1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 1,984,236	NO
7	Medium	PDL	350	£ 300,000	£ 3,750,000	£ 3,595,846	-£ 154,154	£1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 4,219,704	NO
2	Low	PDL	20	£ 175,000	£ 129,630	-£ 87,478	-£ 217,108	£ 69,560	£ 18,519	£ 144,900	£ 11,649	-£ 450,086	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ -	£ -	£ 173,900	£ 45,249	£ 362,250	£ 11,628	-£ 898,141	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ -	£ -	£ 278,240	£ 72,398	£ 579,600	£ 11,628	-£ 1,437,026	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ -	£ -	£ 434,750	£ 120,192	£ 905,625	£ 11,685	-£ 2,301,913	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ -	£ -	£ 695,600	£ 178,571	£ 1,449,000	£ 11,616	-£ 3,573,171	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ -	£ -	£1,217,300	£ 312,500	£ 2,535,750	£ 11,616	-£ 6,253,050	NO

APPENDIX D8	TEST 8 - AS TEST 3 WITH 5% AFFORDABLE HOUSING AND HABITAT REGULATIONS ASSESSMENT												
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	HRA	Adjusted Surplus	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 166,667	£ 285,235	£ 118,568	£ 17,390	£ 4,630	£ 1,620	£ 94,929	YES
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 956,854	£ 290,187	£ 69,560	£ 18,519	£ 13,180	£ 188,929	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,878,104	£ 1,249,145	£ 173,900	£ 45,249	£ 32,950	£ 997,046	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,605,883	£ 1,999,548	£ 278,240	£ 72,398	£ 52,720	£1,596,190	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 7,052,233	£ 2,725,310	£ 434,750	£ 120,192	£ 82,375	£2,087,993	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 10,876,407	£ 4,447,836	£ 695,600	£ 178,571	£ 131,800	£3,441,864	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 18,189,158	£ 6,939,158	£ 1,217,300	£ 312,500	£ 230,650	£5,178,708	YES
1	High	Greenfield	5	£ 500,000	£ 92,593	£ 162,473	£ 69,880	£ 17,390	£ 4,630	£ 1,620	£ 46,241	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 505,677	£ 135,307	£ 69,560	£ 18,519	£ 13,180	£ 34,048	YES
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,794,718	£ 889,741	£ 173,900	£ 45,249	£ 32,950	£ 637,642	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,887,218	£ 1,439,254	£ 278,240	£ 72,398	£ 52,720	£1,035,896	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 4,462,426	£ 2,058,580	£ 434,750	£ 120,192	£ 82,375	£1,421,263	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,895,053	£ 3,323,624	£ 695,600	£ 178,571	£ 131,800	£2,317,653	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 11,777,347	£ 5,527,347	£ 1,217,300	£ 312,500	£ 230,650	£3,766,897	YES
1	Medium	Greenfield	5	£ 325,000	£ 60,185	£ 75,758	£ 15,573	£ 17,390	£ 4,630	£ 1,620	-£ 8,067	NO
2	Medium	Greenfield	20	£ 325,000	£ 240,741	£ 187,451	-£ 53,290	£ 69,560	£ 18,519	£ 13,180	-£ 154,548	NO
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 1,035,073	£ 446,838	£ 173,900	£ 45,249	£ 32,950	£ 194,739	YES
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,649,863	£ 708,687	£ 278,240	£ 72,398	£ 52,720	£ 305,328	YES
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,645,521	£ 1,083,021	£ 434,750	£ 120,192	£ 82,375	£ 445,704	YES
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 4,101,538	£ 1,780,109	£ 695,600	£ 178,571	£ 131,800	£ 774,138	YES
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 7,264,000	£ 3,201,500	£ 1,217,300	£ 312,500	£ 230,650	£1,441,050	YES
1	Low	Greenfield	5	£ 250,000	£ 46,296	£ 21,663	-£ 24,633	£ 17,390	£ 4,630	£ 1,620	-£ 48,273	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	-£ 14,926	-£ 200,111	£ 69,560	£ 18,519	£ 13,180	-£ 301,370	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ 570,740	£ 118,251	£ 173,900	£ 45,249	£ 32,950	-£ 133,848	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ 945,394	£ 221,412	£ 278,240	£ 72,398	£ 52,720	-£ 181,946	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ 1,535,382	£ 333,459	£ 434,750	£ 120,192	£ 82,375	-£ 303,858	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ 2,488,328	£ 702,614	£ 695,600	£ 178,571	£ 131,800	-£ 303,358	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ 4,446,883	£ 1,321,883	£ 1,217,300	£ 312,500	£ 230,650	-£ 438,567	NO
1	Highest	PDL	5	£ 800,000	£ 148,148	£ 236,802	£ 88,654	£ 17,390	£ 4,630	£ 1,620	£ 65,014	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 850,765	£ 258,172	£ 69,560	£ 18,519	£ 13,180	£ 156,914	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,548,352	£ 1,100,388	£ 173,900	£ 45,249	£ 32,950	£ 848,289	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 4,134,333	£ 1,817,591	£ 278,240	£ 72,398	£ 52,720	£1,414,233	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 6,268,666	£ 2,422,512	£ 434,750	£ 120,192	£ 82,375	£1,785,195	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 10,161,619	£ 4,447,333	£ 695,600	£ 178,571	£ 131,800	£3,441,362	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 16,996,682	£ 6,996,682	£ 1,217,300	£ 312,500	£ 230,650	£5,236,232	YES
1	High	PDL	5	£ 450,000	£ 83,333	£ 116,028	£ 32,695	£ 17,390	£ 4,630	£ 1,620	£ 9,055	YES
2	High	PDL	20	£ 450,000	£ 333,333	£ 402,214	£ 68,881	£ 69,560	£ 18,519	£ 13,180	-£ 32,378	NO
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,483,673	£ 669,193	£ 173,900	£ 45,249	£ 32,950	£ 417,094	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,394,870	£ 1,091,703	£ 278,240	£ 72,398	£ 52,720	£ 688,344	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,721,434	£ 1,557,972	£ 434,750	£ 120,192	£ 82,375	£ 920,655	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 6,180,087	£ 2,965,801	£ 695,600	£ 178,571	£ 131,800	£1,959,830	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 10,583,396	£ 4,958,396	£ 1,217,300	£ 312,500	£ 230,650	£3,197,946	YES
1	Medium	PDL	5	£ 275,000	£ 50,926	£ 31,644	-£ 19,282	£ 17,390	£ 4,630	£ 1,620	-£ 42,922	NO
2	Medium	PDL	20	£ 275,000	£ 203,704	£ 81,562	-£ 122,142	£ 69,560	£ 18,519	£ 13,180	-£ 223,400	NO
3	Medium	PDL	50	£ 275,000	£ 497,738	£ 737,358	£ 239,620	£ 173,900	£ 45,249	£ 32,950	-£ 12,478	NO
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 1,312,799	£ 516,419	£ 278,240	£ 72,398	£ 52,720	£ 113,061	YES
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,934,228	£ 612,113	£ 434,750	£ 120,192	£ 82,375	-£ 25,205	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 3,386,154	£ 1,421,868	£ 695,600	£ 178,571	£ 131,800	£ 415,897	YES
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 6,062,459	£ 2,624,959	£ 1,217,300	£ 312,500	£ 230,650	£ 864,509	YES
1	Low	PDL	5	£ 175,000	£ 32,407	-£ 33,460	-£ 65,867	£ 17,390	£ 4,630	£ 1,620	-£ 89,507	NO
2	Low	PDL	20	£ 175,000	£ 129,630	£ -	-£ 129,630	£ 69,560	£ 18,519	£ 13,180	-£ 230,888	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ 280,843	-£ 35,899	£ 173,900	£ 45,249	£ 32,950	-£ 287,998	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ 486,256	-£ 20,531	£ 278,240	£ 72,398	£ 52,720	-£ 423,890	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ 841,978	£ 632	£ 434,750	£ 120,192	£ 82,375	-£ 636,685	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ 1,671,419	£ 421,419	£ 695,600	£ 178,571	£ 131,800	-£ 584,552	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ 3,224,933	£ 1,037,433	£ 1,217,300	£ 312,500	£ 230,650	-£ 723,017	NO

APPENDIX D8	TEST 8 - AS TEST 3 WITH 15% AFFORDABLE HOUSING AND HABITAT REGULATIONS ASSESSMENT												
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	HRA	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 849,781	£ 183,114	£ 69,560	£ 18,519	£ 13,180	£ 81,856	YES
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,581,449	£ 952,490	£ 173,900	£ 45,249	£ 32,950	£ 700,391	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 4,146,061	£ 1,539,726	£ 278,240	£ 72,398	£ 52,720	£ 1,136,368	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 6,312,502	£ 1,985,579	£ 434,750	£ 120,192	£ 82,375	£ 1,348,262	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 9,795,356	£ 3,366,785	£ 695,600	£ 178,571	£ 131,800	£ 2,360,813	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 16,479,448	£ 5,229,448	£ 1,217,300	£ 312,500	£ 230,650	£ 3,468,998	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 418,747	£ 48,377	£ 69,560	£ 18,519	£ 13,180	-£ 52,882	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,550,551	£ 645,574	£ 173,900	£ 45,249	£ 32,950	£ 393,475	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,509,018	£ 1,061,054	£ 278,240	£ 72,398	£ 52,720	£ 657,696	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,853,284	£ 1,449,438	£ 434,750	£ 120,192	£ 82,375	£ 812,121	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 6,005,321	£ 2,433,892	£ 695,600	£ 178,571	£ 131,800	£ 1,427,921	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 10,368,282	£ 4,118,282	£ 1,217,300	£ 312,500	£ 230,650	£ 2,357,832	YES
3	Medium	Greenfield	50	£ 325,000	£ 588,235	£ 828,580	£ 240,345	£ 173,900	£ 45,249	£ 32,950	-£ 11,754	NO
4	Medium	Greenfield	80	£ 325,000	£ 941,176	£ 1,362,389	£ 421,213	£ 278,240	£ 72,398	£ 52,720	£ 17,854	YES
5	Medium	Greenfield	125	£ 325,000	£ 1,562,500	£ 2,130,103	£ 567,603	£ 434,750	£ 120,192	£ 82,375	-£ 69,714	NO
6	Medium	Greenfield	200	£ 325,000	£ 2,321,429	£ 3,349,180	£ 1,027,751	£ 695,600	£ 178,571	£ 131,800	£ 21,780	YES
7	Medium	Greenfield	350	£ 325,000	£ 4,062,500	£ 6,313,387	£ 2,250,887	£ 1,217,300	£ 312,500	£ 230,650	£ 490,437	YES
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 746,425	£ 153,832	£ 69,560	£ 18,519	£ 13,180	£ 52,574	YES
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,266,967	£ 819,003	£ 173,900	£ 45,249	£ 32,950	£ 566,904	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,649,381	£ 1,332,639	£ 278,240	£ 72,398	£ 52,720	£ 929,281	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 5,568,825	£ 1,722,671	£ 434,750	£ 120,192	£ 82,375	£ 1,085,354	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 9,085,749	£ 3,371,463	£ 695,600	£ 178,571	£ 131,800	£ 2,365,492	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 15,294,912	£ 5,294,912	£ 1,217,300	£ 312,500	£ 230,650	£ 3,534,462	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,252,845	£ 438,365	£ 173,900	£ 45,249	£ 32,950	£ 186,266	YES
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 2,038,588	£ 735,421	£ 278,240	£ 72,398	£ 52,720	£ 332,062	YES
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 3,147,102	£ 983,640	£ 434,750	£ 120,192	£ 82,375	£ 346,323	YES
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 5,295,539	£ 2,081,253	£ 695,600	£ 178,571	£ 131,800	£ 1,075,282	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 9,182,223	£ 3,557,223	£ 1,217,300	£ 312,500	£ 230,650	£ 1,796,773	YES
4	Medium	PDL	80	£ 275,000	£ 796,380	£ 910,367	£ 113,987	£ 278,240	£ 72,398	£ 52,720	-£ 289,371	NO
5	Medium	PDL	125	£ 275,000	£ 1,322,115	£ 1,450,109	£ 127,994	£ 434,750	£ 120,192	£ 82,375	-£ 509,324	NO
6	Medium	PDL	200	£ 275,000	£ 1,964,286	£ 2,638,971	£ 674,685	£ 695,600	£ 178,571	£ 131,800	-£ 331,286	NO
7	Medium	PDL	350	£ 275,000	£ 3,437,500	£ 4,866,406	£ 1,428,906	£ 1,217,300	£ 312,500	£ 230,650	-£ 331,544	NO

