Analysis of distribution of housing typologies in Public and Private Sector and typical compatibility with the Lifetime Home Standard

Levitt, Bernstein [September 2009]

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Executive Summary

Strategic Overview – 9 Key Messages

1. Most current house types for market sale would need some degree of re-design in order to incorporate Lifetime Homes Standards.

2. The impact varies from very low to very significant; the number of storeys and the dwelling size are the most relevant factors with three storey dwellings and smaller house types affected most.

3. The volume house building industry is generally resistant to change and focuses on achieving return from first time sale rather than on long term value to occupants. As a result, Lifetime Homes is generally not perceived to offer value for money; cost is felt to outweigh benefit.

4. The market is extremely competitive and across the industry, the 'product ranges' have, over time, become very similar – creating a level playing field is important in mitigating the effects of departing from standard approaches.

5. In the private housing sector, there is limited engagement with Lifetime Homes; voluntary take-up is low and no consumer demand is reported.

6. Where the Lifetime Homes standard has been incorporated, the level of accessibility and adaptability of the layouts is significantly improved, but full compliance is rarely achieved.

7. As currently presented, dwelling plans are very difficult to assess and only half of the 16 criteria can be audited from floor plans alone.

8. Detailed interpretation of the standard varies widely amongst designers, developers and auditors. There is a need to provide more consistency in assessment in order to provide greater certainty to designers and developers.

9. Although there is a widely held view that the principles are not unreasonable, industry feedback also suggests that the current standard needs to be clearer in both its objectives and application, needs greater flexibility and should not focus unduly on the needs of wheelchair users.

1.0 Introduction and purpose

This study was commissioned by CLG in February 2009 as part of a review to assess whether, and in what form the Lifetime Homes standard should be taken into regulation.

It considers the likely impact of applying Lifetime Homes Standards to a range of typical, current, speculative house plans for market sale, across England and Wales.

2.0 Approach and Methodology

Contact List

Letters and questionnaires requesting house plans and background information were sent to over 30 developers including all the major volume house-builders and a number of smaller companies. A copy of the request is included as Appendix A.

Benchmark for Assessment

A comprehensive summary of the Lifetime Homes standard, including relevant information from the FAQ section of the website, was produced as a benchmark for assessment. A copy of the summary is included as Appendix B.

Processing the Information

Plans were individually logged and categorised on a matrix according to type relating to the number of storey heights and number of bedrooms. Each was individually analysed in relation to as many of the LTH criteria as possible, noting that criteria 1-5 are outside of the dwelling and cannot be assessed from individual dwelling plans.

Assessing the level of compatibility with the standard

In addition to strict yes/no compliance, scores and colour coding were used to indicate the potential for compliance. This was represented as negative scores, or 'points lost' from a possible maximum of 3 for each criteria. The colour coding was used in a similar way to highlight areas of high impact. The full assessment is set out in matrices included as Appendix C.

3.0 Information Received

Level of Response

The level and speed of response was poor. A total of 139 different individual dwelling plans and 9 questionnaires were received from 14 respondents. Telephone contact provided useful additional anecdotal evidence which has been reflected in the report.

Type of Plans Received

Almost all plans are conventional, suburban typologies suitable for low/medium density locations. The vast majority are 2 and 3 storey houses with 2-6 bedrooms and internal floor areas of between 60 and 150m2. The remainder are flats with 1-2 bedrooms.

Proportion of Plans Designed to Meet the Standard

Of the 139 plans provided, 33 were offered as Lifetime Homes compliant although this does not imply that this is a representative proportion across the industry. The 33 plans include 'after' versions of some 'before and after' plans supplied and comprise 2 and 3 storey dwelling types. A few developers advised that they are currently revising their portfolio of plan types to respond to regulatory change, including Lifetime Homes, and current market conditions, but the overall impression is that general support and the level of voluntary take-up are lower than might have been hoped.

Executive Summary

4.0 Findings

Level of Compliance

Only one plan was considered to be fully compliant, but the average performance of the remaining 32 which were provided as ‘compliant’ was significantly higher than the 106 which were not designed to meet the standard. An average of only 2.5 points were dropped from the compliant plans, compared with 8.5 from the non-compliant plans

Summary of Performance by Dwelling Type

- flats or other dwellings on one level (categorised as A types) can meet the standard more easily than dwellings on two or more levels, because not all criteria are relevant and some are automatically satisfied

- dwellings on three levels (categorised as C types) are more problematic than dwellings on two levels (B types) because they often fail to provide the facilities required at entrance level. 3 storey dwellings typically have a small footprint as they are usually employed to achieve higher densities than are possible with 2 storey dwellings of equivalent floor area and this puts pressure on ground floor space

- dwellings which are located above ground and are served by a private stair accessed at ground level (categorised as D types) are not considered Lifetime Homes compliant as they fail to provide either a level threshold at the entrance, or any accommodation at entrance level

- many houses with 3 bedrooms are likely to suffer more impact than those with 2 bedrooms as, under the current standard, a Part M wc (considerably smaller than an LTH wc) is acceptable for houses with 2 bedrooms. This concession does not apply to flats.

Relationship between dwelling size (overall floor area) and compatibility with the standards

- 2 bed houses generally performed less well than 4 and 5 bed houses where all rooms are usually more generous; the performance of 3 bed houses was mixed.

- across all types, smaller plans (ie those with smaller overall floor area) also performed noticeably less well than larger plans of the same type

Characteristics of the plans which perform least well and are likely to suffer the greatest impact

- narrow frontage plans, typical of almost all 2 bed and many 3 bed house types, (especially those designed with the wc/cloakroom adjacent to the front door) are unable to meet the standard without either increased width or considerable re-design

- plans with winder stairs or dogleg stairs may suffer more impact than those with straight stairs

- any plans in which the principal living space is at first floor level, will need to provide an alternative space suitable as a ‘living area’ and temporary bed-space at entrance level

- plans with integral garages, tend to provide very little accommodation, of any kind, at entrance level so will have particular difficulty in meeting the standard

Overview of performance by type in relation to the internal criteria

- the adjacent table shows the criteria which have the most impact in relation to the main dwelling types.

Areas of weakness in the 'compliant' plans compared with the 'non-LTH plans'

- the compliant plans fall short in fewer respects and generally only in the more subjective areas; particularly related to space associated with stair-lifts and location of through-floor lifts.
- In some cases, the 'after' plans had been more radically altered than was necessary, for example through misunderstanding that the 'living room' in criteria 8 and the bedspace in criteria 9, can be provided in any reasonable living space eg a kitchen/dining room, and need not be in the principle 'living room'.

Broad assessment of potential impact of internal standards 6-16 on main dwelling types

1. Car parking width
2. Access from car parking
3. Approach gradients
4. Entrances
5. Communal stairs and lifts
6. Doorways and hallways
7. Wheelchair accessibility
8. Living room
9. Entrance level bed-space
10. Entrance level WC and shower
11. Bathroom and WC walls
12. Stair-lift and through-floor lift
13. Tracking hoist route
14. Bathroom layout
15. Window specification
16. Controls fixtures and fittings

		Potential implicationof Lifetime Homes Standards; internal criteria 1-16																Broad overview
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
A types 1 storey	space						M	M	n/a	n/a	see 12		n/a		M			flats served by shared cores can usually meet the internal criteria easily (lift access not required)
	dwelling layout								n/a	n/a	see 12		n/a					
	design/spec						H		n/a	n/a	see 12	M	n/a	L	L	L	M	
B types 2 storey	space						M	M	L	H	M		H		M			2 storey houses can usualy meet the internal criteria fairly easily
	dwelling layout								L	M	H		H					
	design/spec						H					M	M	M	L	L	M	
C types 3 storey	space						M	M	H	H	M		H		M			3 storey houses can usually only meet the internal criteria with considerable difficulty
	dwelling layout								H	H	H		H					
	design/spec						H					M	M	M	L	L	M	
D types Other s	space								U	U	U							upper floor flats served by private stair are unable to meet standards 8-10 as currently defined so do not comply with LTH
	dwelling layout								U	U	U							
	design/spec								U	U	U							

Key:

H High impact
M Medium impact
L Low impact
U Unable to meet the requirement in principle

Note: impact of criteria 10, will be disproportionately low for 2 bed houses as a Part M wc is permitted under the current standard for this typology

Executive Summary

5.0 Conclusions and additional comments

Overall Implications

a. for industry and future housing typologies

All plans, with the exception of the one compliant layout, would be affected to some extent by the imposition of the standard. Any criteria which has any space implication has some impact on dwelling size and this would affect site density unless the layout can be altered or the rooms are large enough to absorb the impact with no noticeable detriment.

Redesign will have implications for the overall internal size of dwellings, particularly smaller 2 bedroom homes as the current areas are less able to incorporate LTH requirements without impacting on the functions of the remaining rooms and circulation space to the detriment of potential users. Larger 3 and 4 bedroom homes are more likely to have the capacity to accommodate change without noticeable impact. The redesign of existing house plans will, in turn, have implications for the supply chain - and initially - for project management.

However, house builders have shown in the past that they have the capacity to adapt and are able to deliver housing incorporating LTH standards where required by a client or planning authority. This has been most clearly demonstrated by those house builders who also work for RSL's where delivery of Lifetime Homes compliant schemes is more common. There is also evidence that where major house builders are reviewing their portfolios of standard house and flat plans, some 'tenure neutral' plans are being developed to reduce sales risk by meeting affordable housing standards which currently usually expect LTH and must meet CSH level 3. This is further evidence that the house building industry is able to meet the needs of clients by delivering LTH when required.

b. for assessment

The assessment difficulties suggest that site information and sections with topographical information will need to be provided in order to assess criteria 1-5 (which deal with areas outside of the home), and that dwelling plans will need to be drawn to scale, to a more technical standard, and fully annotated and dimensioned in order to assess internal compliance with reasonable certainty and consistency. This is particularly relevant as LTH is already subject to assessment by LA planning and access officers, Code inspectors, HCA design and quality monitors and others. Applying the standard to all new housing across England and Wales will mean that the same plan could be subject to separate, multiple assessments. Reducing the opportunity for subjective assessment and adopting a single point of assessing compliance would be beneficial in providing certainty to developers and designers.

c. for the standard

The considerable impact on private sector dwelling design and presentation, combined with the assessment difficulties, suggests that the standard needs to be clearer, and more definitive whilst allowing for flexibility in terms of how the principles are met. Some aspects, including the fact that an upper floor flat without lift access can meet the standard whereas a house with either a single step down into the garden, or a first floor living room, cannot, appear illogical. This implies the need to review the structure and content of the standard and the way in which it is presented.