APPENDIX D8	TEST 8 - AS TEST 3 WITH 25% AFFORDABLE HOUSING AND HABITAT REGULATIONS ASSESSMENT											
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open space	SUDS	HRA	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 666,667	£ 743,038	£ 76,371	£ 69,560	£ 18,519	£ 13,180	-£ 24,887	NO
3	Highest	Greenfield	50	£ 900,000	£ 1,628,959	£ 2,313,011	£ 684,052	£ 173,900	£ 45,249	£ 32,950	£ 431,953	YES
4	Highest	Greenfield	80	£ 900,000	£ 2,606,335	£ 3,638,362	£ 1,032,027	£ 278,240	£ 72,398	£ 52,720	£ 628,669	YES
5	Highest	Greenfield	125	£ 900,000	£ 4,326,923	£ 5,801,162	£ 1,474,239	£ 434,750	£120,192	£ 82,375	£ 836,922	YES
6	Highest	Greenfield	200	£ 900,000	£ 6,428,571	£ 8,739,553	£ 2,310,982	£ 695,600	£178,571	£ 131,800	£ 1,305,010	YES
7	Highest	Greenfield	350	£ 900,000	£ 11,250,000	£ 14,677,762	£ 3,427,762	£1,217,300	£312,500	£ 230,650	£ 1,667,312	YES
2	High	Greenfield	20	£ 500,000	£ 370,370	£ 320,517	-£ 49,853	£ 69,560	£ 18,519	£ 13,180	-£ 151,112	NO
3	High	Greenfield	50	£ 500,000	£ 904,977	£ 1,330,624	£ 425,647	£ 173,900	£ 45,249	£ 32,950	£ 173,548	YES
4	High	Greenfield	80	£ 500,000	£ 1,447,964	£ 2,131,660	£ 683,696	£ 278,240	£ 72,398	£ 52,720	£ 280,338	YES
5	High	Greenfield	125	£ 500,000	£ 2,403,846	£ 3,296,085	£ 892,239	£ 434,750	£120,192	£ 82,375	£ 254,922	YES
6	High	Greenfield	200	£ 500,000	£ 3,571,429	£ 5,137,315	£ 1,565,886	£ 695,600	£178,571	£ 131,800	£ 559,915	YES
7	High	Greenfield	350	£ 500,000	£ 6,250,000	£ 8,883,986	£ 2,633,986	£1,217,300	£312,500	£ 230,650	£ 873,536	YES
2	Medium	Greenfield	20	£ 350,000	£ 259,259	£ -	£ -	£ 69,560	£ 18,519	£ 13,180	-£ 360,518	NO
5	Medium	Greenfield	125	£ 350,000	£ 1,682,692	£ 1,658,876	-£ 23,816	£ 434,750	£120,192	£ 82,375	-£ 661,134	NO
2	Low	Greenfield	20	£ 250,000	£ 185,185	£ -	£ -	£ 69,560	£ 18,519	£ 13,180	-£ 286,444	NO
3	Low	Greenfield	50	£ 250,000	£ 452,489	£ -	£ -	£ 173,900	£ 45,249	£ 32,950	-£ 704,588	NO
4	Low	Greenfield	80	£ 250,000	£ 723,982	£ -	£ -	£ 278,240	£ 72,398	£ 52,720	-£ 1,127,340	NO
5	Low	Greenfield	125	£ 250,000	£ 1,201,923	£ -	£ -	£ 434,750	£120,192	£ 82,375	-£ 1,839,240	NO
6	Low	Greenfield	200	£ 250,000	£ 1,785,714	£ -	£ -	£ 695,600	£178,571	£ 131,800	-£ 2,791,686	NO
7	Low	Greenfield	350	£ 250,000	£ 3,125,000	£ -	£ -	£1,217,300	£312,500	£ 230,650	-£ 4,885,450	NO
2	Highest	PDL	20	£ 800,000	£ 592,593	£ 642,295	£ 49,702	£ 69,560	£ 18,519	£ 13,180	-£ 51,556	NO
3	Highest	PDL	50	£ 800,000	£ 1,447,964	£ 2,014,300	£ 566,336	£ 173,900	£ 45,249	£ 32,950	£ 314,237	YES
4	Highest	PDL	80	£ 800,000	£ 2,316,742	£ 3,213,210	£ 896,468	£ 278,240	£ 72,398	£ 52,720	£ 493,110	YES
5	Highest	PDL	125	£ 800,000	£ 3,846,154	£ 4,926,009	£ 1,079,855	£ 434,750	£120,192	£ 82,375	£ 442,538	YES
6	Highest	PDL	200	£ 800,000	£ 5,714,286	£ 8,035,135	£ 2,320,849	£ 695,600	£178,571	£ 131,800	£ 1,314,878	YES
7	Highest	PDL	350	£ 800,000	£ 10,000,000	£ 13,501,658	£ 3,501,658	£1,217,300	£312,500	£ 230,650	£ 1,741,208	YES
3	High	PDL	50	£ 450,000	£ 814,480	£ 1,046,688	£ 232,208	£ 173,900	£ 45,249	£ 32,950	-£ 19,891	NO
4	High	PDL	80	£ 450,000	£ 1,303,167	£ 1,681,052	£ 377,885	£ 278,240	£ 72,398	£ 52,720	-£ 25,474	NO
5	High	PDL	125	£ 450,000	£ 2,163,462	£ 2,619,771	£ 456,309	£ 434,750	£120,192	£ 82,375	-£ 181,008	NO
6	High	PDL	200	£ 450,000	£ 3,214,286	£ 4,432,744	£ 1,218,458	£ 695,600	£178,571	£ 131,800	£ 212,487	YES
7	High	PDL	350	£ 450,000	£ 5,625,000	£ 7,706,314	£ 2,081,314	£1,217,300	£312,500	£ 230,650	£ 320,864	YES
7	Medium	PDL	350	£ 300,000	£ 3,750,000	£ 3,595,846	-£ 154,154	£1,217,300	£312,500	£ 230,650	-£ 1,914,604	NO
2	Low	PDL	20	£ 175,000	£ 129,630	-£ 87,478	-£ 217,108	£ 69,560	£ 18,519	£ 13,180	-£ 318,366	NO
3	Low	PDL	50	£ 175,000	£ 316,742	£ -	£ -	£ 173,900	£ 45,249	£ 32,950	-£ 568,841	NO
4	Low	PDL	80	£ 175,000	£ 506,787	£ -	£ -	£ 278,240	£ 72,398	£ 52,720	-£ 910,146	NO
5	Low	PDL	125	£ 175,000	£ 841,346	£ -	£ -	£ 434,750	£120,192	£ 82,375	-£ 1,478,663	NO
6	Low	PDL	200	£ 175,000	£ 1,250,000	£ -	£ -	£ 695,600	£178,571	£ 131,800	-£ 2,255,971	NO
7	Low	PDL	350	£ 175,000	£ 2,187,500	£ -	£ -	£1,217,300	£312,500	£ 230,650	-£ 3,947,950	NO

APPENDIX D9		TEST 9 CATEGORY 2 AND CATEGORY 3 CONSTRUCTION											
Site Type	Value Area	Land	MV (per sq m)	AH (£ psm)	OPH (£ psm)	Test 2 RLV	Residual Land Value	% change	Surplus	Surplus % of TLV	Viable?
1	Highest	Greenfield	£ 1,056	£ 1,091	£ 1,190	£ 285,235	£ 284,333	0.32%	£ 117,666	70.60%	YES
2	Highest	Greenfield	£ 1,056	£ 1,091	£ 1,190	£ 956,854	£ 953,010	0.40%	£ 286,343	42.95%	YES
3	Highest	Greenfield	£ 940	£ 975	£ 1,058	£ 2,878,104	£ 2,859,700	0.64%	£ 1,230,741	75.55%	YES
4	Highest	Greenfield	£ 940	£ 975	£ 1,058	£ 4,605,883	£ 4,579,297	0.58%	£ 1,972,962	75.70%	YES
5	Highest	Greenfield	£ 940	£ 975	£ 1,058	£ 7,052,233	£ 7,013,201	0.55%	£ 2,686,278	62.08%	YES
6	Highest	Greenfield	£ 940	£ 975	£ 1,058	£ 10,876,407	£ 10,815,635	0.56%	£ 4,387,064	68.24%	YES
7	Highest	Greenfield	£ 940	£ 975	£ 1,058	£ 18,189,158	£ 18,092,765	0.53%	£ 6,842,765	60.82%	YES

APPENDIX D10	TEST 10 AS TEST 2 WITH 5% AFFORDABLE HOUSING AND STARTER HOMES INCORPORATED									
Site Type	Value Area	2 storey	Affordable Rent 75%	Inter 25%	Starter Homes	Blended Profit	RLV	Surplus	Surplus % of TLV	Viable?
1	Highest	4	0	0	0	15.00%	£ 285,235	£ 118,568	71.14%	YES
2	Highest	17	0	0	1	16.76%	£ 1,000,390	£ 333,723	50.06%	YES
3	Highest	42	1	1	1	18.21%	£ 2,913,977	£ 1,285,018	78.89%	YES
4	Highest	68	2	1	1	18.27%	£ 4,638,992	£ 2,032,657	77.99%	YES
5	Highest	106	2	2	2	18.27%	£ 7,120,647	£ 2,793,724	64.57%	YES
6	Highest	170	4	3	3	19.72%	£ 10,976,774	£ 4,548,203	70.75%	YES
7	Highest	297	8	4	6	19.71%	£ 18,359,351	£ 7,109,351	63.19%	YES
1	High	4	0	0	0	15.00%	£ 162,473	£ 69,880	75.47%	YES
2	High	17	0	0	1	16.76%	£ 543,118	£ 172,748	46.64%	YES
3	High	42	1	1	1	18.21%	£ 1,825,560	£ 920,583	101.72%	YES
4	High	68	2	1	1	18.27%	£ 2,915,683	£ 1,467,719	101.36%	YES
5	High	106	2	2	2	18.27%	£ 4,521,250	£ 2,117,404	88.08%	YES
6	High	170	4	3	3	19.72%	£ 6,981,334	£ 3,409,905	95.48%	YES
7	High	297	8	4	6	19.71%	£ 11,923,769	£ 5,673,769	90.78%	YES
1	Medium	4	0	0	0	15.00%	£ 75,758	£ 15,573	25.87%	YES
2	Medium	17	0	0	1	16.76%	£ 221,497	-£ 19,244	-7.99%	NO
3	Medium	42	1	1	1	18.21%	£ 1,062,314	£ 474,079	80.59%	YES
4	Medium	68	2	1	1	18.27%	£ 1,707,121	£ 765,945	81.38%	YES
5	Medium	106	2	2	2	18.27%	£ 2,697,462	£ 1,134,962	72.64%	YES
6	Medium	170	4	3	3	19.72%	£ 4,177,749	£ 1,856,320	79.96%	YES
7	Medium	297	8	4	6	19.72%	£ 7,390,300	£ 3,327,800	81.92%	YES
1	Low	4	0	0	0	15.00%	£ 21,663	-£ 24,633	-53.21%	NO
2	Low	17	0	0	1	16.76%	£ 17,278	-£ 167,907	-90.67%	NO
3	Low	42	1	1	1	18.21%	£ 595,825	£ 143,336	31.68%	YES
4	Low	68	2	1	1	18.27%	£ 968,537	£ 244,555	33.78%	YES
5	Low	106	2	2	2	18.27%	£ 1,583,205	£ 381,282	31.72%	YES
6	Low	170	4	3	3	19.72%	£ 2,461,438	£ 675,724	37.84%	YES
7	Low	297	8	4	6	19.72%	£ 4,566,237	£ 1,441,237	46.12%	YES
1	Highest	4	0	0	0	17.50%	£ 236,802	£ 88,654	59.84%	YES
2	Highest	17	0	0	1	17.24%	£ 894,053	£ 301,460	50.87%	YES
3	Highest	42	1	1	1	19.66%	£ 2,583,503	£ 1,135,539	78.42%	YES
4	Highest	68	2	1	1	19.73%	£ 4,116,517	£ 1,799,775	77.69%	YES
5	Highest	106	2	2	2	19.73%	£ 6,337,875	£ 2,491,721	64.78%	YES
6	Highest	170	4	3	3	19.72%	£ 10,261,973	£ 4,547,687	79.58%	YES
7	Highest	297	8	4	6	19.71%	£ 17,166,872	£ 7,166,872	71.67%	YES
1	High	4	0	0	0	17.50%	£ 116,028	£ 32,695	39.23%	YES
2	High	17	0	0	1	17.24%	£ 439,441	£ 106,108	31.83%	YES
3	High	42	1	1	1	19.66%	£ 1,513,897	£ 699,417	85.87%	YES
4	High	68	2	1	1	19.73%	£ 2,422,724	£ 1,119,557	85.91%	YES
5	High	106	2	2	2	19.73%	£ 3,780,935	£ 1,617,473	74.76%	YES
6	High	170	4	3	3	19.72%	£ 6,266,364	£ 3,052,078	94.95%	YES
7	High	297	8	4	6	19.71%	£ 10,729,838	£ 5,104,838	90.75%	YES
1	Medium	4	0	0	0	17.50%	£ 31,644	-£ 19,282	-37.86%	NO
2	Medium	17	0	0	1	17.24%	£ 116,394	-£ 87,310	-42.86%	NO
3	Medium	42	1	1	1	19.66%	£ 763,850	£ 266,112	53.46%	YES
4	Medium	68	2	1	1	19.73%	£ 1,234,851	£ 438,471	55.06%	YES
5	Medium	106	2	2	2	19.73%	£ 1,986,780	£ 664,665	50.27%	YES
6	Medium	170	4	3	3	19.72%	£ 3,462,367	£ 1,498,081	76.27%	YES
7	Medium	297	8	4	6	19.72%	£ 6,189,233	£ 2,751,733	80.05%	YES
1	Low	4	0	0	0	17.50%	-£ 33,460	-£ 65,867	-203.25%	NO
2	Low	17	0	0	1	17.24%	-£ 98,726	-£ 228,356	-176.16%	NO
3	Low	42	1	1	1	19.66%	£ 305,423	-£ 11,319	-3.57%	NO
4	Low	68	2	1	1	19.73%	£ 508,902	£ 2,115	0.42%	YES
5	Low	106	2	2	2	19.73%	£ 890,373	£ 49,027	5.83%	YES
6	Low	170	4	3	3	19.72%	£ 1,742,468	£ 492,468	39.40%	YES
7	Low	297	8	4	6	19.72%	£ 3,344,995	£ 1,157,495	52.91%	YES