We recommend that further development of the LTH criteria should address this and promote continuing evolution of plans for flats and houses and for the LTH criteria, by:

- acknowledging that the topography of some sites creates difficulties for meeting the external access requirements of LTH,
- ensuring that the criteria/principles of LTH are set out clearly and separately from any approved design solutions in order to promote innovation within the industry
- ensuring that there is continuing analysis of 'best value' in implementation, to focus on the LTH criteria and ensure that they concentrate on critical requirements, are affordable and have value over the life of the dwelling.

d. for design innovation

The speculative mass housing market tends not to be design focussed and none of the plans received demonstrates a particularly innovative approach. We gave consideration to the impact of LTH on more unusual or bespoke dwelling types by reviewing our own design work, consulting colleagues from other practices, studying published plans and the schemes shortlisted for this year's housing design awards. This highlighted areas in which the imposition of LTH could stifle design creativity and would primarily involve plans

which have less conventional room layouts (eg living areas above bedrooms - typical in pent-house duplexes), the use of galleries, mezzanines and split or raised floor levels (usually in response to sloping topography, to exploit views or simply to provide a distinctive area within the dwelling). In addition, some LTH requirements, such as 300mm door nibs, bathroom and wc layout could be said to curtail design freedom - and identifying a suitable space for a through-floor lift is often a considerable constraint on the design of ground and first floor layouts.

Other Information Obtained in Conversation

- many developers cited the current economic downturn and their need to focus on more imminent regulation, particularly Part L, as reasons for lack of engagement
- some reported that they expected the number of homes built to LTH standards to rise over the next few years; generally in response to planning requirements and the Code for Sustainable Homes
- none reported demand from purchasers
- many are reviewing their current portfolio because of market conditions, and some are seeking to produce layouts which are suitable across all tenures. Lifetime Homes has been referred to as part of this 'future-proofing' strategy and it is clear that developing a new range of standard house plans is a major investment in terms of time and capital expenditure and must anticipate future trends and regulatory change over a 3-5 year period
- some believe that LTH is likely to reduce choice – firstly by constraining design options due to the requirements, and secondly by causing developers themselves to restrict their portfolio in order to reduce the volume of work needed to achieve 'proof of compliance'
- although few respondents felt fundamentally opposed to the principles of increased accessibility and adaptability, many expressed their view that there is a need for improved evidence by which to judge cost and benefit in order to develop proportionate solutions. There were also concerns about the need for consistent assessment and enforcement and the need to improve certainty in application.

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1.0 Introduction & Purpose

The background to the project is the launch, by CLG in February 2008, of 'Lifetime Homes Lifetime Neighbourhoods – a National strategy for Housing in an Ageing Society'. The strategy states an ambition of seeing all homes built to Lifetime Homes Standards by 2013, and undertakes to carry out a review of the standards in 2010 with a view to considering what further measures, including possible regulation, are considered necessary to achieve this ambition.

In February 2009 Levitt Bernstein, assisted by Design for Homes, were appointed to carry out this investigation as a key part of that research. Mindful that the standards were originally developed with very suburban 2, 3 and 4 bed detached housing in mind, there is a need to review the 16 point standard and consider the implications of applying it to current and emerging new build housing typologies in England and Wales.

3 specific aims were identified in the project brief:

- to develop and agree a model of the variety and distribution of future housing typologies in England and Wales
- to develop and agree a method of analysing what impact the application of Lifetime Homes Standards will have on varying house typologies
- to undertake an agreed selective analysis capable of execution within the scope and timescale of the project

At the request of CLG, the study has been focussed primarily on private sector housing. The brief suggested a minimum market share of 2%, or 400 dwellings, for each of the typologies to be included.

Assessments of cost implications were not required under the terms of the project brief.

2.0 Approach & Methodology

2.1 General approach and sources of information

In view of the clarification from CLG to focus on private sector housing and the market share threshold which implies mainstream typologies, we concentrated on the major volume house builders. The initial contact list was formed in three ways;

- the top 20 house builders by volume in 2008 (list obtained via the Housing Forum)
- developers with whom we and Design for Homes are in dialogue
- architects in the housing field

Recommendations were also sought via the Home Builders Federation.

In order to make our approach clear and consistent, we produced a standard letter outlining the purpose of the study and the information being sought, and a questionnaire. Most developers were contacted by phone first, using personal contacts where possible, but the letter and questionnaire were sent as a follow up in all cases.

In response to the brief, the questionnaire sought to obtain general background information about market share, numbers of new homes expected to be built over the next few years etc. It also asked more detailed questions in relation to the plan types supplied and covers scheme-wide aspects of Lifetime Homes, such as parking, which are not evident from individual dwellings plans. Follow up calls and e-mails were sent at regular intervals to try and secure a response.

A copy of the letter and questionnaire are included as Appendix A.

2.2 Methodology for analysing the plans

2.2.1 The matrix

A matrix was devised as a means by which to log, categorise and analyse the plans. Plans were categorised and logged individually as they were received and analysed in batches when a significant number of plans were available.

We tested and refined our proposed method of analysis on our own set of 16 generic plans for affordable rent, produced in conjunction with a separate piece of work for the Homes and Communities Agency (HCA). All plans meet the standard and therefore represent a useful benchmark for compliance.

As a reference point for a consistent, and concise but comprehensive, definition of the standard, we produced a summary which includes the 16 standards, as defined by Habinteg, supplemented by extracts from the Specification and Frequently Asked Questions (FAQ) section of the Habinteg website, where these add necessary additional information which has a material effect on the standard itself.

A copy of our summary of the LTH standard is included as Appendix B.

2.2.2 Logging and categorisation

Plans have been categorised by storey height and number of bedrooms and given a unique reference code. All plans analysed are private for sale, although some are intended to be suitable across all tenures.

The first part of the reference code relates to storey height because this tends to have more impact than any other single feature on accessibility issues. Types identified to date are:

A flat or other dwelling on one level
B 2 storey house or maisonette
C 3 storey house or maisonette
D other types (ie those which do not fit into any of the above categories)

The second part of the reference relates to the number of bedrooms (1-6) followed by the theoretical occupancy (shown bracketed) and the final part, is the number assigned to each individual plan of that type.

The theoretical occupancy is based on the maximum number of bedspaces which each plan appears to provide. We decided not to make it a defining characteristic for three reasons:

- developers tend not to define, or market, their properties by occupancy or bedspaces, referring instead, to the number of bedrooms and bathrooms
- homes for sale are very often expected to be under-occupied
- sale plans are often not furnished so it is not always clear how many bedspaces are provided

Plan type B.2 .(4).6 therefore represents the sixth 2 storey, 2 bedroom plan received, and appears suitable for a maximum of 4 people.

As part of the logging process, the source, main generic characteristics or features and the internal floor area (m2) were recorded in the next 3 columns of the matrix. Details of the origins of the information ie the names of the developer and the plan types, have now been removed from the second column for confidentiality reasons.

Accepting that most of the plans received have not been designed with the intention of meeting the LTH standard, those which have identified that they are designed to comply, are noted in the first column as 'LTH classified'.

2.2.3 Analysing the plans in relation to the Lifetime Homes standard

The next 16 columns have allowed us to assess the compatibility of the plans with each of the 16 Lifetime Homes criteria. Although this is not primarily an auditing exercise, the systematic checking of each plan against each requirement was felt to be the best way in which to assess the impact of applying the standard. Each item scores a maximum of 3 points for full compliance, with points awarded as follows:

- 3 points indicates that plans are fully compatible with the requirements of that criteria
- 2 points are awarded where the plan could be easily adapted to meet the requirements of that criteria
- 1 point means that the plan would be difficult to adapt
- 0 points are given if the plan is not compatible with the requirement in principle

Our original intention was to record the total score for each plan against the possible maximum score. In practice, not all criteria apply to any of the dwelling types (eg 'Stair-lift and through-floor lift' (criterion 12) is not applicable to dwellings on one level, and 'Communal stairs and lifts' (criterion 5) not required for dwellings with own door access) so the maximum possible score varies according to type. It therefore proved simpler and clearer to record points lost through non-compliance, as a deficit or minus score. Standards which are not applicable in principle to the dwelling type under examination have been coloured dark grey and left un-touched.

In addition to the numerical scores, where full compliance is not achieved, the results boxes have been coloured to provide an 'at a glance indication' – the deeper the shade, the lower the compatibility or greater the concern. This clear visual indication of the level of compliance and therefore the impact has proved more useful than the numerical scores in identifying trends.

2.2.4 Scope to record other findings

The remaining columns provide space for other comments including any observations in relation to DD 266:2007. Where possible, we have highlighted particular implications of achieving compatibility with both LTH and DD 266.

The matrix analysis sheets are included as Appendix C.

2.2.5 Information gathered from the questionnaires

As noted, background information, including the numbers and distribution of homes likely to be built over the next few years was sought via the questionnaire, sent out with every enquiry. The second page of the questionnaire relates to the plans provided and also asks about issues like parking and lift access which are not evident from dwelling plans. Questionnaire responses are included as Appendix D

3.0 The Information Received and its Suitability

3.1 Quantity of information received

139 plans have been received from a total of 14 sources. This excludes the 16 affordable plans which were used as the benchmark set.

9 questionnaires were received including 3 from different regional branches of the same organisation.

3.2 Suitability of information received

3.2.1 Level of response

The response was generally slower and smaller than we hoped and expected. A number of causes are likely to have contributed to this. Although anecdotal, each of these has been specifically raised or verified by one or more respondents:

- economic conditions - these are extremely challenging times with most house builders facing substantial re-structuring and fundamental review of workload, construction forecasts, sales values etc. Resources are very stretched, many companies face continuing uncertainty and are focussing on 'larger issues';

- market demand - allied to this, general demand for new housing has reduced and the market has shifted from flats to houses. Many companies are therefore re-assessing their current and future developments as well as reviewing their portfolio of dwelling types;

- changes to regulation - consultation is underway on a number of proposed changes to the Building Regulations and the Code for Sustainable Homes. This is time-consuming and has been reported as a more pressing priority than Lifetime Homes where mandatory compliance is still some way off;

- lack of engagement with issue - there appears to be limited appetite for Lifetime Homes. Many still perceive that it is purely about older people or wheelchair users. A number of developers have reported that there is little or no demand in the market for LTH features;

- no influence – there is a perception that voices will not be heard so attempts to engage with the issue will be unproductive.