APPENDIX D10		TEST 10 AS TEST 2 WITH 15% AFFORDABLE HOUSING AND STARTER HOMES INCORPORATED								
Site Type	Value Area	2 storey	Affordable Rent 75%	Inter 25%	Starter Homes	Blended Profit	Residual Land Value	Surplus	Surplus % of TLV	Viable?
2	Highest	15	1	1	1	16.37%	£ 885,844	£ 219,177	32.88%	YES
3	Highest	37	4	2	2	17.72%	£ 2,647,419	£ 1,018,460	62.52%	YES
4	Highest	60	6	3	3	17.78%	£ 4,243,458	£ 1,637,123	62.81%	YES
5	Highest	93	9	5	5	17.76%	£ 6,474,734	£ 2,147,811	49.64%	YES
6	Highest	150	15	7	8	19.15%	£ 10,050,377	£ 3,621,806	56.34%	YES
7	Highest	263	25	13	14	19.15%	£ 16,899,094	£ 5,649,094	50.21%	YES
2	High	15	1	1	1	16.37%	£ 449,753	£ 79,383	21.43%	YES
3	High	37	4	2	2	17.73%	£ 1,606,504	£ 701,527	77.52%	YES
4	High	60	6	3	3	17.78%	£ 2,592,739	£ 1,144,775	79.06%	YES
5	High	93	9	5	5	17.76%	£ 3,992,706	£ 1,588,860	66.10%	YES
6	High	150	15	7	8	19.15%	£ 6,224,489	£ 2,653,060	74.29%	YES
7	High	263	25	13	14	19.15%	£ 10,728,972	£ 4,478,972	71.66%	YES
2	Medium	15	1	1	1	16.37%	£ -	-£ 240,741	-100.00%	NO
3	Medium	37	4	2	2	17.73%	£ 877,972	£ 289,737	49.26%	YES
4	Medium	60	6	3	3	17.78%	£ 1,436,296	£ 495,120	52.61%	YES
5	Medium	93	9	5	5	17.76%	£ 2,253,189	£ 690,689	44.20%	YES
6	Medium	150	15	7	8	19.15%	£ 3,542,642	£ 1,221,213	52.61%	YES
7	Medium	263	25	13	14	19.16%	£ 6,382,801	£ 2,320,301	57.12%	YES
2	Low	15	1	1	1	16.37%	£ -	-£ 185,185	-100.00%	NO
3	Low	37	4	2	2	17.73%	£ 432,196	-£ 20,293	-4.48%	NO
4	Low	60	6	3	3	17.78%	£ 728,773	£ 4,791	0.66%	YES
5	Low	93	9	5	5	17.76%	£ 1,189,158	-£ 12,765	-1.06%	NO
6	Low	150	15	7	8	19.15%	£ 1,896,566	£ 110,852	6.21%	YES
7	Low	263	25	13	14	19.16%	£ 3,652,071	£ 527,071	16.87%	YES
2	Highest	15	1	1	1	16.83%	£ 782,255	£ 189,662	32.01%	YES
3	Highest	37	4	2	2	19.09%	£ 2,332,474	£ 884,510	61.09%	YES
4	Highest	60	6	3	3	19.15%	£ 3,746,181	£ 1,429,439	61.70%	YES
5	Highest	93	9	5	5	19.13%	£ 5,729,899	£ 1,883,745	48.98%	YES
6	Highest	150	15	7	8	19.15%	£ 9,340,772	£ 3,626,486	63.46%	YES
7	Highest	263	25	13	14	19.15%	£ 15,797,443	£ 5,797,443	57.97%	YES
2	High	15	1	1	1	16.83%	£ 346,119	£ 12,786	3.84%	YES
3	High	37	4	2	2	19.09%	£ 1,309,161	£ 494,681	60.74%	YES
4	High	60	6	3	3	19.15%	£ 2,121,810	£ 818,643	62.82%	YES
5	High	93	9	5	5	19.13%	£ 3,285,569	£ 1,122,107	51.87%	YES
6	High	150	15	7	8	19.15%	£ 5,514,707	£ 2,300,421	71.57%	YES
7	High	263	25	13	14	19.15%	£ 9,542,912	£ 3,917,912	69.65%	YES
2	Medium	15	1	1	1	16.83%	£ -	-£ 203,704	-100.00%	NO
3	Medium	37	4	2	2	19.09%	£ 592,347	£ 94,609	19.01%	YES
4	Medium	60	6	3	3	19.15%	£ 983,836	£ 187,456	23.54%	YES
5	Medium	93	9	5	5	19.13%	£ 1,572,307	£ 250,192	18.92%	YES
6	Medium	150	15	7	8	19.15%	£ 2,832,428	£ 868,142	44.20%	YES
7	Medium	263	25	13	14	19.16%	£ 5,185,804	£ 1,748,304	50.86%	YES
2	Low	15	1	1	1	16.83%	£ -	-£ 129,630	-100.00%	NO
3	Low	37	4	2	2	19.09%	£ -	-£ 316,742	-100.00%	NO
4	Low	60	6	3	3	19.15%	£ -	-£ 506,787	-100.00%	NO
5	Low	93	9	5	5	19.13%	£ 524,153	-£ 317,193	-37.70%	NO
6	Low	150	15	7	8	19.15%	£ 1,178,298	-£ 71,702	-5.74%	NO
7	Low	263	25	13	14	19.16%	£ 2,434,292	£ 246,792	11.28%	YES

APPENDIX D10	TEST 10 AS TEST 2 WITH 25% AFFORDABLE HOUSING AND STARTER HOMES INCORPORATED									
Site Type	Value Area	Land	Affordable Rent 75%	Inter 25%	Starter Homes	Blended Profit	Residual Land Value	Surplus	Surplus % of TLV	Viable?
2	Highest	Greenfield	2	2	1	15.94%	£ 771,119	£ 104,452	15.67%	YES
3	Highest	Greenfield	6	3	4	17.15%	£ 2,425,708	£ 796,749	48.91%	YES
4	Highest	Greenfield	10	5	5	17.22%	£ 3,849,924	£ 1,243,589	47.71%	YES
5	Highest	Greenfield	15	8	8	17.23%	£ 5,894,606	£ 1,567,683	36.23%	YES
6	Highest	Greenfield	25	12	13	18.50%	£ 9,151,507	£ 2,722,936	42.36%	YES
7	Highest	Greenfield	44	22	22	18.50%	£ 15,321,202	£ 4,071,202	36.19%	YES
2	High	Greenfield	2	2	1	15.87%	£ 358,346	-£ 12,024	-3.25%	NO
3	High	Greenfield	6	3	4	17.15%	£ 1,427,546	£ 522,569	57.74%	YES
4	High	Greenfield	10	5	5	17.23%	£ 2,314,379	£ 866,415	59.84%	YES
5	High	Greenfield	15	8	8	17.24%	£ 3,517,074	£ 1,113,228	46.31%	YES
6	High	Greenfield	25	12	13	18.50%	£ 5,491,297	£ 1,919,868	53.76%	YES
7	High	Greenfield	44	22	22	18.50%	£ 9,436,660	£ 3,186,660	50.99%	YES
2	Medium	Greenfield	2	2	1	15.94%	£ -	-£ 259,259	-100.00%	NO
3	Medium	Greenfield	6	3	4	17.15%	£ 729,089	£ 140,854	23.95%	YES
4	Medium	Greenfield	10	5	5	17.24%	£ 1,165,070	£ 223,894	23.79%	YES
5	Medium	Greenfield	15	8	8	17.24%	£ 1,853,884	£ 171,192	10.17%	YES
6	Medium	Greenfield	25	12	13	18.51%	£ 2,926,430	£ 605,001	26.06%	YES
7	Medium	Greenfield	44	22	22	18.50%	£ 5,290,458	£ 1,227,958	30.23%	YES
2	Low	Greenfield	2	2	1	15.94%	£ -	-£ 185,185	-100.00%	NO
3	Low	Greenfield	6	3	4	17.15%	£ -	-£ 452,489	-100.00%	NO
4	Low	Greenfield	10	5	5	17.24%	£ -	-£ 723,982	-100.00%	NO
5	Low	Greenfield	15	8	8	17.24%	£ -	-£ 1,201,923	-100.00%	NO
6	Low	Greenfield	25	12	13	18.51%	£ -	-£ 1,785,714	-100.00%	NO
7	Low	Greenfield	44	22	22	18.50%	£ -	-£ 3,125,000	-100.00%	NO
2	Highest	PDL	2	2	1	16.36%	£ 670,508	£ 77,915	13.15%	YES
3	Highest	PDL	6	3	4	18.41%	£ 2,127,367	£ 679,403	46.92%	YES
4	Highest	PDL	10	5	5	18.50%	£ 3,376,662	£ 1,059,920	45.75%	YES
5	Highest	PDL	15	8	8	18.51%	£ 5,184,041	£ 1,337,887	34.79%	YES
6	Highest	PDL	25	12	13	18.50%	£ 8,447,079	£ 2,732,793	47.82%	YES
7	Highest	PDL	44	22	22	18.50%	£ 14,145,078	£ 4,145,078	41.45%	YES
2	High	PDL	2	2	1	16.36%	£ 257,668	-£ 75,665	-22.70%	NO
3	High	PDL	6	3	4	18.41%	£ 1,143,929	£ 329,449	40.45%	YES
4	High	PDL	10	5	5	18.51%	£ 1,820,443	£ 517,276	39.69%	YES
5	High	PDL	15	8	8	18.51%	£ 2,841,531	£ 678,069	31.34%	YES
6	High	PDL	25	12	13	18.50%	£ 4,786,716	£ 1,572,430	48.92%	YES
7	High	PDL	44	22	22	18.50%	£ 8,258,955	£ 2,633,955	46.83%	YES
2	Medium	PDL	2	2	1	16.37%	£ -	-£ 222,222	-100.00%	NO
3	Medium	PDL	6	3	4	18.41%	£ 455,782	-£ 87,204	-16.06%	NO
4	Medium	PDL	10	5	5	18.51%	£ 732,393	-£ 136,385	-15.70%	NO
5	Medium	PDL	15	8	8	18.52%	£ 1,200,020	-£ 242,288	-16.80%	NO
6	Medium	PDL	25	12	13	18.51%	£ 2,221,408	£ 78,551	3.67%	YES
7	Medium	PDL	44	22	22	18.50%	£ 4,095,036	£ 345,036	9.20%	YES
2	Low	PDL	2	2	1	16.37%	-£ 87,478	-£ 217,108	-167.48%	NO
3	Low	PDL	6	3	4	18.42%	£ -	-£ 316,742	-100.00%	NO
4	Low	PDL	10	5	5	18.51%	£ -	-£ 506,787	-100.00%	NO
5	Low	PDL	15	8	8	18.52%	£ -	-£ 841,346	-100.00%	NO
6	Low	PDL	25	12	13	18.51%	£ -	-£ 1,250,000	-100.00%	NO
7	Low	PDL	44	22	22	18.50%	£ -	-£ 2,187,500	-100.00%	NO