3.2.2 Quality and suitability of information received

The plans supplied vary widely in terms of scale, detail and presentation style. The vast majority of plans received (81%) are house plans rather than flat plans. Even amongst the flat plans received, most (67%) have private entrances – either A type, ground floor flats or D type, first floor dwellings with private access stairs.

It is very unlikely that this represents market share in terms of the real balance of houses/flats; we feel it is more likely that most flatted developments are 'bespoke' or at least adjusted to suit individual site requirements and that developers generally include very few flats plans in their standard ranges, even though large numbers are obviously built in urban environments.

Amongst the plans received, most are 'marketing material'; design plans rather than technical plans. Some of the Lifetime Homes requirements and general accessibility features are easily assessed but others are more difficult.

Typical problems and the way in which we have overcome them are summarised here;

1. Dimensions and floor areas are rarely provided, and where they are, are usually imperial.

   We have converted to metric as necessary and where figures have not been provided, drawings have been scaled up using given room dimensions.

2. Sale plans are typically unfurnished or under-furnished. (As noted, this makes it difficult to assess even bedspaces in some instances. In almost all cases, it makes it difficult to assess the amount of moving around space generally, and to assess the specific LTH requirement for wheelchair turning circles in living and dining spaces and adequate turning space elsewhere.)

   We have extensive experience of the room areas needed to furnish spaces adequately and allow for circulation and activity space. Where rooms look too small for wheelchair access, we have noted this and used our judgement and experience when recording performance scores and colour highlights against these items.

3. A number of the 16 LTH criteria are not evident from floor plans because they are not plan related. (These include parking and approach to the dwelling, strengthening to bathroom walls, mounting height of services, window cill heights).

   In these cases, we have made assumptions as necessary. Some, such as strengthening walls for grab rails, and ceilings for hoists, are usually easy to include in practice and can be safely assumed to be achievable in almost all cases, albeit occasionally at considerable cost (e.g. where additional steel structure is needed in the roof of a flatted development). Others, such as accessible parking and level access, are much more difficult to achieve in practice, but are not ruled out in principle by any plan typologies. We have used a light grey tone to indicate where assumptions have been made in the absence of direct evidence.

4. Some of the LTH criteria which are unlikely to be shown, will be difficult to test without 'working on the plans'.

   An example of this is the through-floor lift where we have had to consider whether each plan appears to offer a sensible, workable location at ground and first floor, which would give access to at least one main bedroom and bathroom, as required by the standard.

5. Assessing the extent of change likely to be needed to improve or achieve accessibility under the standard.

   As part of the LTH analysis and scoring method proposed, we have often needed to estimate how 'far off' the plan is, in relation to compliance with one or more aspects. Particularly in very small plans, it is quite likely that even a small change, could 'knock-on' to the whole layout to the point where it is arguably no longer the same plan. We have used our judgement about whether that means the original plan fails in principle, and if so, why - and this has involve some test re-planning.

4.0 Findings

4.1 General observations

Relatively few of the plans received are designed to meet Lifetime Homes standards. 33 out of the 139 plans received were classed as Lifetime Homes plans by those who provided them, and these have been noted as 'LTH classified' in the first column of the analysis sheets. These are generally much more accessible than the others; the average 'points lost' from the 'compliant' group is -2.5, compared with -8.5 for the non-compliant group. Only one plan was considered to be fully compliant.

All of the 'compliant plans' demonstrate a reasonable understanding of the principles but a number only appear to comply with the more defined requirements such as wc's, bathrooms, hall widths etc, with many apparently not reflecting less obvious features. As with the other plans, features outside of the dwelling, 1-4, cannot be assessed without a full scheme audit and many internal features, such as strengthened walls and ceilings, are not evident from plans alone either, though some include useful annotation.

Amongst the much larger group of plans which are not designed to meet the standard, the potential accessibility varies considerably – from extremely limited (-19) to very good (-2). Accordingly, our assessment of the measures needed to meet the standard, ranges from the need for modest amendments to some requiring full re-design. The remainder of this section summarises the results of the analysis and provides an overview of our findings.
A summary of the results is included at table 1.

4.2 Results of the analysis

As noted, the remit of the study and therefore the evidence gathered, does not allow the impact of all of the Lifetime Homes criteria to be assessed based solely on the material supplied, which primarily comprises individual dwelling plans. For assessment purposes, the criteria can be divided into three groups, and the assessment itself, follows in the same order:

Group 1 LTH criteria 1-5

These apply outside of the dwelling and are largely beyond the scope of this study. Information about car-parking and lifts was sought via the questionnaire but very limited information has been provided. We have therefore offered a commentary based on experience and general observations, which makes reference to the information supplied where possible. Most of this group of items are site specific, and in particular circumstances, some or all, may be very difficult to achieve but because all of the plan typologies received are capable, in principle, of meeting these criteria, each has been assumed to comply in the assessment matrix.

Group 2 LTH criteria 11, 15 and 16

These apply within the dwelling but are not evident from plans so we have provided a brief commentary based on experience. All of the plan typologies received are also capable, in principle, of meeting these criteria.

Group 3 LTH criteria 6, 7, 8, 9, 10, 12, 13 and 14

Useful conclusions about each of these criteria can be drawn from the material supplied so the assessment of these issues is more evidence based. Assumptions based on experience have been made where necessary.

Group 1 LTH criteria 1-5 (outside of the dwelling)

The commentary in relation to this group of criteria is fairly detailed because they are important issues but, as noted, are not subject to detailed analysis. Whereas the response to the criteria relating to the internal environment is largely within the control of the designer and developer, site topography, flood risk and local planning restrictions vary considerably across England and Wales and the developer often has less choice and control in these areas. In some circumstances, eg on sloping sites, it may difficult to meet the requirements in this group. As a result, the implications of imposing each of these standards, is extremely variable but potentially very significant.

1. Car-parking: 'Where car-parking is adjacent to the home it should be capable of enlargement to attain 3.3m width'

Relevant data received

Little direct data has been provided about the level or type of parking usually provided. The information which has been supplied by questionnaire supports our experience that at least one parking space is usually provided to houses (typically, either on-street or in parking courts; less commonly, in-curtilage) but that far lower levels of parking are provided to flats, especially in London. Parking for flats, where provided, is typically a combination of on-street, ground level parking court, under-croft, semi- or full basement.

Evidence of compliance

There is no direct evidence from our survey to suggest that the LTH requirement to build in the capacity to enlarge spaces to 3.3m wide, is being adopted for any form of parking.

Specific implications of imposing this standard on the plan typologies reviewed

None of the house plans provided has a frontage of less than 4.0 m (external) so, in principle this enlargement (which strictly applies only to in-curtilage parking) is not ruled out by any of the current typologies examined. An exception to this might be a very tight courtyard house but, even then, it seems unlikely that the parking area would be less than 3.3m wide. No mainstream examples of this typology have been provided, but it is emerging as an 'innovatory' form and one which we feel may become more common because it can be designed 'back to back' and thereby achieve higher densities than conventional terrace housing (see figure 1)

Broader implications of imposing this standard

At face value, this standard has few implications beyond the design of front gardens.

Implications of raising standards, eg as proposed in DD 266

Extending the scope of this requirement to any other type of parking (ie on-street or any type of communal parking area) would have a significant effect on land-take and therefore density. Increasing the bay width to 3.6m (as suggested in LTH 'additional good practice' advice for 10% of all spaces) would increase this effect.

DD 266: 2007, 4.1.1 requires potential enlargement in both width and length to 3.6 x 6.0m. For in-curtilage parking, this would further increase front garden depth with an implication for density. Equally importantly, there would be further detrimental effects in terms of urban design. Streets and buildings need a close relationship for identity and enclosure, as well as live frontage and passive surveillance which in turn, increase safety and security. These facets of good place-making are severely compromised by in-curtilage parking which erodes boundary definition, increases hard surfaces and weakens street contact. Extending the requirement for larger parking bays to enclosed car-parks, parking courts and on-street parking, would increase the impact on space and density described above. It raises important management issues about how accessible parking spaces could be allocated to those who need them, especially where parking provision is below 1 space/dwelling. A clear headroom of 2.6m is also required under DD 266, adding to the cost of excavation and spoil disposal.

2. Access from car-parking: 'The distance from the car parking space to the home should be kept to a minimum and should be level or gently sloping.'

Relevant data received

Little direct data has been provided about this aspect as the material supplied has been mostly isolated dwelling plans rather than block or site plans. In terms of proximity, the limited information which has been supplied supports our experience that designers tend to observe general good practice, by providing parking as close to homes as possible - for convenience and security. There are instances, however, where even the suggested maximum of 50m from parking to home is exceeded. Sloping sites pose severe problems in terms of achieving level or gently sloping access but no data has been supplied in relation to this.

Evidence of compliance

There is no direct evidence from our survey to allow us to comment on this.

Specific implications of imposing this standard on the plan typologies reviewed

The issue of site gradients is related to site layout rather than to individual house typologies. None of the plans collected are unsuitable in themselves for use on sloping sites though there are some general observations which can be made. Narrow frontages plans allow adjacent houses to be stepped in smaller increments across a slope than wide frontage plans and traditional forms of stepped terrace housing tend to reduce cut and fill and therefore retaining structures.

Flats pose different issues; potentially much easier than houses on sloping ground, especially if ground floor flats are also accessed from common circulation, because there is then only one entrance to a number of homes. Providing street level access to individual front doors is highly desirable however, as it helps with live frontage, contact between neighbours, reduces pressure on entry phones and common parts etc. To do so on a sloping site, will re-introduce the problems associated with achieving level access to a terrace of housing, but, assuming the ground floor levels step to suit the slope, this will help to 'ground' the building visually and practically.

Irrespective of the ground floor treatment, the upper floors of most flat blocks are usually designed to have a consistent floor level throughout the plan, ie ramps or steps are avoided in horizontal circulation areas. With larger blocks on sloping sites this can produce bulkier buildings which visibly fail to respond sympathetically to the topography. Smaller flat blocks deal with slopes more easily but raise issues associated with lift affordability, discussed under standard 5.

Broader implications of imposing this standard

The broader implications of level or gently sloping access from parking to front door are difficult to quantify, but potentially very significant. It seems unlikely that topographical data about the number of sites with gradients in excess of 1:15 (the maximum gradient permitted under LTH) exists, but anecdotally, this issue is perceived as a major area of concern in relation to accessibility.

Streets which follow contours rather than traverse them are easier to manage in terms of pavement gradients and access to front doors, but cross-fall restrictions for roads often means that considerable level changes then have to be managed within garden depths. The linking streets or routes which are needed to achieve good urban design through connected layouts will inevitable run across contours when main streets are parallel with them, so the problem of negotiating gradients still exists within any grid layout, but is arguably mitigated where streets run diagonally across contours in both directions. Other factors, such as the orientation of the existing street network, or designing to maximise passive solar gain are major determinants of site layout however.

In general, our experience is that most designers and developers understand the desirability of level access and seek to avoid steps on cost grounds, if nothing else. The level of design sophistication used to achieve level or nearly level access, varies greatly however. Solutions range from ugly concrete ramps with cheap metal handrails (which look more like retro-fit than new build) to attractive and subtle ideas which exploit the design potential of different levels to produce a stimulating as well as an accessible environment. The latter approach is much more desirable in all respects, but is often more expensive in terms of capital cost so tends to be 'value-engineered' out of cost plans which are not based on costs in use.

The blanket imposition of maximum gradients feels unrealistic, but it is very important to aim for the best possible solution under the circumstances in order that the design is as inclusive as possible.

Implications of raising standards, eg as proposed in DD 266

DD 266: 2007, 4.2.1 goes further than LTH by requiring 'separate pedestrian routes'. This could have implications for shared surfaces and 'home zones'.

3. Approach: 'The approach to all entrances should be level or gently sloping.'

Relevant data received

Little direct data has been provided, as noted for standard 2.

Evidence of compliance

There is no direct evidence from our survey to allow us to comment on this.

Specific implications of imposing this standard on the plan typologies reviewed

Generally as noted for standard 2.

Broader implications of imposing this standard

Generally as noted for standard 2.

Implications of raising standards, eg as proposed in DD 266

LTH additional good practice includes advice that communal paths should be 1800mm wide (1200mm minimum) and be illuminated to 50 lux. DD 266.2007 (4.2.4) encompasses and extends this requirement and includes requirements for individual house plots (4.2.5) and gives additional guidance on hazards, steps, ramps and handrails to access routes (4.2.6-9).

These requirements, whilst not unduly onerous in themselves, could produce an institutional environment unless sensitively interpreted.

4. Entrances: 'all entrances should:

4a. be illuminated

4b. have level access to threshold

4c. main entrance should be covered'

Relevant data received

Limited drawn data has been provided about these aspects as the plans provided are not detailed or technical.

Evidence of compliance

Some of the drawn material received includes elevations and these usually indicate some kind of porch or canopy suggesting that 4c is usually being met. A small number indicate one or more steps at one or more of the entrances, and together with anecdotal evidence, this suggests that 4b is not always met, especially for secondary doors and doors to balconies. None of the plans or elevations received is sufficiently detailed to indicate lighting, but it is likely that 4a is usually met.

Specific implications of imposing this standard on the plan typologies reviewed

All of the plan types supplied are capable of reaching all aspects of this standard in principle and the imposition of 4a and 4c are unlikely to have many far-reaching implications in practice. 4b is likely to have implications for the design of the building fabric and/or layout, dealt with below.

Broader implications of imposing this standard

The FAQ section confirms that 4b, level access, applies to all doors where physical access is intended. We believe that this is not widely appreciated with many people not noticing, or not observing, this extra information and believing that the requirement only applies to main entrance or 'front' doors. A proper interpretation of the standard is likely to have significant cost and/or practical implications in the following situations:

- sloping sites and flood plains - potentially affects any, or all, ground floor entrance doors;
- access onto balconies - drainage is now usually required to balconies which are therefore designed to slope back towards the dwelling. Warranty providers require robust waterproofing at the junction with the building and this is most easily achieved when the balcony is set at least 100mm below internal floor level. Whilst it is possible to achieve level access to door thresholds and maintain waterproofing, this is usually costly. Where balconies are inset, (ie extend partly or wholly into the footprint of the building and sit above accommodation, the difficulties described below in relation to roof terraces apply;
- access to roof terraces - where any type of external space is provided directly above internal space, this is likely to make level access whether from individual flats, or shared areas, difficult and expensive. The overall depth of roof structure, insulation and weather proofing will typically exceed the normal internal floor depth and create a step up from inside to outside. This is difficult to eliminate and often requires an expensive step down in the structural floor (usually resulting in a lower bulkhead to the room below, where the outside amenity space is localised) or may lead to increasing the depth of the floor zone across much or all of the total plan area (where more extensive roof terrace(s) are provided).

Implications of raising standards, eg as proposed in DD 266

LTH additional good practice includes advice that the clear width of communal entrance doors should be increased to 1000mm and that a level landing of 1500mm x 1500mm should be provided outside (1200mm x 1200mm to private entrances. This would add cost in many cases and involve non-standard products.

DD 266:2007 (5.4) includes the wider clear opening for communal entrances.

5. Communal stairs and lifts: '5a. communal stairs should provide easy access, and, 5b. where homes are reached by a lift, it should be fully accessible'

Relevant data received

Little direct data has been provided about this aspect as the material supplied has been mostly isolated dwelling plans rather than block or site plans.

Evidence of compliance

As noted, many more house plans have been received than flats, due, we believe, to the more bespoke nature of flat blocks with the result that most developers have limited or no generic flat plans. Of the responses received, and as expected, all communal stairs appear to comply with LTH as this accords with Part M. Condition 5a is therefore satisfied. No blocks of 4 storeys or fewer appear to be lift-served, those which do include lifts, indicate the LTH lift car size of 1100 x 1400 (larger than Part M). The provision of a lift seems to have had no bearing on the level of LTH compliance, or the general accessibility of the flats within those blocks. Condition 5c is therefore not being observed based on the data collected.

Specific implications of imposing this standard on the plan typologies reviewed

Currently, LTH does not require dwellings at any level to be lift served. Where lifts are provided, the requirement of 5b, that flats within lift-served blocks must meet the LTH standard would have a very significant impact.

Broader implications of imposing this standard

Because the standard requires that lift-served flats should comply with LTH, this could lead to a lower level of lift provision in order to avoid compliance with the internal criteria. This would be an unwelcome and unintended consequence of imposing the standard.

At the same time, the confirmation in the FAQ section that upper floor flats with stair only access can still meet need the standard, surprises many people as this seems to contradict the principle of level access which disallows a single step to a house.

Implications of raising standards, eg as proposed in DD 266

It seems likely that LTH will, at some point, need to set down requirements for lift access. DD 266:2007 (7.1.1) requires a passenger lift at 4 storeys and above, and either a passenger or platform lift, in all buildings between 2 and 4 storeys. The only exception is 2 storey buildings where the lift would serve fewer than 4 dwellings, and in these cases, spatial, structural and electrical provision for a future lift must be made. The potential impact of this much more onerous standard would be extremely significant, but the improved accessibility that would result is clear.

The capital cost and on-going maintenance costs associated with lifts are such that it usually requires at least 10-15 flats (but preferably 20+) per lift to keep the service charges reasonable. It is likely that smallish 3-4 storey flat blocks, typical of many urban and most sub-urban new developments, would be replaced by much larger blocks which have enough flats to carry the long-term costs. Whilst very obviously beneficial in terms of accessibility, this could be detrimental to the local scale and character of towns and suburbs across the country, unless designed with extreme sensitivity. It may bring about a small increase in very small 2 storey blocks, but very few flats are currently built in 2 storey configurations, except in rural locations.

In urban areas, where density targets are such that meeting the widespread demand for houses is unlikely to be possible, we feel that the number of maisonettes is likely to rise, as these are considered preferable to flats, by many families. These are either within flat blocks, perhaps at lower levels, with flats over, or paired around a stair core. Where they are double-stacked - a manageable and popular model which currently provides a shared stair to the two upper units, typically entered at 2nd floor level, a lift would now be required under DD 266. Service costs shared between just two families would probably make this typology untenable.

4.0 Findings

Lifetime Homes criteria 11, 15 and 16 (within the dwelling but not possible to assess from material supplied)

The commentary in relation to this group of criteria is brief as the design and layout implications of imposing any or all of these standards is not considered significant, and, except for standard 16, are not extended by DD 266.

11. Bathroom and wc walls: 'Walls in the bathrooms and wc should be capable of taking adaptations such as handrails.'

Implications of imposing this standard

These are restricted to cost and specification and do not affect dwelling size, layout or design except that the inclusion of plywood, or similar strengthening within the construction where this is timber frame, may result in a marginal increase in partition thickness.

15. Window specification: 'Living room window glazing should begin no higher than 800mm from floor level and windows should be easy to open/operate'

Implications of imposing this standard

This has no far-reaching implications in terms of cill height; most designers and developers are aware that good daylight and views out are important and few would choose to provide a higher cill height than 800mm. The FAQ section explains that the 'easy to open' requirement applies to at least one window in each room – potentially very difficult in many kitchens and bathrooms depending on how strictly this is interpreted. Electric opening devices are available, but are costly. Similarly in bedrooms, a strict interpretation could imply the need for at least 750mm beyond the foot of the bed, in order to pass in a wheelchair. This is not expressed as a clear requirement under LTH but is taken up by DD 266.

16. Fixtures and fittings: 'Switches, sockets, ventilation and service controls should be at a height usable by all ie between 450 and 1200mm from the floor.)

Implications of imposing this standard

These are restricted to cost and specification and do not affect dwelling size, layout or design although there may be instances where a strict interpretation is problematic. In principle, Part M already covers this issue but only mentions switches and socket outlets; LTH extends this to controls to wall mounted boilers, consumer units etc. which potentially makes them unsightly and puts them within range of children. It is unclear whether it also applies to controls to cooker vents and other items normally mounted above or below this height range. DD 266 (8.1) further extends the requirements relating to services.