APPENDIX D11	TEST 11 - AS TEST 3 PLUS 5% AFFORDABLE HOUSING & 25% BLV UPLIFT										
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	TLV	Residual Land Value	Test 2 surplus	Open Space	SUDS	Adjusted Surplus	Viable?
1	Highest	Greenfield	5	£ 1,125,000	£ 208,333	£ 285,235	£ 76,902	£ 17,390	£ 4,630	£ 54,882	YES
2	Highest	Greenfield	20	£ 1,125,000	£ 833,333	£ 956,854	£ 123,521	£ 69,560	£ 18,519	£ 35,442	YES
3	Highest	Greenfield	50	£ 1,125,000	£ 2,036,199	£ 2,878,104	£ 841,905	£ 173,900	£ 45,249	£ 622,756	YES
4	Highest	Greenfield	80	£ 1,125,000	£ 3,257,919	£ 4,605,883	£ 1,347,964	£ 278,240	£ 72,398	£ 997,326	YES
5	Highest	Greenfield	125	£ 1,125,000	£ 5,408,654	£ 7,052,233	£ 1,643,579	£ 434,750	£ 120,192	£ 1,088,637	YES
6	Highest	Greenfield	200	£ 1,125,000	£ 8,035,714	£ 10,876,407	£ 2,840,693	£ 695,600	£ 178,571	£ 1,966,521	YES
7	Highest	Greenfield	350	£ 1,125,000	£ 14,062,500	£ 18,189,158	£ 4,126,658	£ 1,217,300	£ 312,500	£ 2,596,858	YES
1	High	Greenfield	5	£ 625,000	£ 115,741	£ 162,473	£ 46,732	£ 17,390	£ 4,630	£ 24,713	YES
2	High	Greenfield	20	£ 625,000	£ 462,963	£ 505,677	£ 42,714	£ 69,560	£ 18,519	-£ 45,364	NO
3	High	Greenfield	50	£ 625,000	£ 1,131,222	£ 1,794,718	£ 663,496	£ 173,900	£ 45,249	£ 444,347	YES
4	High	Greenfield	80	£ 625,000	£ 1,809,955	£ 2,887,218	£ 1,077,263	£ 278,240	£ 72,398	£ 726,625	YES
5	High	Greenfield	125	£ 625,000	£ 3,004,808	£ 4,462,426	£ 1,457,618	£ 434,750	£ 120,192	£ 902,676	YES
6	High	Greenfield	200	£ 625,000	£ 4,464,286	£ 6,895,053	£ 2,430,767	£ 695,600	£ 178,571	£ 1,556,596	YES
7	High	Greenfield	350	£ 625,000	£ 7,812,500	£ 11,777,347	£ 3,964,847	£ 1,217,300	£ 312,500	£ 2,435,047	YES
1	Medium	Greenfield	5	£ 406,250	£ 75,231	£ 75,758	£ 527	£ 17,390	£ 4,630	-£ 21,493	NO
2	Medium	Greenfield	20	£ 406,250	£ 300,926	£ 187,451	-£ 113,475	£ 69,560	£ 18,519	-£ 201,553	NO
3	Medium	Greenfield	50	£ 406,250	£ 735,294	£ 1,035,073	£ 299,779	£ 173,900	£ 45,249	£ 80,630	YES
4	Medium	Greenfield	80	£ 406,250	£ 1,176,471	£ 1,649,863	£ 473,392	£ 278,240	£ 72,398	£ 122,754	YES
5	Medium	Greenfield	125	£ 406,250	£ 1,953,125	£ 2,645,521	£ 692,396	£ 434,750	£ 120,192	£ 137,454	YES
6	Medium	Greenfield	200	£ 406,250	£ 2,901,786	£ 4,101,538	£ 1,199,752	£ 695,600	£ 178,571	£ 325,581	YES
7	Medium	Greenfield	350	£ 406,250	£ 5,078,125	£ 7,264,000	£ 2,185,875	£ 1,217,300	£ 312,500	£ 656,075	YES
1	Low	Greenfield	5	£ 312,500	£ 57,870	£ 21,663	-£ 36,207	£ 17,390	£ 4,630	-£ 58,227	NO
2	Low	Greenfield	20	£ 312,500	£ 231,481	-£ 14,926	-£ 246,407	£ 69,560	£ 18,519	-£ 334,486	NO
3	Low	Greenfield	50	£ 312,500	£ 565,611	£ 570,740	£ 5,129	£ 173,900	£ 45,249	-£ 214,020	NO
4	Low	Greenfield	80	£ 312,500	£ 904,977	£ 945,394	£ 40,417	£ 278,240	£ 72,398	-£ 310,222	NO
5	Low	Greenfield	125	£ 312,500	£ 1,502,404	£ 1,535,382	£ 32,978	£ 434,750	£ 120,192	-£ 521,964	NO
6	Low	Greenfield	200	£ 312,500	£ 2,232,143	£ 2,488,328	£ 256,185	£ 695,600	£ 178,571	-£ 617,986	NO
7	Low	Greenfield	350	£ 312,500	£ 3,906,250	£ 4,446,883	£ 540,633	£ 1,217,300	£ 312,500	-£ 989,167	NO
1	Highest	PDL	5	£ 1,000,000	£ 185,185	£ 236,802	£ 51,617	£ 17,390	£ 4,630	£ 29,597	YES
2	Highest	PDL	20	£ 1,000,000	£ 740,741	£ 850,765	£ 110,024	£ 69,560	£ 18,519	£ 21,946	YES
3	Highest	PDL	50	£ 1,000,000	£ 1,809,955	£ 2,548,352	£ 738,397	£ 173,900	£ 45,249	£ 519,248	YES
4	Highest	PDL	80	£ 1,000,000	£ 2,895,928	£ 4,134,333	£ 1,238,405	£ 278,240	£ 72,398	£ 887,767	YES
5	Highest	PDL	125	£ 1,000,000	£ 4,807,692	£ 6,268,666	£ 1,460,974	£ 434,750	£ 120,192	£ 906,031	YES
6	Highest	PDL	200	£ 1,000,000	£ 7,142,857	£ 10,161,619	£ 3,018,762	£ 695,600	£ 178,571	£ 2,144,590	YES
7	Highest	PDL	350	£ 1,000,000	£ 12,500,000	£ 16,996,682	£ 4,496,682	£ 1,217,300	£ 312,500	£ 2,966,882	YES
1	High	PDL	5	£ 562,500	£ 104,167	£ 116,028	£ 11,861	£ 17,390	£ 4,630	-£ 10,158	NO
2	High	PDL	20	£ 562,500	£ 416,667	£ 402,214	-£ 14,453	£ 69,560	£ 18,519	-£ 102,531	NO
3	High	PDL	50	£ 562,500	£ 1,018,100	£ 1,483,673	£ 465,573	£ 173,900	£ 45,249	£ 246,425	YES
4	High	PDL	80	£ 562,500	£ 1,628,959	£ 2,394,870	£ 765,911	£ 278,240	£ 72,398	£ 415,273	YES
5	High	PDL	125	£ 562,500	£ 2,704,327	£ 3,721,434	£ 1,017,107	£ 434,750	£ 120,192	£ 462,165	YES
6	High	PDL	200	£ 562,500	£ 4,017,857	£ 6,180,087	£ 2,162,230	£ 695,600	£ 178,571	£ 1,288,058	YES
7	High	PDL	350	£ 562,500	£ 7,031,250	£ 10,583,396	£ 3,552,146	£ 1,217,300	£ 312,500	£ 2,022,346	YES
1	Medium	PDL	5	£ 343,750	£ 63,657	£ 31,644	-£ 32,013	£ 17,390	£ 4,630	-£ 54,033	NO
2	Medium	PDL	20	£ 343,750	£ 254,630	£ 81,562	-£ 173,068	£ 69,560	£ 18,519	-£ 261,146	NO
3	Medium	PDL	50	£ 343,750	£ 622,172	£ 737,358	£ 115,186	£ 173,900	£ 45,249	-£ 103,963	NO
4	Medium	PDL	80	£ 343,750	£ 995,475	£ 1,312,799	£ 317,324	£ 278,240	£ 72,398	-£ 33,314	NO
5	Medium	PDL	125	£ 343,750	£ 1,652,644	£ 1,934,228	£ 281,584	£ 434,750	£ 120,192	-£ 273,359	NO
6	Medium	PDL	200	£ 343,750	£ 2,455,357	£ 3,386,154	£ 930,797	£ 695,600	£ 178,571	£ 56,625	YES
7	Medium	PDL	350	£ 343,750	£ 4,296,875	£ 6,062,459	£ 1,765,584	£ 1,217,300	£ 312,500	£ 235,784	YES
1	Low	PDL	5	£ 218,750	£ 40,509	-£ 33,460	-£ 73,969	£ 17,390	£ 4,630	-£ 95,989	NO
2	Low	PDL	20	£ 218,750	£ 162,037	£ -	-£ 162,037	£ 69,560	£ 18,519	-£ 250,116	NO
3	Low	PDL	50	£ 218,750	£ 395,928	£ 280,843	-£ 115,085	£ 173,900	£ 45,249	-£ 334,233	NO
4	Low	PDL	80	£ 218,750	£ 633,484	£ 486,256	-£ 147,228	£ 278,240	£ 72,398	-£ 497,866	NO
5	Low	PDL	125	£ 218,750	£ 1,051,683	£ 841,978	-£ 209,705	£ 434,750	£ 120,192	-£ 764,647	NO
6	Low	PDL	200	£ 218,750	£ 1,562,500	£ 1,671,419	£ 108,919	£ 695,600	£ 178,571	-£ 765,252	NO
7	Low	PDL	350	£ 218,750	£ 2,734,375	£ 3,224,933	£ 490,558	£ 1,217,300	£ 312,500	-£ 1,039,242	NO

APPENDIX D11	TEST 11 - AS TEST 3 PLUS 15% AFFORDABLE HOUSING & 25% BLV UPLIFT									
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Residual Land Value	Test 2 surplus	Open Space	SUDS	Adjusted surplus	Viable?
2	Highest	Greenfield	20	£ 1,125,000	£ 849,781	£ 16,448	£ 69,560	£ 18,519	-£ 71,631	NO
3	Highest	Greenfield	50	£ 1,125,000	£ 2,581,449	£ 545,250	£ 173,900	£ 45,249	£ 326,101	YES
4	Highest	Greenfield	80	£ 1,125,000	£ 4,146,061	£ 888,142	£ 278,240	£ 72,398	£ 537,504	YES
5	Highest	Greenfield	125	£ 1,125,000	£ 6,312,502	£ 903,848	£ 434,750	£ 120,192	£ 348,906	YES
6	Highest	Greenfield	200	£ 1,125,000	£ 9,795,356	£ 1,759,642	£ 695,600	£ 178,571	£ 885,470	YES
7	Highest	Greenfield	350	£ 1,125,000	£ 16,479,448	£ 2,416,948	£ 1,217,300	£ 312,500	£ 887,148	YES
2	High	Greenfield	20	£ 625,000	£ 418,747	-£ 44,216	£ 69,560	£ 18,519	-£ 132,294	NO
3	High	Greenfield	50	£ 625,000	£ 1,550,551	£ 419,329	£ 173,900	£ 45,249	£ 200,180	YES
4	High	Greenfield	80	£ 625,000	£ 2,509,018	£ 699,063	£ 278,240	£ 72,398	£ 348,425	YES
5	High	Greenfield	125	£ 625,000	£ 3,853,284	£ 848,476	£ 434,750	£ 120,192	£ 293,534	YES
6	High	Greenfield	200	£ 625,000	£ 6,005,321	£ 1,541,035	£ 695,600	£ 178,571	£ 666,864	YES
7	High	Greenfield	350	£ 625,000	£ 10,368,282	£ 2,555,782	£ 1,217,300	£ 312,500	£ 1,025,982	YES
3	Medium	Greenfield	50	£ 406,250	£ 828,580	£ 93,286	£ 173,900	£ 45,249	-£ 125,863	NO
4	Medium	Greenfield	80	£ 406,250	£ 1,362,389	£ 185,918	£ 278,240	£ 72,398	-£ 164,720	NO
5	Medium	Greenfield	125	£ 406,250	£ 2,130,103	£ 176,978	£ 434,750	£ 120,192	-£ 377,964	NO
6	Medium	Greenfield	200	£ 406,250	£ 3,349,180	£ 447,394	£ 695,600	£ 178,571	-£ 426,777	NO
7	Medium	Greenfield	350	£ 406,250	£ 6,313,387	£ 1,235,262	£ 1,217,300	£ 312,500	-£ 294,538	NO
2	Highest	PDL	20	£ 1,000,000	£ 746,425	£ 5,684	£ 69,560	£ 18,519	-£ 82,394	NO
3	Highest	PDL	50	£ 1,000,000	£ 2,266,967	£ 457,012	£ 173,900	£ 45,249	£ 237,863	YES
4	Highest	PDL	80	£ 1,000,000	£ 3,649,381	£ 753,453	£ 278,240	£ 72,398	£ 402,815	YES
5	Highest	PDL	125	£ 1,000,000	£ 5,568,825	£ 761,133	£ 434,750	£ 120,192	£ 206,190	YES
6	Highest	PDL	200	£ 1,000,000	£ 9,085,749	£ 1,942,892	£ 695,600	£ 178,571	£ 1,068,720	YES
7	Highest	PDL	350	£ 1,000,000	£ 15,294,912	£ 2,794,912	£ 1,217,300	£ 312,500	£ 1,265,112	YES
3	High	PDL	50	£ 562,500	£ 1,252,845	£ 234,745	£ 173,900	£ 45,249	£ 15,597	YES
4	High	PDL	80	£ 562,500	£ 2,038,588	£ 409,629	£ 278,240	£ 72,398	£ 58,991	YES
5	High	PDL	125	£ 562,500	£ 3,147,102	£ 442,775	£ 434,750	£ 120,192	-£ 112,167	NO
6	High	PDL	200	£ 562,500	£ 5,295,539	£ 1,277,682	£ 695,600	£ 178,571	£ 403,510	YES
7	High	PDL	350	£ 562,500	£ 9,182,223	£ 2,150,973	£ 1,217,300	£ 312,500	£ 621,173	YES
4	Medium	PDL	80	£ 343,750	£ 910,367	-£ 85,108	£ 278,240	£ 72,398	-£ 435,746	NO
5	Medium	PDL	125	£ 343,750	£ 1,450,109	-£ 202,535	£ 434,750	£ 120,192	-£ 757,478	NO
6	Medium	PDL	200	£ 343,750	£ 2,638,971	£ 183,614	£ 695,600	£ 178,571	-£ 690,558	NO
7	Medium	PDL	350	£ 343,750	£ 4,866,406	£ 569,531	£ 1,217,300	£ 312,500	-£ 960,269	NO