Lifetime Homes criteria 6, 7, 8, 9, 10,12, 13 and 14 (within the dwelling and assessed from material supplied)

6. Doorways and hallways: 'The width of doorways and hallways should conform to Part M except that when the approach is not head on and the hallway width is 900mm, the clear opening width should be 900mm rather than 800mm. There should be 300mm nib or wall space to the side of the leading edge of the doors on entrance level.'

Relevant data received

All plans have been considered in relation to this standard though in the absence of dimensions, these have had to be scaled and assessed.

Evidence of compliance

There is a higher general level of compliance with flats than houses, as Part M gives requirements for doors at entrance level. However, LTH exceeds Part M for doors which are not approached head on from 900mm hallways and extends this requirement to all floors within the dwelling. LTH requires 300mm nibs on the leading edge of doors at entrance level, which Part M does not.

In almost all of the smaller 2 and 3 bed house plan types, circulation is very tight particularly on upper floors. Many also have tight hallways at entrance level and a significant proportion fail to provide the 300mm nib, even to the front door. The majority of plans indicate smaller doorsets (apparently 800mm instead of 900mm) throughout the upper floors and often to a proportion of ground floor rooms too. Few plans provide 300mm nibs throughout the entrance level.

Specific implications of imposing this standard on the plan typologies reviewed

The circulation areas in a number of flat plans and the majority of house plans would need to be increased in certain areas, and in some cases throughout. Unless circulation areas are widened to at least 1050mm, in which case a 775mm clear opening (achievable with a standard 900mm door-set) is acceptable, doorways would need to be increased. Larger door-sets are significantly more expensive, intrude more into room space and make it more difficult to provide the nibs required at entrance level. The floor area of a number of plans would need to increase in order to comply with this requirement unless space is trimmed from adjacent rooms. Some plans in each category would be affected but the smaller 2 and 3 bedroom house types would be the hardest hit because the rooms in these plan types are already small.

Broader implications of imposing this standard

Higher space requirements for circulation areas would have implications for cost/profit and density,

Implications of raising standards, eg as proposed in DD 266

This extends the 300mm nib requirement to all rooms, rather than just entrance level spaces. As most doors on upper levels open in to rooms, rather than in to circulation, the implications would not be significant.

7. Wheelchair accessibility: 'There should be space for turning a wheelchair in dining areas and living rooms and adequate circulation space for wheelchairs elsewhere'

Relevant data received

All plans have been considered in relation to this standard though in the absence of furnished layouts, these had to be assessed based on room size.

Evidence of compliance

A large proportion of flat and house plans for private sale feature open plan living/dining/kitchen areas in which one turning circle is usually enough to meet this standard.

Specific implications of imposing this standard on the plan typologies reviewed

As the principal selling point, living spaces are generally a fairly good size and, with a few notable exceptions, this requirement would not appear to cause much difficulty except where smallish separate dining rooms are provided. 'Adequate space for wheelchairs' is more difficult to assess; many bedrooms are very small and unlikely to provide any form of wheelchair access when reasonably furnished.

Broader implications of imposing this standard

None.

Implications of raising standards, eg as proposed in DD 266

DD 266 (9.1.2) extends the requirement for a wheelchair turning circle, to 'at least one bedroom' which would be problematic in many plans, when furnished.

8. Living room: 'The living room should be at entrance level'

Relevant data received

All plans have been considered in relation to this standard though we have assumed that a reasonably sized dining space or kitchen dining space can fulfil this requirement (as described in the FAQ section).

Evidence of compliance

All flats comply with this standard except D types (those which are above ground and which are accessed via a private stair).

All type B (two storey house plans) reviewed have the living room at entrance level, though we are aware of plans which are inverted (ie living spaces above bedrooms). A number of C types (3 storey) provide the main living space at first floor level but provide a kitchen/dining room, 'family room' or other space capable of providing enough hospitality to be regarded as a 'living space' and have therefore been regarded as compliant. Some of these plans however, including those with an integral garage, do not provide an acceptable 'living space' at entrance level.

Specific implications of imposing this standard on the plan typologies reviewed

The wording of the standard needs to be amended from 'living room' to 'living space' if KD and dining rooms are considered to be an acceptable way of meeting this standard. The FAQ section suggests that type D dwellings (including FOG's) could meet the LTH standard if the private stair conforms to the easy rise specification of a communal stair. This is clearly a compromise but would bring them into line with first floor flats which are accessed by communal stair – these are classified as A types and do currently meet the LTH standard. If D types are to be permitted in the same way, there would need to be a further change of wording as, because the stair is private, the entrance level is technically at ground level, although the accommodation is above.

Those C type dwellings which have no living spaces at entrance (ground) level appear unable to meet the standard as currently defined, but there is evidence of confusion around the interpretation of this standard.

Broader implications of imposing this standard

Enlarging the footprint of the D types to have an easy rise stair and the C types to include a living space, would have an impact on cost/profit and density.

Implications of raising standards, eg as proposed in DD 266

DD 266 (7.1.2) requires provision to be made for a home lift or platform lift, in addition to a home lift, 'between the entrance floor…and all other floors'. This implies more space within the dwelling, the need to find a consistent location through all floor level for a future lift with trimmed openings at each upper floor level, and a 'follow – round stair' which could take a chair stair-lift to all floors. Whilst not impossible, this is a very onerous combination of requirements with considerable cost implications.

9. Entrance level bed space: 'In houses of two or more storeys, there should be a space on the entrance level that could be used as a convenient bedspace.

Relevant data received

All plans have been considered in relation to this standard though we have assumed that a reasonably sized dining space or kitchen/dining space can fulfil this requirement (as with standard 8 and as described in the FAQ section).

Evidence of compliance

As with standard 8, all flats comply with this standard except D types (those which are above ground and which are accessed via a private stair).

All type B (two storey house plans) reviewed have a living room at entrance level, though we have assessed some as being too small to provide an adequate temporary bedspace. Where C types (3 storey) provide only a kitchen/dining, family room, dining room or study and not a living space, we have taken a view about whether an acceptable bed space could be provided. Some other C type plans with only a very small or secondary living space at entrance level cannot meet this standard. A small number of plans, which failed to meet standard 8 because they only provide a bedroom (and not a living space) at entrance level, can meet standard 9. More often, plans which fail to meet standard 8 also fail to meet standard 9.

Specific implications of imposing this standard on the plan typologies reviewed

As with LTH, the wording of the standard needs to be amended from 'living room' to 'living space' if kitchen/dining and dining rooms are an acceptable way of meeting this standard . The FAQ section suggests that type D dwellings (including flats over garages, or FOG's) could meet the LTH standard if the private stair conforms to the easy rise specification of a communal stair. This is clearly a compromise but would bring them into line with first floor flats which are accessed by communal stair – these are classified as A types and do currently meet the LTH standard. If D types are to be permitted in the same way, there would need to be a further change of wording as, because the stair is private, the entrance level is technically at ground level, although the accommodation is above.

Those C type dwellings which have no living space or bedroom at entrance (ground) level appear unable to meet the standard as currently defined.

Broader implications of imposing this standard

Enlarging the footprint of the D types to have an easy rise stair and the C types to include a living space, would have an impact on cost/profit and density.

Implications of raising standards, eg as proposed in DD 266

The additional good practice advice in LTH suggest that a kitchen should be provided at entrance level, and this is embodied as one of the 'key accessible facilities' in DD 266. Whilst it would further reduce flexibility in terms of dwelling layout and location of rooms, it is not an unreasonable requirement. An upper floor kitchen would not be convenient for most people and would be inaccessible to wheelchair visitors.

10. Entrance level wc and shower: 'l0a. There should be a wheelchair accessible wc, with 10b. Drainage provision enabling a shower to be fitted in the future'

Relevant data received

All plans have been considered in relation to this standard.

Evidence of compliance

Very few plans, except the small number which have been offered as meeting the LTH standard, indicate a fully accessible wc, as currently defined, in either the wc/cloakroom (typically in houses) or the bathroom (typically in flats). None of the plans provided (except some of the ones noted as LTH classified) indicates a level access shower floor gully, and it seems very unlikely that this is provided unless the standard is being applied. Even then, it appears that the need for the shower floor gulley is often over-looked. (Note that as a Part M wc is currently considered acceptable in 2b houses, we have assessed the ability of a wheelchair visitor to use the wc, albeit with the door ajar, in this typology).

Specific implications of imposing this standard on the plan typologies reviewed

In terms of additional space, the implications of meeting this standard for flats will be considerably less than for houses, particularly as a 2.1m x 2.1m bathroom layout can now satisfy the requirement for a fully accessible wc (changes to web-site FAQ June 09). The practical difficulties of providing for a level access shower (10b) are considerably greater in dwellings above ground level however and pumped solutions are often required unless the soil and vent pipe (SVP) is very nearby. Making proper provision (ie measures which make it genuinely easy to bring into use later) can be quite costly at build stage, but the alternative of making only 'token' provision can prove unworkable, or prohibitively expensive, later on. Clarification about what constitutes reasonable provision for the future shower would be welcome.

In houses, upgrading the wc from Part M standard (typically 0.9-1.0m x 1.8-2.0m) to at least 1.4m x 1.8-9 m will have a significant impact on space, and therefore cost, particularly as a large majority of plans provide the cloakroom at the front of the dwelling, next to the front door. Increasing the width from 0.9-1.0m to 1.4m will, in most cases, require a widening of the entire plan width by the same extent. This will need to be replicated on all floors to maintain stackable footprints and, although it may be offset to some extent by a modest reduction in dwelling length, the overall increase to NIA (net internal area) is likely to be substantially more than the additional space required by in the wc itself. Most affected will be narrow frontage plans where the hall is also typically too narrow (and would need to be increased to meet standard 6) and the kitchen or living space which occupies the rest of the frontage is also very tight. Many plans also fail to provide the 300mm nib to leading edge of front door, as noted.

Broader implications of imposing this standard

The very narrow frontage types with front cloakroom will no longer be possible; dwellings will either become at least 500mm wider or the wc will be relocated to the back of the plan or turned through 90 degrees and become internal; located between K and L. The first option will be less desirable from a services point of view in those plans types which currently locate the kitchen at the front and the living room at the back ,as the wet services will be less consolidated. The latter option is undesirable because it eliminates the possibility of connecting the two 'social spaces' and the wc must be artificially lit and vented in a centre terrace situation, so is a less sustainable solution. 10b, the level access shower provision is however, much easier and cheaper to provide at ground level so this element will have less impact in houses than in flats.

10. cont...

Overall, there are potentially significant implications for cost/profit and density unless different layouts are adpoted.

Implications of raising standards, eg as proposed in DD 266

DD 266 proposes to extend the requirements of standard 10 to 2b houses in which a Part M wc is currently permitted. Most of the 2 bed house plans are very small – aimed primarily at first time buyers. Proportionately, the extra space and cost required will have an even greater impact than in 3 bed and larger plan typologies. Some narrow frontage, front wc plan types will no longer be possible as described above.

In addition, DD 266 requires the level access shower area to be 1000mm x 1000mm, whereas the FAQ section of LTH suggests that 700mm wide is sufficient. This would add extra floor area to the wc unless there is flexibility about where this goes (ie in front of the wc, extending towards the door, could normally be accommodated without extra space, but is less easy than a corner in terms of water containment.

12. Stairlift/through floor lift: The design should incorporate;
'l2a provision for a stairlift
12b suitably identified space for a through-the-floor lift from the ground to the first floor, for example to a bedroom next to a bathroom.'

Relevant data received

All plans have been considered in relation to this standard though this has been one of the more difficult standards to assess.

Evidence of compliance

Only the plans noted as LTH compliant show any evidence of meeting either part of this standard.

Specific implications of imposing this standard on the plan typologies reviewed

In order to assess the implications of imposing this standard, we contacted the main manufacturers/suppliers of chair stairlifts and through-floor lifts to fully understand the technical requirements and limitations. Our findings are included as Appendix E.

12a chair stairlifts - LTH requires 900mm clear space between wall and handrail, and unobstructed landing space at top and bottom of a stair. Winders are permitted but not recommended. Most of the stairs featured in the plans appear to be less than the 1000mm o/a width required to achieve 900mm clear. Most would therefore have to be widened with obvious spatial implications, although it should be noted that Stannah regard 800mm clear as adequate. No definition of 'unobstructed landings' is provided, but it could be inferred that this means a 'permanent' space at the bottom of the flight of approx 400mm square (approx. space occupied by a folded chair) with additional space in front of the chair to unfold it and get on, and enough space at the head of the flight to get safely off the chair and turn etc. A substantial number of the plans, including almost all of those with winders, fail to provide 'reasonable space', though, as noted, this is based on our considered view, in the absence of precise wording in the standard itself.

The majority of plans use winder stairs. It is clear that parking/mounting space is generally much tighter in these cases as the flight springs straight off from the hallway. In almost all cases, there is very limited potential for the stair-lift rails to continue beyond the bottom of the flight in these circumstances, so a hinged rail would be necessary. These add substantial extra cost and practical difficulty in use, usually involve a 90 degree turn, and are a severe trip hazard while extended.

However, Stannah advise that they very rarely encounter stairs in new build properties which could not be fitted with a stair-lift and, in the absence of a suitable landing space at top or bottom, the chair can be parked on the flight, though this is something of a 'last resort'. The issues are therefore primarily ease of use and cost. The rails for anything except a straight stair require bespoke manufacture, and cost significantly more, especially with hinged extensions. In most cases two parallel rails are required instead of a single one for 'curved flights'. Because of the impressive technology and 'can-do' attitude, only those plans which have very narrow winder stairs with very tight landings, have been assessed as completely unsuitable in terms of their capacity to take a stair-lift though the vast majority of those considered are less than ideal, especially in the smaller dwelling types.

Even in the larger plans, more of which feature straight flights, there are often practical difficulties in double fronted layouts with a central stair. Perceived as something of a status symbol, these plan types often fail to provide suitable landing space at first floor level and no opportunity for 'parking' upstairs which is much less obtrusive and likely to be preferred by the majority who aim the make their disability as invisible as possible.

12. cont...

12b through-floor lifts - The majority of plans lack a good, obvious location for a through floor lift. In many cases, the only workable location without considerable re-planning, would be in the corner of the plan, rising from the living space to a bedroom. In all cases, this would be very unsightly on the' window wall' – often obstructing the obvious location for the tv. The LTH requirement for lift arrival into a 'main bedroom' is demonstrably vague without providing a definition or minimum floor area to define what is meant by a 'main bedroom'. Based on a test of reasonableness about the capacity of the room to remain functional without loss of a bedspace, almost all would fail. Although LTH suggests that the lift must have its short end backing on to a wall, this appears to be unnecessary for the lifts supplied by the largest manufacturer/supplier, so there is more flexibility than might be supposed. The aperture size suggested in LTH is also smaller than that required for the recommended lift supplied by the same manufacturer.

Broader implications of imposing this standard

No implications beyond the dwelling but considerable impact in terms of cost/profit, and therefore density, depending on a more precise definition of the landing space needed. LTH does not require chairlift or through-floor lift access beyond the first floor, so there are no additional complications for 3 storey (type C) compared with 2 storey (type B) houses, as long as the plan provides a main bedroom and bathroom at first floor level.

Implications of raising standards, eg as proposed in DD 266

DD 266. 7.2.1 requires potential for chairlift and though-floor lift access to all floors. In all 3 storey dwellings, there would be additional cost implications for the rails, if and when required, and layouts which do not have a 'follow-round stair' would be unable to meet this higher standard of access to all floors, unless transfer to a separate stair-lift is permitted. Where stairs do follow round however, and subject to suitable landing space, there would be no additional capital cost involved.

In terms of extending the requirement for through-floor lift potential to all floors, the main capital cost implication would be the cost of forming an additional hole (note that this would have to be larger because home-lifts have a maximum vertical travel distance of 3-3.5m), so a platform lift would be required. In design terms, it would be extremely challenging to rationalise the layouts in order to find a good, consistent location at all 3 levels, and when installed the lift would be extremely intrusive. 2-2.5m2 usable floor space would effectively be lost at all floor levels.

13. Main bedroom: 'The design and specification should provide a reasonable route for a potential hoist from a main bedroom to the bathroom'

Relevant data received

All plans have been considered in relation to this standard.

Evidence of compliance

Only the plans noted as LTH compliant show any evidence of compliance with either part of this standard.

Specific implications of imposing this standard on the plan typologies reviewed

Reasonable route is not defined under LTH and there is recent anecdotal, but reliable, evidence from occupational therapists (OT's) which suggests that hoisting from room to room is no longer considered good practice and that lifting from bed to wheelchair or shower chair is now more common. Subject to adequate circulation width, which has been evaluated under standard 6, few layouts would be unable to allow for movement between a bedroom and the bathroom. In a small number of cases, where the route is particularly long, narrow and/ or involves a number of tight turns (or a main bedroom and bathroom are not provided at 1st floor) we have deemed the plans unable to meet this standard.

Broader implications of imposing this standard

None.

Implications of raising standards, eg as proposed in DD 266

DD 266 does not raise the requirements for hoisting beyond the LTH standard.

14. Bathroom layout: 'The bathroom should be designed for ease of access to the bath, wc and basin.'

Relevant data received

All plans have been considered in relation to this standard.

Evidence of compliance

There is no consistent evidence of compliance with this standard except in plans which are noted as LTH compliant and a number of these fail to reflect the extent of the accessibility requirements which were described in the FAQ section prior to June 09. Of the other plans, most layouts are diagrammatic, some do not indicate the position of sanitary fittings, and only a very small number either show an accessible layout or provide enough floor space. Having said that, the very recent (June 09) change of wording to the FAQ section of the web-site does allow for a possible layout within a 2.1 x 2.1m shell (inclusive of ducts) and a significant proportion of the plans received provide a bathroom of this size, or nearly this size, though none reflect exactly the permitted layout.

It should be noted that the wording of the standard alone, taken at face value, 'the bathroom should be designed for ease of access to the bath, wc and basin' poses very few difficulties. The full extent of the requirement ie descriptions and drawings of 'ease of access' and fully accessible wc's, is only revealed in the FAQ section. This may be the cause of some genuine confusion.

Specific implications of imposing this standard on the plan typologies reviewed

As a result of the June concession to the FAQ, the spatial implications and practical difficulties associated with plumbing and drainage, will be reduced, compared with the situation prior to June 09. If the further improvements which have been suggested, and which permit side transfer as a future option rather than an initial requirement, are accepted into the standard, the plumbing and general neatness of bathroom layouts will be improved further.

Although 2.1 x 2.1m may be the most compact of the current solutions which are now possible, this shape and size will not suitable for all the plans reviewed, so other solutions which achieve the same end, will still be needed and should be permitted subject to compliance with the principles.

Broader implications of imposing this standard

None

Implications of raising standards, eg as proposed in DD 266

In most respects, DD 266 does not increase the bathroom requirements beyond those for LTH. However, as with standard 10, the shower area is increased to 1000mm x 1000mm and the illustration at Figure 7 shows a larger room than the similar illustration at Figure 9 in LTH.