APPENDIX D11	TEST 11 - AS TEST 3 PLUS 25% AFFORDABLE HOUSING & 25% BLV UPLIFT								
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Residual Land Value	Test 2 surplus	Open space	SUDS	Surplus	Viable?
2	Highest	Greenfield	20	£ 1,125,000	£ 743,038	-£ 90,295	£ 69,560	£ 18,519	-£ 178,374	NO
3	Highest	Greenfield	50	£ 1,125,000	£ 2,313,011	£ 276,812	£ 173,900	£ 45,249	£ 57,663	YES
4	Highest	Greenfield	80	£ 1,125,000	£ 3,638,362	£ 380,443	£ 278,240	£ 72,398	£ 29,805	YES
5	Highest	Greenfield	125	£ 1,125,000	£ 5,801,162	£ 392,508	£ 434,750	£ 120,192	-£ 162,434	NO
6	Highest	Greenfield	200	£ 1,125,000	£ 8,739,553	£ 703,839	£ 695,600	£ 178,571	-£ 170,333	NO
7	Highest	Greenfield	350	£ 1,125,000	£ 14,677,762	£ 615,262	£ 1,217,300	£ 312,500	-£ 914,538	NO
2	High	Greenfield	20	£ 625,000	£ 320,517	-£ 142,446	£ 69,560	£ 18,519	-£ 230,524	NO
3	High	Greenfield	50	£ 625,000	£ 1,330,624	£ 199,402	£ 173,900	£ 45,249	-£ 19,747	NO
4	High	Greenfield	80	£ 625,000	£ 2,131,660	£ 321,705	£ 278,240	£ 72,398	-£ 28,933	NO
5	High	Greenfield	125	£ 625,000	£ 3,296,085	£ 291,277	£ 434,750	£ 120,192	-£ 263,665	NO
6	High	Greenfield	200	£ 625,000	£ 5,137,315	£ 673,029	£ 695,600	£ 178,571	-£ 201,142	NO
7	High	Greenfield	350	£ 625,000	£ 8,883,986	£ 1,071,486	£ 1,217,300	£ 312,500	-£ 458,314	NO
2	Highest	PDL	20	£ 1,000,000	£ 642,295	-£ 98,446	£ 69,560	£ 18,519	-£ 186,524	NO
3	Highest	PDL	50	£ 1,000,000	£ 2,014,300	£ 204,345	£ 173,900	£ 45,249	-£ 14,804	NO
4	Highest	PDL	80	£ 1,000,000	£ 3,213,210	£ 317,282	£ 278,240	£ 72,398	-£ 33,356	NO
5	Highest	PDL	125	£ 1,000,000	£ 4,926,009	£ 118,317	£ 434,750	£ 120,192	-£ 436,626	NO
6	Highest	PDL	200	£ 1,000,000	£ 8,035,135	£ 892,278	£ 695,600	£ 178,571	£ 18,106	YES
7	Highest	PDL	350	£ 1,000,000	£ 13,501,658	£ 1,001,658	£ 1,217,300	£ 312,500	-£ 528,142	NO
5	High	PDL	125	£ 562,500	£ 2,619,771	-£ 84,556	£ 434,750	£ 120,192	-£ 639,498	NO
3	High	PDL	50	£ 562,500	£ 1,046,688	£ 28,588	£ 173,900	£ 45,249	-£ 190,560	NO
4	High	PDL	80	£ 562,500	£ 1,681,052	£ 52,093	£ 278,240	£ 72,398	-£ 298,545	NO
6	High	PDL	200	£ 562,500	£ 4,432,744	£ 414,887	£ 695,600	£ 178,571	-£ 459,285	NO
7	High	PDL	350	£ 562,500	£ 7,706,314	£ 675,064	£ 1,217,300	£ 312,500	-£ 854,736	NO

APPENDIX D12	TEST 12 - 5% AFFORDABLE HOUSING WITH AVERAGE S106 £5,000 PER DWELLING							
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Average S106	Adjusted surplus	Surplus % of TLV	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 5,000	£ 93,568	56.14%	YES
2	Highest	Greenfield	20	£ 900,000	£ 5,000	£ 190,187	28.53%	YES
3	Highest	Greenfield	50	£ 900,000	£ 5,000	£ 999,145	61.34%	YES
4	Highest	Greenfield	80	£ 900,000	£ 5,000	£ 1,599,548	61.37%	YES
5	Highest	Greenfield	125	£ 900,000	£ 5,000	£ 2,100,310	48.54%	YES
6	Highest	Greenfield	200	£ 900,000	£ 5,000	£ 3,447,836	53.63%	YES
7	Highest	Greenfield	350	£ 900,000	£ 5,000	£ 5,189,158	46.13%	YES
1	High	Greenfield	5	£ 500,000	£ 5,000	£ 44,880	48.47%	YES
2	High	Greenfield	20	£ 500,000	£ 5,000	£ 35,307	9.53%	YES
3	High	Greenfield	50	£ 500,000	£ 5,000	£ 639,741	70.69%	YES
4	High	Greenfield	80	£ 500,000	£ 5,000	£ 1,039,254	71.77%	YES
5	High	Greenfield	125	£ 500,000	£ 5,000	£ 1,433,580	59.64%	YES
6	High	Greenfield	200	£ 500,000	£ 5,000	£ 2,323,624	65.06%	YES
7	High	Greenfield	350	£ 500,000	£ 5,000	£ 3,777,347	60.44%	YES
1	Medium	Greenfield	5	£ 325,000	£ 5,000	-£ 9,427	-15.66%	NO
2	Medium	Greenfield	20	£ 325,000	£ 5,000	-£ 153,290	-63.67%	NO
3	Medium	Greenfield	50	£ 325,000	£ 5,000	£ 196,838	33.46%	YES
4	Medium	Greenfield	80	£ 325,000	£ 5,000	£ 308,687	32.80%	YES
5	Medium	Greenfield	125	£ 325,000	£ 5,000	£ 458,021	29.31%	YES
6	Medium	Greenfield	200	£ 325,000	£ 5,000	£ 780,109	33.60%	YES
7	Medium	Greenfield	350	£ 325,000	£ 5,000	£ 1,451,500	35.73%	YES
1	Low	Greenfield	5	£ 250,000	£ 5,000	-£ 49,633	-107.21%	NO
2	Low	Greenfield	20	£ 250,000	£ 5,000	-£ 300,111	-162.06%	NO
3	Low	Greenfield	50	£ 250,000	£ 5,000	-£ 131,749	-29.12%	NO
4	Low	Greenfield	80	£ 250,000	£ 5,000	-£ 178,588	-24.67%	NO
5	Low	Greenfield	125	£ 250,000	£ 5,000	-£ 291,541	-24.26%	NO
6	Low	Greenfield	200	£ 250,000	£ 5,000	-£ 297,386	-16.65%	NO
7	Low	Greenfield	350	£ 250,000	£ 5,000	-£ 428,117	-13.70%	NO
1	Highest	PDL	5	£ 800,000	£ 5,000	£ 63,654	42.97%	YES
2	Highest	PDL	20	£ 800,000	£ 5,000	£ 158,172	26.69%	YES
3	Highest	PDL	50	£ 800,000	£ 5,000	£ 850,388	58.73%	YES
4	Highest	PDL	80	£ 800,000	£ 5,000	£ 1,417,591	61.19%	YES
5	Highest	PDL	125	£ 800,000	£ 5,000	£ 1,797,512	46.74%	YES
6	Highest	PDL	200	£ 800,000	£ 5,000	£ 3,447,333	60.33%	YES
7	Highest	PDL	350	£ 800,000	£ 5,000	£ 5,246,682	52.47%	YES
1	High	PDL	5	£ 450,000	£ 5,000	£ 7,695	9.23%	YES
2	High	PDL	20	£ 450,000	£ 5,000	-£ 31,119	-9.34%	NO
3	High	PDL	50	£ 450,000	£ 5,000	£ 419,193	51.47%	YES
4	High	PDL	80	£ 450,000	£ 5,000	£ 691,703	53.08%	YES
5	High	PDL	125	£ 450,000	£ 5,000	£ 932,972	43.12%	YES
6	High	PDL	200	£ 450,000	£ 5,000	£ 1,965,801	61.16%	YES
7	High	PDL	350	£ 450,000	£ 5,000	£ 3,208,396	57.04%	YES
1	Medium	PDL	5	£ 275,000	£ 5,000	-£ 44,282	-86.95%	NO
2	Medium	PDL	20	£ 275,000	£ 5,000	-£ 222,142	-109.05%	NO
3	Medium	PDL	50	£ 275,000	£ 5,000	-£ 10,380	-2.09%	NO
4	Medium	PDL	80	£ 275,000	£ 5,000	£ 116,419	14.62%	YES
5	Medium	PDL	125	£ 275,000	£ 5,000	-£ 12,887	-0.97%	NO
6	Medium	PDL	200	£ 275,000	£ 5,000	£ 421,868	21.48%	YES
7	Medium	PDL	350	£ 275,000	£ 5,000	£ 874,959	25.45%	YES
1	Low	PDL	5	£ 175,000	£ 5,000	-£ 90,867	-280.39%	NO
2	Low	PDL	20	£ 175,000	£ 5,000	-£ 229,630	-177.14%	NO
3	Low	PDL	50	£ 175,000	£ 5,000	-£ 285,899	-90.26%	NO
4	Low	PDL	80	£ 175,000	£ 5,000	-£ 420,531	-82.98%	NO
5	Low	PDL	125	£ 175,000	£ 5,000	-£ 624,368	-74.21%	NO
6	Low	PDL	200	£ 175,000	£ 5,000	-£ 578,581	-46.29%	NO
7	Low	PDL	350	£ 175,000	£ 5,000	-£ 712,567	-32.57%	NO

APPENDIX D12	TEST 12 - 5% AFFORDABLE HOUSING WITH AVERAGE S106 £7,000 PER DWELLING							
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Average S106	Adjusted surplus	Surplus % of TLV	Viable?
1	Highest	Greenfield	5	£ 900,000	£ 7,000	£ 83,568	50.14%	YES
2	Highest	Greenfield	20	£ 900,000	£ 7,000	£ 150,187	22.53%	YES
3	Highest	Greenfield	50	£ 900,000	£ 7,000	£ 899,145	55.20%	YES
4	Highest	Greenfield	80	£ 900,000	£ 7,000	£ 1,439,548	55.23%	YES
5	Highest	Greenfield	125	£ 900,000	£ 7,000	£ 1,850,310	42.76%	YES
6	Highest	Greenfield	200	£ 900,000	£ 7,000	£ 3,047,836	47.41%	YES
7	Highest	Greenfield	350	£ 900,000	£ 7,000	£ 4,489,158	39.90%	YES
1	High	Greenfield	5	£ 500,000	£ 7,000	£ 34,880	37.67%	YES
2	High	Greenfield	20	£ 500,000	£ 7,000	-£ 4,693	-1.27%	NO
3	High	Greenfield	50	£ 500,000	£ 7,000	£ 539,741	59.64%	YES
4	High	Greenfield	80	£ 500,000	£ 7,000	£ 879,254	60.72%	YES
5	High	Greenfield	125	£ 500,000	£ 7,000	£ 1,183,580	49.24%	YES
6	High	Greenfield	200	£ 500,000	£ 7,000	£ 1,923,624	53.86%	YES
7	High	Greenfield	350	£ 500,000	£ 7,000	£ 3,077,347	49.24%	YES
1	Medium	Greenfield	5	£ 325,000	£ 7,000	-£ 19,427	-32.28%	NO
2	Medium	Greenfield	20	£ 325,000	£ 7,000	-£ 193,290	-80.29%	NO
3	Medium	Greenfield	50	£ 325,000	£ 7,000	£ 96,838	16.46%	YES
4	Medium	Greenfield	80	£ 325,000	£ 7,000	£ 148,687	15.80%	YES
5	Medium	Greenfield	125	£ 325,000	£ 7,000	£ 208,021	13.31%	YES
6	Medium	Greenfield	200	£ 325,000	£ 7,000	£ 380,109	16.37%	YES
7	Medium	Greenfield	350	£ 325,000	£ 7,000	£ 751,500	18.50%	YES
1	Low	Greenfield	5	£ 250,000	£ 7,000	-£ 59,633	-128.81%	NO
2	Low	Greenfield	20	£ 250,000	£ 7,000	-£ 340,111	-183.66%	NO
3	Low	Greenfield	50	£ 250,000	£ 7,000	-£ 231,749	-51.22%	NO
4	Low	Greenfield	80	£ 250,000	£ 7,000	-£ 338,588	-46.77%	NO
5	Low	Greenfield	125	£ 250,000	£ 7,000	-£ 541,541	-45.06%	NO
6	Low	Greenfield	200	£ 250,000	£ 7,000	-£ 697,386	-39.05%	NO
7	Low	Greenfield	350	£ 250,000	£ 7,000	-£ 1,128,117	-36.10%	NO
1	Highest	PDL	5	£ 800,000	£ 7,000	£ 53,654	36.22%	YES
2	Highest	PDL	20	£ 800,000	£ 7,000	£ 118,172	19.94%	YES
3	Highest	PDL	50	£ 800,000	£ 7,000	£ 750,388	51.82%	YES
4	Highest	PDL	80	£ 800,000	£ 7,000	£ 1,257,591	54.28%	YES
5	Highest	PDL	125	£ 800,000	£ 7,000	£ 1,547,512	40.24%	YES
6	Highest	PDL	200	£ 800,000	£ 7,000	£ 3,047,333	53.33%	YES
7	Highest	PDL	350	£ 800,000	£ 7,000	£ 4,546,682	45.47%	YES
1	High	PDL	5	£ 450,000	£ 7,000	-£ 2,305	-2.77%	NO
2	High	PDL	20	£ 450,000	£ 7,000	-£ 71,119	-21.34%	NO
3	High	PDL	50	£ 450,000	£ 7,000	£ 319,193	39.19%	YES
4	High	PDL	80	£ 450,000	£ 7,000	£ 531,703	40.80%	YES
5	High	PDL	125	£ 450,000	£ 7,000	£ 682,972	31.57%	YES
6	High	PDL	200	£ 450,000	£ 7,000	£ 1,565,801	48.71%	YES
7	High	PDL	350	£ 450,000	£ 7,000	£ 2,508,396	44.59%	YES
1	Medium	PDL	5	£ 275,000	£ 7,000	-£ 54,282	-106.59%	NO
2	Medium	PDL	20	£ 275,000	£ 7,000	-£ 262,142	-128.69%	NO
3	Medium	PDL	50	£ 275,000	£ 7,000	-£ 110,380	-22.18%	NO
4	Medium	PDL	80	£ 275,000	£ 7,000	-£ 43,581	-5.47%	NO
5	Medium	PDL	125	£ 275,000	£ 7,000	-£ 262,887	-19.88%	NO
6	Medium	PDL	200	£ 275,000	£ 7,000	£ 21,868	1.11%	YES
7	Medium	PDL	350	£ 275,000	£ 7,000	£ 174,959	5.09%	YES
1	Low	PDL	5	£ 175,000	£ 7,000	-£ 100,867	-311.25%	NO
2	Low	PDL	20	£ 175,000	£ 7,000	-£ 269,630	-208.00%	NO
3	Low	PDL	50	£ 175,000	£ 7,000	-£ 385,899	-121.83%	NO
4	Low	PDL	80	£ 175,000	£ 7,000	-£ 580,531	-114.55%	NO
5	Low	PDL	125	£ 175,000	£ 7,000	-£ 874,368	-103.92%	NO
6	Low	PDL	200	£ 175,000	£ 7,000	-£ 978,581	-78.29%	NO
7	Low	PDL	350	£ 175,000	£ 7,000	-£ 1,412,567	-64.57%	NO