4.0 Findings

Table 1 Summary of results of Analysis

Dwelling Types		No of plans received	Average floor area per type	Average Score for Lifetime Homes Criteria (max. 3 points per criteria)																Average 'under score' i.e. points lost
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1 storey (flats)	A1 one bed	2*	50.35						2.0	2.5	3.0	n/a	1.0		n/a	2.0	1.0			-6.5
	A2 two bed	16	60.92						1.9	2.25	3.0	n/a	1.6		n/a	2.8	1.7			-4.7
	A types	**18**	**59.7**						**1.9**	**2.3**	**3**	**n/a**	**1.5**		**n/a**	**2.7**	**1.6**			**-4.9**
2 storey (houses)	B2 two bed	19	65.5					n/a	1.9	1.8	3.0	1.95	1.3		1.6	2.2	1.7			-7.6
	B3 three bed	26	86.0					n/a	1.9	2.2	3.0	2.9	1.2		1.8	2.85	1.85			-6.6
	B4 four bed	36	116.0					n/a	2.2	2.75	3.0	3.0	1.8		1.7	2.7	2.1			-4.7
	B types	**81**	**94.5**					**n/a**	**2.0**	**2.3**	**3.0**	**2.7**	**1.5**		**1.7**	**2.6**	**2.9**			**-5.6**
3 storey (houses)	C3 three bed	13	112.0					n/a	1.0	2.15	2.4	2.4	0.1		1.3	2.1	1.3			-11.1
	C4 four bed	11	129.0					n/a	1.7	2.3	2.4	2.7	1.2		1.8	1.1	1.0			-9.7
	C5 five bed	4*	163.4					n/a	1.0	2.25	3.0	3.0	1.0		1.75	2.5	2.0			-7.5
	C6 six bed	2*	171.55					n/a	1.5	2.0	3.0	3.0	1.0		1.5	3	1.5			-7.5
	C types	**30**	**129.1**					**n/a**	**1.3**	**2.4**	**2.5**	**2.6**	**0.7**		**1.6**	**1.8**	**1.3**			**-9.9**
Other types	D1 one bed	1*	68.7					n/a	1.0	3.0	0	0	0		1.0	3.0	1.0			-15
	D2 two bed	8	62.3					n/a	1.0	3.0	0	0	0		1.0	3.0	1.25			-14.75
	D types	**9**	**63**					**n/a**	**1.0**	**3.0**	**0**	**0**	**0**		**1.0**	**3.0**	**1.2**			**-14.8**

note1 figures marked * represent a very small sample so result may not be typical
note 2 criteria 10 has been assessed in relation to the ability of a wheelchair user to use the wc, reflecting the intention of Part M, for 2b houses

Additional findings

- **average 'underscore' or points lost from the 33 no. 'LTH compliant' plans is - 2.5**
- **average 'underscore' or point**s

1. Dwellings on one level meet the standard more easily than dwellings on two or more levels

As expected, in relation to the internal criteria which we have been able to assess reasonably objectively, flats meet the standard more easily than houses. Criteria 12 becomes irrelevant, with no need to allow for either a chair-lift or thro-floor lift, as does criteria 9 because all bedrooms are at entrance level, and criteria 8 (living room at entrance level) is automatically satisfied too.

However, the results do not necessarily reflect the full cost or buildability implications of meeting some parts of the standard in flats. For example, in our experience and borne out by others, providing the level access shower in upper floor dwellings can be extremely challenging because of the need for solid party floors in higher rise buildings and limited potential to manage drainage falls when connecting the floor gulley to the drainage system. Pumped solutions are often required and drain runs often have to pass through the floor to the flat below where they need to be boxed in at high level.

Outside of the dwelling, providing level access to entrances and others external doors, leading to balconies and roof terraces, is often extremely difficult and, in terms of overall accessibility, upper floor flats without lifts must be regarded as the least acceptable of all dwelling types almost irrespective of the features provided within the home.

2. 3 storey dwellings meet the standard less easily than 2 storey dwellings

3 storey dwellings scored lower (average -9.9) compared with 2 storey dwellings (average -5.6) for two main reasons;

- the location of some key spaces within the dwelling ie a failure in a number of cases to provide a living room or area, suitable for either providing a decent level of hospitality, or an entrance level bedspace, and a similar failure in some cases, to provide either a 'family' bathroom or main bedroom, or both, at first floor level
- the smaller ground floor footprint typical of 3 storey dwellings (one of the main reasons why 3 storey dwellings are provided ie in order to increase density and reduce land-take) means that there is undue pressure on the entrance level and circulation as well as space within rooms. This pressure is even more acute when an integral garage is provided.

3. Other dwellings types; first floor flats accessed by private stair, entered at street level offer very poor accessibility and are poorly dealt with in the standard

This category has been the most difficult to assess and is one of the most challenging in terms of accessibility. We have taken 'entrance level' to meet the floor on which the private front door to the dwelling is provided. For type D dwellings, often flats over garages or 'FOGS', the entrance level comprises only a landing and flight of stairs. It is therefore incapable of satisfying criteria 9 and 10, although the LTH standard is not clear about the status of this dwelling type.

An example is included at the end of this section.

4. Dwelling size has a significant impact of the potential of a plan to meet the standard

Table 1 also illustrates the relationship between dwelling size and compatibility with the standard. A number of criteria imply the need for more space compared with a dwelling of the same basic type which isn't designed to meet the standard. Those developers who are not currently aspiring to meet the standard, are falling short in a number of space-related areas. Assessed against LTH, these are some of the most typical space-related problems;

- insufficient circulation space
- WCs and bathrooms too small
- living rooms and bedrooms not large enough for a future lift
- temporary bedspace difficult to accommodate in living rooms even allowing for some furniture to be removed
- few bedrooms large enough for wheelchair movement
- stair landings fail to allow enough space for a chair-lift to be accessed and parked
- top landing at first floor level in many plans has a doorway very close to the top riser; potentially very dangerous where the door opens out and still dangerous where the door opens in

A significant number of plans fail in one or more respects due solely to insufficient space but, on the whole, the same plans also fail to provide adequate space for furniture and full occupancy, even without factoring in LTH. Interestingly, LTH says nothing about storage, so this is not included in the list though insufficient storage is perceived to be a major problem by many home owners, including older people and those with reduced mobility or physical impairment.

For each type, the table indicates a strong correlation between lower floor area and lower levels of compliance potential.

Examples of typical small problematic plan types are included at the end of this section.

5. Dwelling layout has a significant impact of the potential of a plan to meet the standard, especially in houses.

Narrow frontage

There are particular implications for certain dwelling layouts. Small, narrow frontage homes are particularly challenging, especially when combined with winder stairs. In most of the narrow/medium frontage plans supplied, the ground floor wc is located at the front of the plan, next to the front door – the combination of wc, hall and either kitchen or living room therefore determines the plan width. Only a very small minority of plans, except those classified as LTH, provide more than a minimal Part M wc. Each of the 3 components which occupy the front of the plan, would therefore need to be widened with a typical cumulative impact of 0.5-1.0m on the frontage required for 3-4 bedroomed houses of this type, unless they are re-designed to locate the wc/cloakroom elsewhere in the plan. In effect, they then become a different typology.

Front living, rear bathroom

Plans which have the living room at the front of the plan and the bathroom at the back, are preferred by many as rear garden access is then via the kitchen or kitchen/diner, and the bathroom is located above the kitchen, but they pose problems in terms of the future lift access. Ideally, the through-floor lift should connect the living room with a main bedroom close to a bathroom, so where the living space and bathroom are on different sides of the plan, this is difficult to achieve. It often requires compromise; either in terms of functionality from the outset (eg moving the living room to the back of the plan) or a less than ideal lift location (eg within the kitchen diner). The acceptability of compromises such as these is not entirely clear.

Double fronted, central stair

These plan types tend to be much more spacious than narrow frontage plans with the same number of bedrooms, and accessibility is generally better as a result. There tend to be specific difficulties with chair-lift arrangements however. Often there is a narrow landing running across the head of the stair with no discreet parking place and very limited space to get on and off, and frequently a doorway at the bottom of the flight too.

Dwelling layouts which tend to be inherently problematic, can be summarised as;

- all layouts with winder stairs and most of those with dogleg stairs
- narrow frontage, especially with
  - winder stairs
  - 3 beds and larger with wc at front of plan, adjacent to front door
- front living room, rear bathroom
- double fronted, central stair

4.4 'Before and after' plans

Two respondents supplied versions of the same house plans, before and after the application of LTH principles. This was particularly interesting. We analysed both versions in the same way as the other plans but produced special analysis sheets in order to present the direct comparisons more clearly.

4.4.1 The level of improvement

In all cases, the 'after' version are significantly more accessible (measured in terms of LTH compliance) than the 'before' versions.

None of the after versions, in our view, fully meet the standard. A number of plans fell short by only 2 points and the worst (C.3 (6).13) by 5 points. The previous version of this plan (C.3 (6).12) had scored -18 so the improvement was still significant.

4.4.2 Remaining problems

The remaining problems in this plan, and many of the others, were mostly associated with the arrival point of the future through-floor lift (often in a single bedroom, not a 'main' bedroom) the relationship of that room to the bathroom and the hoist route. In some cases, the hoist route was shown from a bedroom other than the one in which the lift arrived.

4.4.3 Differences between before and after plans

The extent of the differences between the 'before' and 'after' plans, varies considerably. In three cases, only 'after' plans were supplied as the previous house types had had to be abandoned and redesigned completely in order to meet the standard. Some had very significant design changes with key spaces relocated, and/or the footprint shape altered and/or the floor area increased. In other cases, the impact was minimal and changes had been accommodated within the same overall internal floor area, albeit with some compromises elsewhere in the dwelling.

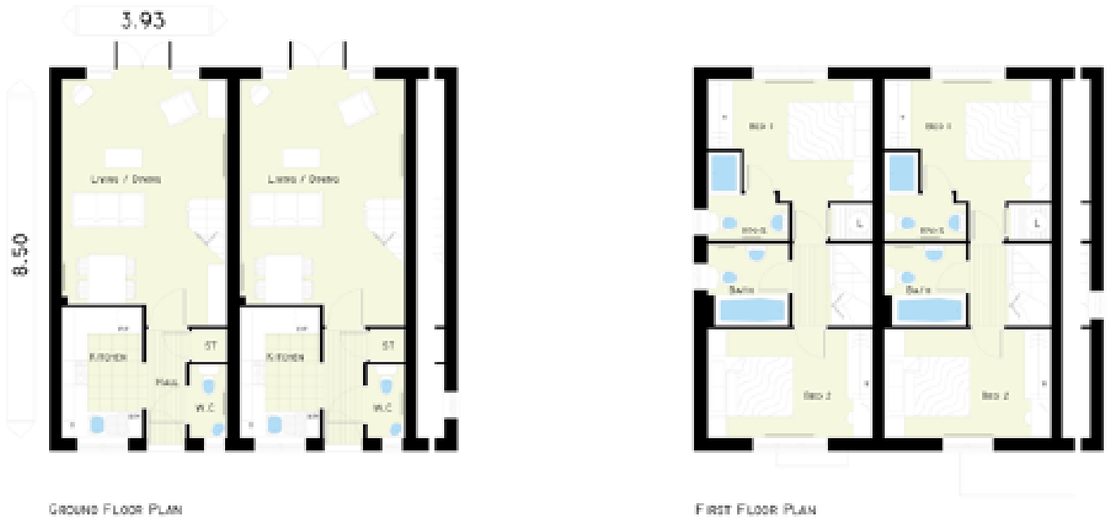
Another of the 'after' plans, B.2.(3).18, is an interesting example of a situation whereby the changes have resulted in a good level of LTH compliance (scores -3) but a poor plan in terms of functionality and distribution of spaces. In an attempt to meet standards 8 and 9, the plan now shows a bed-sitting type space at entrance level furnished with a sofa and single bed. At first floor level, the stair arrives directly into a kitchen, dining and main living space. The main bedroom is accessed from this space, immediately next to the kitchen and turn, links to the bathroom, which is en-suite only. Under LTH, the plan scores well (-3) but is unlikely to function sensibly as drawn, and it seems likely that the owner occupier would re-locate the kitchen/diner to the ground floor and provide the living space over with two bedrooms. We imagine that the original layout, which was not provided, reflected this more practical, but less compliant, arrangement – and would suit the vast majority of occupants much better.