APPENDIX D12		TEST 12 - 15% AFFORDABLE HOUSING WITH AVERAGE S106 £5,000 PER DWELLING							
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Average S106	Adjusted Surplus	Surplus % of TLV	Viable?	
2	Highest	Greenfield	20	£ 900,000	£ 5,000	£ 83,114.33	12.47%	YES	
3	Highest	Greenfield	50	£ 900,000	£ 5,000	£ 702,489.72	43.13%	YES	
4	Highest	Greenfield	80	£ 900,000	£ 5,000	£ 1,139,726.16	43.73%	YES	
5	Highest	Greenfield	125	£ 900,000	£ 5,000	£ 1,360,578.92	31.44%	YES	
6	Highest	Greenfield	200	£ 900,000	£ 5,000	£ 2,366,784.57	36.82%	YES	
7	Highest	Greenfield	350	£ 900,000	£ 5,000	£ 3,479,448.00	30.93%	YES	
2	High	Greenfield	20	£ 500,000	£ 5,000	-£ 51,623.37	-13.94%	NO	
3	High	Greenfield	50	£ 500,000	£ 5,000	£ 395,573.62	43.71%	YES	
4	High	Greenfield	80	£ 500,000	£ 5,000	£ 661,054.20	45.65%	YES	
5	High	Greenfield	125	£ 500,000	£ 5,000	£ 824,437.85	34.30%	YES	
6	High	Greenfield	200	£ 500,000	£ 5,000	£ 1,433,892.43	40.15%	YES	
7	High	Greenfield	350	£ 500,000	£ 5,000	£ 2,368,282.00	37.89%	YES	
3	Medium	Greenfield	50	£ 325,000	£ 5,000	-£ 9,655.29	-1.64%	NO	
4	Medium	Greenfield	80	£ 325,000	£ 5,000	£ 21,212.53	2.25%	YES	
5	Medium	Greenfield	125	£ 325,000	£ 5,000	-£ 57,397.00	-3.67%	NO	
6	Medium	Greenfield	200	£ 325,000	£ 5,000	£ 27,751.43	1.20%	YES	
7	Medium	Greenfield	350	£ 325,000	£ 5,000	£ 500,887.00	12.33%	YES	
2	Highest	PDL	20	£ 800,000	£ 5,000	£ 53,832.41	9.08%	YES	
3	Highest	PDL	50	£ 800,000	£ 5,000	£ 569,003.20	39.30%	YES	
4	Highest	PDL	80	£ 800,000	£ 5,000	£ 932,638.92	40.26%	YES	
5	Highest	PDL	125	£ 800,000	£ 5,000	£ 1,097,671.15	28.54%	YES	
6	Highest	PDL	200	£ 800,000	£ 5,000	£ 2,371,463.29	41.50%	YES	
7	Highest	PDL	350	£ 800,000	£ 5,000	£ 3,544,912.00	35.45%	YES	
3	High	PDL	50	£ 450,000	£ 5,000	£ 188,365.36	23.13%	YES	
4	High	PDL	80	£ 450,000	£ 5,000	£ 335,420.58	25.74%	YES	
5	High	PDL	125	£ 450,000	£ 5,000	£ 358,640.46	16.58%	YES	
6	High	PDL	200	£ 450,000	£ 5,000	£ 1,081,253.29	33.64%	YES	
7	High	PDL	350	£ 450,000	£ 5,000	£ 1,807,223.00	32.13%	YES	
4	Medium	PDL	80	£ 275,000	£ 5,000	-£ 286,013.09	-35.91%	NO	
5	Medium	PDL	125	£ 275,000	£ 5,000	-£ 497,006.38	-37.59%	NO	
6	Medium	PDL	200	£ 275,000	£ 5,000	-£ 325,314.71	-16.56%	NO	
7	Medium	PDL	350	£ 275,000	£ 5,000	-£ 321,094.00	-9.34%	NO	

APPENDIX D12		TEST 12 - 15% AFFORDABLE HOUSING WITH AVERAGE S106 £7,000 PER DWELLING							
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Average S106	Adjusted Surplus	Surplus % of TLV	Viable?	
2	Highest	Greenfield	20	£ 900,000	£ 7,000	£ 43,114.33	6.47%	YES	
3	Highest	Greenfield	50	£ 900,000	£ 7,000	£ 602,489.72	36.99%	YES	
4	Highest	Greenfield	80	£ 900,000	£ 7,000	£ 979,726.16	37.59%	YES	
5	Highest	Greenfield	125	£ 900,000	£ 7,000	£ 1,110,578.92	25.67%	YES	
6	Highest	Greenfield	200	£ 900,000	£ 7,000	£ 1,966,784.57	30.59%	YES	
7	Highest	Greenfield	350	£ 900,000	£ 7,000	£ 2,779,448.00	24.71%	YES	
2	High	Greenfield	20	£ 500,000	£ 7,000	-£ 91,623.37	-24.74%	NO	
3	High	Greenfield	50	£ 500,000	£ 7,000	£ 295,573.62	32.66%	YES	
4	High	Greenfield	80	£ 500,000	£ 7,000	£ 501,054.20	34.60%	YES	
5	High	Greenfield	125	£ 500,000	£ 7,000	£ 574,437.85	23.90%	YES	
6	High	Greenfield	200	£ 500,000	£ 7,000	£ 1,033,892.43	28.95%	YES	
7	High	Greenfield	350	£ 500,000	£ 7,000	£ 1,668,282.00	26.69%	YES	
3	Medium	Greenfield	50	£ 325,000	£ 7,000	-£ 109,655.29	-18.64%	NO	
4	Medium	Greenfield	80	£ 325,000	£ 7,000	-£ 138,787.47	-14.75%	NO	
5	Medium	Greenfield	125	£ 325,000	£ 7,000	-£ 307,397.00	-19.67%	NO	
6	Medium	Greenfield	200	£ 325,000	£ 7,000	-£ 372,248.57	-16.04%	NO	
7	Medium	Greenfield	350	£ 325,000	£ 7,000	-£ 199,113.00	-4.90%	NO	
2	Highest	PDL	20	£ 800,000	£ 7,000	£ 13,832.41	2.33%	YES	
3	Highest	PDL	50	£ 800,000	£ 7,000	£ 469,003.20	32.39%	YES	
4	Highest	PDL	80	£ 800,000	£ 7,000	£ 772,638.92	33.35%	YES	
5	Highest	PDL	125	£ 800,000	£ 7,000	£ 847,671.15	22.04%	YES	
6	Highest	PDL	200	£ 800,000	£ 7,000	£ 1,971,463.29	34.50%	YES	
7	Highest	PDL	350	£ 800,000	£ 7,000	£ 2,844,912.00	28.45%	YES	
3	High	PDL	50	£ 450,000	£ 7,000	£ 88,365.36	10.85%	YES	
4	High	PDL	80	£ 450,000	£ 7,000	£ 175,420.58	13.46%	YES	
5	High	PDL	125	£ 450,000	£ 7,000	£ 108,640.46	5.02%	YES	
6	High	PDL	200	£ 450,000	£ 7,000	£ 681,253.29	21.19%	YES	
7	High	PDL	350	£ 450,000	£ 7,000	£ 1,107,223.00	19.68%	YES	
4	Medium	PDL	80	£ 275,000	£ 7,000	-£ 446,013.09	-56.01%	NO	
5	Medium	PDL	125	£ 275,000	£ 7,000	-£ 747,006.38	-56.50%	NO	
6	Medium	PDL	200	£ 275,000	£ 7,000	-£ 725,314.71	-36.93%	NO	
7	Medium	PDL	350	£ 275,000	£ 7,000	-£ 1,021,094.00	-29.70%	NO	

APPENDIX D12		TEST 12 - 25% AFFORDABLE HOUSING WITH AVERAGE S106 £5,000 PER DWELLING						
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Average S106	Adjusted surplus	Surplus % of TLV	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 5,000	-£ 23,628.67	-3.54%	NO
3	Highest	Greenfield	50	£ 900,000	£ 5,000	£ 434,051.72	26.65%	YES
4	Highest	Greenfield	80	£ 900,000	£ 5,000	£ 632,027.16	24.25%	YES
5	Highest	Greenfield	125	£ 900,000	£ 5,000	£ 849,238.92	19.63%	YES
6	Highest	Greenfield	200	£ 900,000	£ 5,000	£ 1,310,981.57	20.39%	YES
7	Highest	Greenfield	350	£ 900,000	£ 5,000	£ 1,677,762.00	14.91%	YES
2	High	Greenfield	20	£ 500,000	£ 5,000	-£ 149,853.37	-40.46%	NO
3	High	Greenfield	50	£ 500,000	£ 5,000	£ 175,646.62	19.41%	YES
4	High	Greenfield	80	£ 500,000	£ 5,000	£ 283,696.20	19.59%	YES
5	High	Greenfield	125	£ 500,000	£ 5,000	£ 267,238.85	11.12%	YES
6	High	Greenfield	200	£ 500,000	£ 5,000	£ 565,886.43	15.84%	YES
7	High	Greenfield	350	£ 500,000	£ 5,000	£ 883,986.00	14.14%	YES
2	Medium	Greenfield	20	£ 350,000	£ 5,000	-£ 100,000.00	-38.57%	NO
5	Medium	Greenfield	125	£ 350,000	£ 5,000	-£ 648,816.31	-38.56%	NO
2	Low	Greenfield	20	£ 250,000	£ 5,000	-£ 100,000.00	-54.00%	NO
3	Low	Greenfield	50	£ 250,000	£ 5,000	-£ 250,000.00	-55.25%	NO
4	Low	Greenfield	80	£ 250,000	£ 5,000	-£ 400,000.00	-55.25%	NO
5	Low	Greenfield	125	£ 250,000	£ 5,000	-£ 625,000.00	-52.00%	NO
6	Low	Greenfield	200	£ 250,000	£ 5,000	-£ 1,000,000.00	-56.00%	NO
7	Low	Greenfield	350	£ 250,000	£ 5,000	-£ 1,750,000.00	-56.00%	NO
2	Highest	PDL	20	£ 800,000	£ 5,000	-£ 50,297.59	-8.49%	NO
3	Highest	PDL	50	£ 800,000	£ 5,000	£ 316,336.20	21.85%	YES
4	Highest	PDL	80	£ 800,000	£ 5,000	£ 496,467.92	21.43%	YES
5	Highest	PDL	125	£ 800,000	£ 5,000	£ 454,855.15	11.83%	YES
6	Highest	PDL	200	£ 800,000	£ 5,000	£ 1,320,849.29	23.11%	YES
7	Highest	PDL	350	£ 800,000	£ 5,000	£ 1,751,658.00	17.52%	YES
3	High	PDL	50	£ 450,000	£ 5,000	-£ 17,791.64	-2.18%	NO
4	High	PDL	80	£ 450,000	£ 5,000	-£ 22,115.42	-1.70%	NO
5	High	PDL	125	£ 450,000	£ 5,000	-£ 168,690.54	-7.80%	NO
6	High	PDL	200	£ 450,000	£ 5,000	£ 218,458.29	6.80%	YES
7	High	PDL	350	£ 450,000	£ 5,000	£ 331,314.00	5.89%	YES
7	Medium	PDL	350	£ 300,000	£ 5,000	-£ 1,904,154.00	-50.78%	NO
2	Low	PDL	20	£ 175,000	£ 5,000	-£ 317,107.63	-244.63%	NO
3	Low	PDL	50	£ 175,000	£ 5,000	-£ 250,000.00	-78.93%	NO
4	Low	PDL	80	£ 175,000	£ 5,000	-£ 400,000.00	-78.93%	NO
5	Low	PDL	125	£ 175,000	£ 5,000	-£ 625,000.00	-74.29%	NO
6	Low	PDL	200	£ 175,000	£ 5,000	-£ 1,000,000.00	-80.00%	NO
7	Low	PDL	350	£ 175,000	£ 5,000	-£ 1,750,000.00	-80.00%	NO

APPENDIX D12		TEST 12 - 25% AFFORDABLE HOUSING WITH AVERAGE S106 £7,000 PER DWELLING						
Site Type	Value Area	Land	Total Dwellings	TLV (£ per gross Ha)	Average S106	Adjusted surplus	Surplus % of TLV	Viable?
2	Highest	Greenfield	20	£ 900,000	£ 7,000	-£ 63,628.67	-9.54%	NO
3	Highest	Greenfield	50	£ 900,000	£ 7,000	£ 334,051.72	20.51%	YES
4	Highest	Greenfield	80	£ 900,000	£ 7,000	£ 472,027.16	18.11%	YES
5	Highest	Greenfield	125	£ 900,000	£ 7,000	£ 599,238.92	13.85%	YES
6	Highest	Greenfield	200	£ 900,000	£ 7,000	£ 910,981.57	14.17%	YES
7	Highest	Greenfield	350	£ 900,000	£ 7,000	£ 977,762.00	8.69%	YES
2	High	Greenfield	20	£ 500,000	£ 7,000	-£ 189,853.37	-51.26%	NO
3	High	Greenfield	50	£ 500,000	£ 7,000	£ 75,646.62	8.36%	YES
4	High	Greenfield	80	£ 500,000	£ 7,000	£ 123,696.20	8.54%	YES
5	High	Greenfield	125	£ 500,000	£ 7,000	£ 17,238.85	0.72%	YES
6	High	Greenfield	200	£ 500,000	£ 7,000	£ 165,886.43	4.64%	YES
7	High	Greenfield	350	£ 500,000	£ 7,000	£ 183,986.00	2.94%	YES
2	Medium	Greenfield	20	£ 350,000	£ 7,000	-£ 140,000.00	-54.00%	NO
5	Medium	Greenfield	125	£ 350,000	£ 7,000	-£ 898,816.31	-53.42%	NO
2	Low	Greenfield	20	£ 250,000	£ 7,000	-£ 140,000.00	-75.60%	NO
3	Low	Greenfield	50	£ 250,000	£ 7,000	-£ 350,000.00	-77.35%	NO
4	Low	Greenfield	80	£ 250,000	£ 7,000	-£ 560,000.00	-77.35%	NO
5	Low	Greenfield	125	£ 250,000	£ 7,000	-£ 875,000.00	-72.80%	NO
6	Low	Greenfield	200	£ 250,000	£ 7,000	-£ 1,400,000.00	-78.40%	NO
7	Low	Greenfield	350	£ 250,000	£ 7,000	-£ 2,450,000.00	-78.40%	NO
2	Highest	PDL	20	£ 800,000	£ 7,000	-£ 90,297.59	-15.24%	NO
3	Highest	PDL	50	£ 800,000	£ 7,000	£ 216,336.20	14.94%	YES
4	Highest	PDL	80	£ 800,000	£ 7,000	£ 336,467.92	14.52%	YES
5	Highest	PDL	125	£ 800,000	£ 7,000	£ 204,855.15	5.33%	YES
6	Highest	PDL	200	£ 800,000	£ 7,000	£ 920,849.29	16.11%	YES
7	Highest	PDL	350	£ 800,000	£ 7,000	£ 1,051,658.00	10.52%	YES
3	High	PDL	50	£ 450,000	£ 7,000	-£ 117,791.64	-14.46%	NO
4	High	PDL	80	£ 450,000	£ 7,000	-£ 182,115.42	-13.97%	NO
5	High	PDL	125	£ 450,000	£ 7,000	-£ 418,690.54	-19.35%	NO
6	High	PDL	200	£ 450,000	£ 7,000	-£ 181,541.71	-5.65%	NO
7	High	PDL	350	£ 450,000	£ 7,000	-£ 368,686.00	-6.55%	NO
7	Medium	PDL	350	£ 300,000	£ 7,000	-£ 2,604,154.00	-69.44%	NO
2	Low	PDL	20	£ 175,000	£ 7,000	-£ 357,107.63	-275.48%	NO
3	Low	PDL	50	£ 175,000	£ 7,000	-£ 350,000.00	-110.50%	NO
4	Low	PDL	80	£ 175,000	£ 7,000	-£ 560,000.00	-110.50%	NO
5	Low	PDL	125	£ 175,000	£ 7,000	-£ 875,000.00	-104.00%	NO
6	Low	PDL	200	£ 175,000	£ 7,000	-£ 1,400,000.00	-112.00%	NO
7	Low	PDL	350	£ 175,000	£ 7,000	-£ 2,450,000.00	-112.00%	NO

APPENDIX D13	TEST 13 - 5% AFFORDABLE HOUSING WITH 5% REVENUE INCREASE									
Site Type	Value Area	Land	Normal £ psm	OPH £ psm	Affordable Rent	Inter	Residual Land Value	Average S106	Adjusted RLV	Adjusted surplus	Surplus % of TLV	Viable?
2	Medium	Greenfield	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 313,213	£ 5,000	£ 213,213	-£ 27,528	-11.43%	NO
3	Medium	Greenfield	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 1,332,849	£ 5,000	£ 1,082,849	£ 494,614	84.08%	YES
4	Medium	Greenfield	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 2,155,514	£ 5,000	£ 1,755,514	£ 814,338	86.52%	YES
5	Medium	Greenfield	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 3,357,193	£ 5,000	£ 2,732,193	£ 1,169,693	74.86%	YES
6	Medium	Greenfield	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 5,196,660	£ 5,000	£ 4,196,660	£ 1,875,231	80.78%	YES
7	Medium	Greenfield	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 9,037,290	£ 5,000	£ 7,287,290	£ 3,224,790	79.38%	YES
2	Low	Greenfield	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 105,790	£ 5,000	£ 5,790	-£ 179,395	-96.87%	NO
3	Low	Greenfield	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 846,493	£ 5,000	£ 596,493	£ 144,004	31.82%	YES
4	Low	Greenfield	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 1,382,839	£ 5,000	£ 982,839	£ 258,857	35.75%	YES
5	Low	Greenfield	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 2,194,493	£ 5,000	£ 1,569,493	£ 367,570	30.58%	YES
6	Low	Greenfield	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 3,407,531	£ 5,000	£ 2,407,531	£ 621,817	34.82%	YES
7	Low	Greenfield	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 6,131,041	£ 5,000	£ 4,381,041	£ 1,256,041	40.19%	YES
2	Medium	PDL	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 209,737	£ 5,000	£ 109,737	-£ 93,967	-46.13%	NO
3	Medium	PDL	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 1,029,793	£ 5,000	£ 779,793	£ 282,055	56.67%	YES
4	Medium	PDL	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 1,765,676	£ 5,000	£ 1,365,676	£ 569,296	71.49%	YES
5	Medium	PDL	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 2,634,316	£ 5,000	£ 2,009,316	£ 687,201	51.98%	YES
6	Medium	PDL	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 4,481,541	£ 5,000	£ 3,481,541	£ 1,517,255	77.24%	YES
7	Medium	PDL	£ 1,995	£ 2,258	£ 998	£ 1,347	£ 7,841,112	£ 5,000	£ 6,091,112	£ 2,653,612	77.20%	YES
2	Low	PDL	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 14,923	£ 5,000	-£ 85,077	-£ 214,707	-165.63%	NO
3	Low	PDL	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 551,836	£ 5,000	£ 301,836	-£ 14,906	-4.71%	NO
4	Low	PDL	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 916,225	£ 5,000	£ 516,225	£ 9,438	1.86%	YES
5	Low	PDL	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 1,490,520	£ 5,000	£ 865,520	£ 24,174	2.87%	YES
6	Low	PDL	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 2,691,820	£ 5,000	£ 1,691,820	£ 441,820	35.35%	YES
7	Low	PDL	£ 1,838	£ 2,100	£ 919	£ 1,240	£ 4,921,322	£ 5,000	£ 3,171,322	£ 983,822	44.97%	YES

APPENDIX D13	TEST 13 - 5% AFFORDABLE HOUSING WITH 5% REVENUE INCREASE											
Site Type	Value Area	Land	2 storey	Affordable Rent 75%	Inter 25%	Blended Profit	Residual Land Value	Average S106	Adjusted RLV	Adjusted surplus	Surplus % of TLV	Viable?
2	Medium	Greenfield	15	2	1	16.15%	£ 256,345	£ 5,000	£ 156,345	-£ 84,396	-35.06%	NO
3	Medium	Greenfield	37	6	2	17.49%	£ 1,112,932	£ 5,000	£ 862,932	£ 274,697	46.70%	YES
4	Medium	Greenfield	60	9	3	17.56%	£ 1,813,872	£ 5,000	£ 1,413,872	£ 472,696	50.22%	YES
5	Medium	Greenfield	93	14	5	17.54%	£ 2,808,151	£ 5,000	£ 2,183,151	£ 620,651	39.72%	YES
6	Medium	Greenfield	150	23	7	18.95%	£ 4,395,223	£ 5,000	£ 3,395,223	£ 1,073,794	46.26%	YES
7	Medium	Greenfield	263	39	13	18.96%	£ 7,762,391	£ 5,000	£ 6,012,391	£ 1,949,891	48.00%	YES
7	Low	Greenfield	263	39	13	18.96%	£ 4,975,441	£ 5,000	£ 3,225,441	£ 100,441	3.21%	YES
2	Medium	PDL	15	2	1	16.61%	£ 155,377	£ 5,000	£ 55,377	-£ 148,327	-72.81%	NO
3	Medium	PDL	37	6	2	18.87%	£ 822,367	£ 5,000	£ 572,367	£ 74,629	14.99%	YES
4	Medium	PDL	60	9	3	18.95%	£ 1,566,813	£ 5,000	£ 1,166,813	£ 370,433	46.51%	YES
5	Medium	PDL	93	14	5	18.93%	£ 2,116,329	£ 5,000	£ 1,491,329	£ 169,214	12.80%	YES
6	Medium	PDL	150	23	7	18.95%	£ 3,685,265	£ 5,000	£ 2,685,265	£ 720,979	36.70%	YES
7	Medium	PDL	263	39	13	18.96%	£ 6,573,390	£ 5,000	£ 4,823,390	£ 1,385,890	40.32%	YES

Appendix E: Viability Testing of Real Sites

Independent Viability Experts

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PROPERTY ADDRESSES: **Potential strategic sites located across County Durham**
INSTRUCTING BODY: **Durham County Council**

1. Instruction

1.1. We have been instructed to undertake viability testing of 2 potential strategic sites located across County Durham, as summarised below:

Site location	Land type	Estimated dwellings	Net developable area (Ha)	Affordable housing (%)
Low Copelaw	Mix	700	20.00	10%
High West Rd, Crook	Greenfield	350	10.00	15%

1.2. For each site, the Council requires confirmation of:

(i) Whether the scheme is deemed to be viable

(ii) If shown to be viable, how much surplus is generated (which in the case of High West Road could potentially be used as a contribution towards the proposed Western Relief Road).

1.3. We have agreed to undertake a 'desk top' assessment only, therefore each location has not been inspected. Furthermore, the assessments are to be undertaken within the context of the emerging Local Plan viability testing and the assumptions made within this process.

1.4. With regard to likely S106 contributions we have relied on information provided to us by the Council.

1.5. In accordance with the relevant professional guidance and national planning policy our appraisals assume a hypothetical landowner and a hypothetical developer. The intention of a viability assessment is therefore to identify the approach a 'typical' or 'average' developer / landowner would take to delivering the site for development. A viability assessment does not therefore seek to reflect the specific circumstances of any particular body (whether landowner or developer).

1.6. In undertaking our appraisals, we have utilised ARGUS Developer. This is an industry approved cash-flow model, designed specifically for residual appraisals.

1.7. This report reflects the independent views of CP Viability, based on the research undertaken, the evidence identified and the experience of the analysing surveyor.

2. Viability assumptions

Site areas

2.1. We have adopted the net developable areas outlined above in 1.1.

2.2. With regards to gross to net ratios, for Low Copelaw have assumed a gross to net ratio of 55% (which is in line with the emerging Local Plan viability testing). For Crook (which provides 350 dwellings) we have adjusted this ratio to 70%.

Dwelling sizes and mix

2.3. In line with the Local Plan viability testing, we have assumed an average 2 storey dwelling size of 95 sq m for the market value dwellings. For older person housing and affordable housing we have assumed an average size of 80 sq m.

2.4. For each site we have assumed 10% of the dwellings would be provided as older person housing, which for the purposes of the testing (and in line with the Local Plan testing) has been assumed as bungalows.

2.5. We have adopted the affordable housing provisions outlined above in 1.1. For each site we have assumed a split of 75/25 between affordable rented and intermediate.

2.6. Overall, the densities for each equate to circa 3,200 sq m per net Ha (based on roughly 35 dwellings per net Ha).

Revenue

2.7. For Low Copelaw, we have applied an average market value of £1,800 per sq m for typical market value dwellings (increased to £2,050 per sq m for older person housing bungalows, an uplift of around 13%). We have specifically researched evidence within postcode area 'DL5' and identified various new build dwellings (including sales achieved through Keepmoat Homes in 2015 and 2016). In the testing, we have assumed an average dwelling size of around 90 sq m. For this size dwelling we have identified sales achieved broadly between £1,650 to £1,775 per sq m (achieved mainly in 2015 and 2016). We have subsequently made adjustments since this time to reflect house price inflation and consider £1,800 per sq m to be reasonable in today's market.

2.8. For Crook, we have applied an average market value of £1,900 per sq m for typical market value dwellings (increased to £2,150 per sq m for older person housing bungalows, an uplift of around 13%). We have specifically researched evidence within postcode area 'DL15' and identified various new build dwellings (including sales achieved through Charles Church and Persimmon mainly in 2015 and 2016). In the testing, we have assumed an average dwelling size of around 90 sq m. For this size dwelling we have identified sales achieved from as low as £1,650 per sq m but as high as circa £2,100 per sq m (achieved mainly in 2015 and 2016).. We have again subsequently made adjustments since this time to reflect house price inflation. We have also taken into account the orientation of the site, which is semi-rural (being at the edge of the village). Having considered all these factors we consider an average rate of £1,900 per sq m to be reasonable for the purposes of the viability testing.

2.9. For the Affordable Rented units the adopted transfer values equate to 50% of the market value. For the intermediate the discount is equivalent to 67.5% of the market value. This is based on our experience of undertaking viability assessments across the wider region.

Construction costs

2.10. In accordance with the Local Plan viability testing, we have adopted a basic average construction cost equivalent to £938 per sq m for the market value and affordable dwellings. For the older person housing this is increased to £1,058 per sq m.

2.11. External costs have been assumed at 15% of the basic construction cost, with a further 3% allowed for contingency.

2.12. As for abnormal costs, we have allowed £100,000 per net developable Ha for Low Copelaw. For Crook, a smaller site with less infrastructure requirement, this is reduced to £75,000 per net Ha.

2.13. The Council has advised that there will be various costs associated with the North Powergrid. The allowances range from circa £1,500 to £2,200 per dwelling.

S106 contributions

2.14. For each site, the Council has provided us with costings related to ecology contributions, as well as primary and secondary education. We have applied these to our appraisals.

2.15. Regarding open space, it is presumed this would be discharged by an onsite provision (i.e. the policy requirement would be met by on-site undevelopable land). The Council has been unable to confirm any maintenance charges for the open space land, therefore please note that this has, at this stage, been excluded from the testing.

2.16. The Council has also indicated that there is likely to be some landscape mitigation costs, although given the scale of the projects these costs are likely to be minimal and unlikely to impact on viability (mostly sub £50,000). For our testing we have excluded these costs as we do not consider them to have a material impact on viability (and would simply be reflected through an adjustment to the site values).

Other appraisal assumptions

2.17. Professional fees are assumed at 5% of build costs.

2.18. Marketing is assumed at 3% of revenue, plus £600 per dwelling for the market value units and £300 per unit for the affordable.

2.19. Debit interest has been assumed at 5.5%, with a credit rate of 3%.

2.20. Sales rates for Low Copelaw equates to 5 per calendar month. For Crook, a smaller site therefore likely to have fewer outlets, we have adjusted this to 4. The construction rates adopted are at a corresponding rate to the sales.

2.21. Developer profit has been assumed at 20% of revenue for the market value dwellings, reduced to 6% for the affordable units. This is in line with the Local Plan viability testing the draft Planning Practice Guidance viability changes (currently going through a consultation process).

Benchmark Land Value ("BLV")

2.22. We have had regard to the BLV's adopted within the Local Plan viability testing. However, it is stressed that the figures arrived at were based mainly on smaller sites, which tends to command higher rates per net ha (for reasons of quantum). Our analysis has therefore focused more on the BLV's applied to the strategic site testing, which usually attract lower rates on a per net Ha basis.

2.23. As stated in the recent "Draft Planning Practice Guidance for Viability" (March 2018), BLV's should reflect a variety of scheme specific factors, including level of planning obligations, abnormal development costs, site-specific infrastructure costs and professional site fees. This, therefore, suggests that the BLV should be adjusted to reflect the specific circumstances of each site.

2.24. When assessing the BLV various factors need to be considered, including:

- Total size. Larger schemes typically attract lower rates per net Ha.

- Abnormal costs. Higher abnormal costs will put a greater downward pressure on the BLV (i.e. in accordance with the draft PPG changes sites with higher associated abnormal costs should have a lower BLV).

- The ecology, education and National Powergrid contributions. Again, the inflated costs put a greater pressure on the adopted BLV.

2.25. We have considered factors such as those outlined above. For the smallest site, High West Rd Crook, we have arrived at a BLV of £325,000 per net ha. For Low Copelaw we have adopted £175,000 per net Ha.

Sensitivity testing

2.26. In addition to our base appraisals, we have adopted a sensitivity test where the revenue for each scheme is assumed to be increased by 5%.

3. Appraisal results and conclusions

3.1. The ARGUS summary report for each appraisal is attached.

3.2. Please see below the results for each of the sites:

Site Type	Total Dwellings	BLV (£ per gross Ha)	Base appraisal surplus	Viable?	Sensitivity Test Surplus	Viable?
Low Copelaw	700	£ 175,000	-£ 7,819,034	NO	-£ 4,236,429	NO
High West Rd, Crook	350	£ 325,000	-£ 1,535,193	NO	£ 178,447	YES

3.3. The results from the base appraisals shows that neither site is viable.

3.4. Under the sensitivity test, where sales values are inflated by 5%, only Crook is shown to be viable, although this shows a modest surplus above the BLV.

3.5. In conclusion:

- High West Rd, Crook is only viable and produces a modest surplus if sales value are increased by 5%. This is not deemed sufficient to justify a contribution to the Western Relief Rd.

- Low Copelaw is shown to be unviable, even if sales values are increased by 5%.

Yours sincerely

David Newham MRICS
Director
CP Viability Ltd

Low Copelaw, Newton Aycliffe
700 dwellings
20 net Ha

Development Appraisal
CP Viability Ltd
03 April 2018

APPRAISAL SUMMARY — CP VIABILITY LTD

Low Copelaw, Newton Aycliffe
700 dwellings
20 net Ha

Summary Appraisal for Merged Phases 1 2

Currency in £

REVENUE

Sales Valuation	**Units**	**m²**	**Rate m²**	**Unit Price**	**Gross Sales**
Market value	280	26,600.00	1,800.00	171,000	47,880,000
OPH	35	2,800.00	2,050.00	164,000	5,740,000
Affordable Rent	25	2,000.00	900.00	72,000	1,800,000
Inter	11	880.00	1,215.00	97,200	1,069,200
Market value	280	26,600.00	1,800.00	171,000	47,880,000
OPH	35	2,800.00	2,050.00	164,000	5,740,000
Affordable Rent	24	1,920.00	900.00	72,000	1,728,000
Inter	10	800.00	1,215.00	97,200	972,000
Totals	**700**	**64,400.00**			**112,809,200**

NET REALISATION **112,809,200**

OUTLAY

ACQUISITION COSTS

Residualised Price (Negative land)	(1,365,034)	
		(1,365,034)

CONSTRUCTION COSTS

Construction	**m²**	**Rate m²**	**Cost**
Market value	26,600.00 m²	938.00 pm²	24,950,800
OPH	2,800.00 m²	1,058.00 pm²	2,962,400
Affordable Rent	2,000.00 m²	938.00 pm²	1,876,000
Inter	880.00 m²	938.00 pm²	825,440
Market value	26,600.00 m²	938.00 pm²	24,950,800
OPH	2,800.00 m²	1,058.00 pm²	2,962,400
Affordable Rent	1,920.00 m²	938.00 pm²	1,800,960

Low Copelaw, Newton Aycliffe
700 dwellings
20 net Ha

Inter	800.00 m²	938.00 pm²	750,400	
Totals	**64,400.00 m²**		**61,079,200**	**61,079,200**
Contingency		3.00%	2,107,232	
Abnormals	20.00 ha	100,000.00 /ha	2,000,000	
Ecology			640,000	
Primary			7,500,000	
Externals		15.00%	9,161,880	
Northern powergrid			1,040,000	
				22,449,112
PROFESSIONAL FEES				
Professional fees		5.00%	3,512,054	
				3,512,054
DISPOSAL FEES				
Sales Agent Fee		3.00%	2,872,800	
Sales Legal Fee	630.00 un	600.00 /un	378,000	
Sales Legal Fee	140.00 un	300.00 /un	42,000	
				3,292,800
FINANCE				
Debit Rate 5.500%, Credit Rate 3.000% (Nominal)				
Total Finance Cost				2,057,615
TOTAL COSTS				**91,025,748**
PROFIT				
				21,783,452

Performance Measures

Profit on Cost%	23.93%
Profit on GDV%	19.31%
Profit on NDV%	19.31%

Low Copelaw, Newton Aycliffe
700 dwellings
20 net Ha

IRR	26.87%
Profit Erosion (finance rate 5.500%)	3 yrs 11 mths
Land Cost pHect	(37,013)

High West Rd, Crook
350 dwellings
10 net Ha

Development Appraisal
CP Viability Ltd
03 April 2018

APPRAISAL SUMMARY — CP VIABILITY LTD

High West Rd, Crook
350 dwellings
10 net Ha

Summary Appraisal for Phase 1

Currency in £

REVENUE

Sales Valuation	**Units**	**m²**	**Rate m²**	**Unit Price**	**Gross Sales**
Market value	262	24,890.00	1,900.00	180,500	47,291,000
OPH	35	2,800.00	2,150.00	172,000	6,020,000
Affordable Rent	39	3,120.00	950.00	76,000	2,964,000
Inter	14	1,120.00	1,283.00	102,640	1,436,960
Totals	**350**	**31,930.00**			**57,711,960**

NET REALISATION				**57,711,960**	
OUTLAY					
ACQUISITION COSTS					
Residualised Price (14.25 Ha 217,267.15 pHect)			3,096,057		
				3,096,057	
Stamp Duty			144,303		
Agent Fee		1.00%	30,961		
Legal Fee		0.50%	15,480		
				190,744	
CONSTRUCTION COSTS					

Construction	**m²**	**Rate m²**	**Cost**	
Market value	24,890.00 m²	938.00 pm²	23,346,820	
OPH	2,800.00 m²	1,058.00 pm²	2,962,400	
Affordable Rent	3,120.00 m²	938.00 pm²	2,926,560	
Inter	1,120.00 m²	938.00 pm²	1,050,560	
Totals	**31,930.00 m²**		**30,286,340**	**30,286,340**

Contingency		3.00%	1,044,879	

APPRAISAL SUMMARY — CP VIABILITY LTD

High West Rd, Crook
350 dwellings
10 net Ha

Abnormals	10.00 ha	75,000.00 /ha	750,000	
Ecology			192,000	
Primary			1,800,000	
Secondary			100,000	
Externals		15.00%	4,542,951	
Northern powergrid			768,000	
				9,197,830
PROFESSIONAL FEES				
Professional fees		5.00%	1,741,465	
				1,741,465
DISPOSAL FEES				
Sales Agent Fee		3.00%	1,418,730	
Sales Legal Fee	297.00 un	600.00 /un	178,200	
Sales Legal Fee	88.00 un	300.00 /un	26,400	
				1,623,330
FINANCE				
Debit Rate 5.500%, Credit Rate 3.000% (Nominal)				
Land			1,181,474	
Construction			(381,916)	
Other			(148,237)	
Total Finance Cost				651,321
TOTAL COSTS				**46,787,085**
PROFIT				
				10,924,875
Performance Measures				
Profit on Cost%		23.35%		
Profit on GDV%		18.93%		
Profit on NDV%		18.93%		

High West Rd, Crook
350 dwellings
10 net Ha

IRR	25.69%
Profit Erosion (finance rate 5.500%)	3 yrs 10 mths
Land Cost pHect	217,267