Examples of some of these plans are included at the end of this section.

Examples of small type B (2 storey plans) which provide very limited accessibility

B2 (4) C2 (one of the smallest 2 bed 2 storey plans)
Typical example of rear kitchen/diner accessed via living
- entrance lobby and 1st floor landing too small
- flat floor doors too narrow
- bathroom inaccessible
- bedroom 2 too small

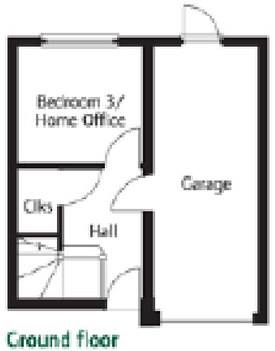
dpaces - 11



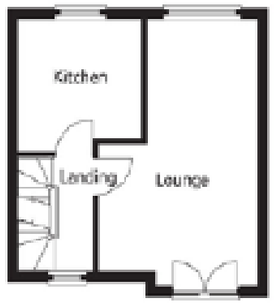
B2 (4) C3 (the narrowest 2 bed 2 storey plan resolved)
Typical example of frontage comprising kitchen, hall, part M wc
- entrance hall and 1st floor landing too small
- flat floor doors too narrow
- no nibs to front door, living room or bed 1
- bathroom inaccessible

dpaces - 10

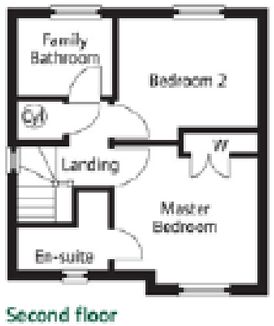
Examples of a type C (3 storey plan) with very low potential for compliance and a reasonably compliant type B (2 storey plan) but with limited functionality and no access to private outside space



Ground floor



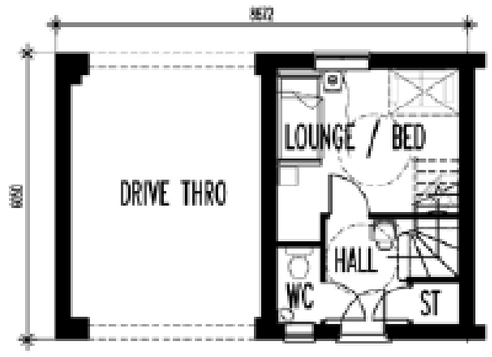
First floor



Second floor

winder stair variation of type C3 (4–5) 6 (small 3 storey with integral garage)
- no living accommodation at ground level
- only part M'ed
- no bathroom or bedroom at first floor
- stair-lift very difficult due to winders and tight landing at 1st floor
- the lowest scoring plan received

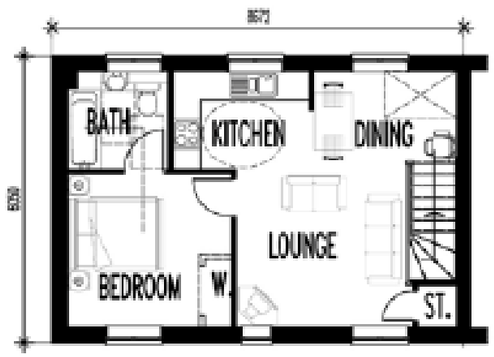
Scores - 10



GROUND FLOOR PLAN.
65.26 SQ.M.
702.45 SQ.FT.

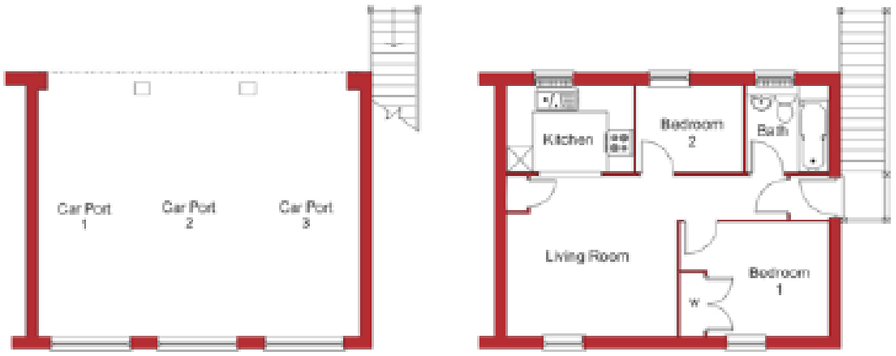
B.C (5) 18 jan 'elter' plan considered 'LTH compliant'
example of a bed-sitting room which satisfies criteria 5 and 9 (acceptable as a short term provision i.e. temporary hospedity but unlikely to provide hospitality to a visiting friend or family member in a wheelchair or provide a good family home)

Scores - 5



FIRST FLOOR PLAN.

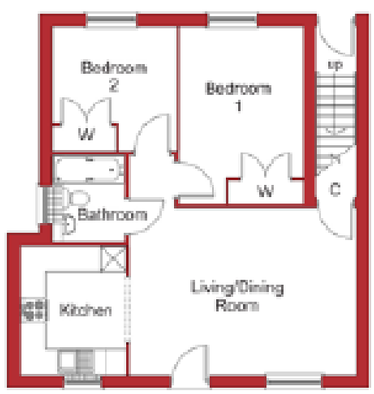
Examples of type D (other) dwellings - upper floor flats with private stair access from ground level but all accommodation at first floor.
(Also examples of unfurnished plans which are very difficult to assess).



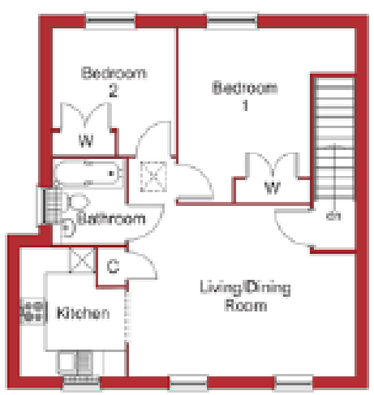
Ground Floor

First Floor

D. 2 (3) 06
a flat over garage or 'POD': this example served by a private external stair
Source - 14



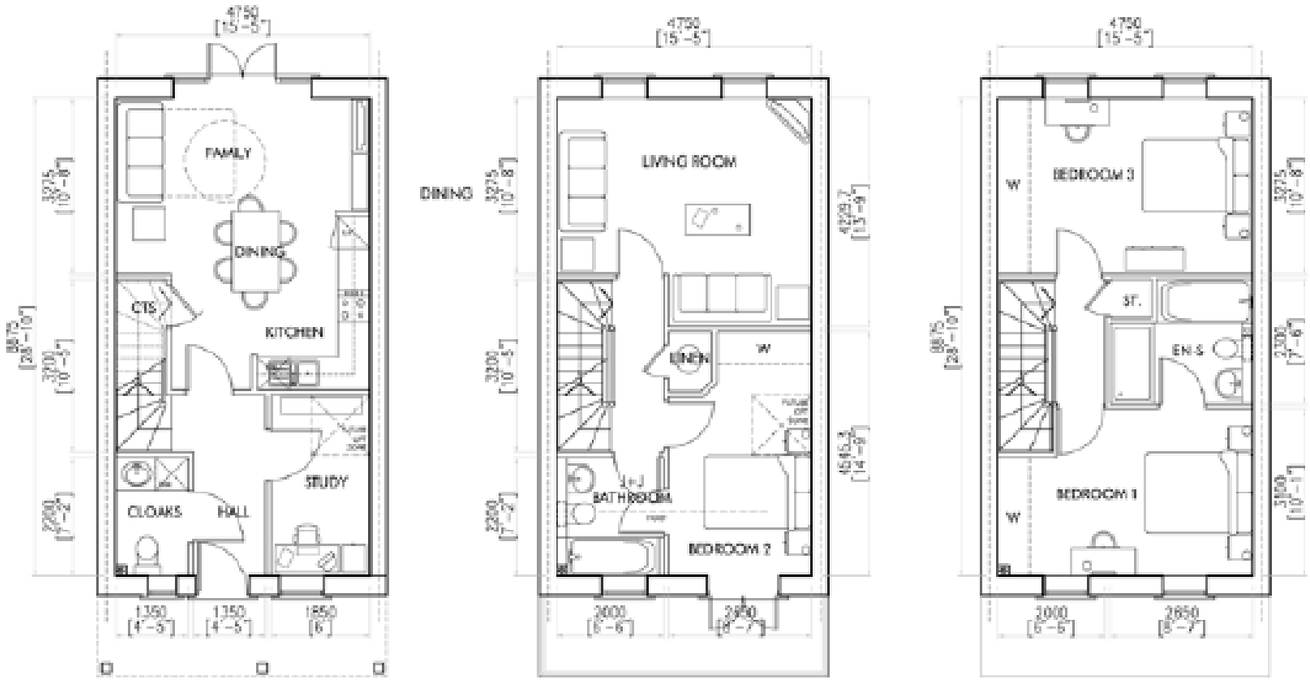
Ground Floor - Plot 5 (Pillowell)



First Floor - Plot 6 (Pillsbury)

D. 2 (3) 07
an upper floor flat served by private stair
Source - 14

Examples of before and after plans

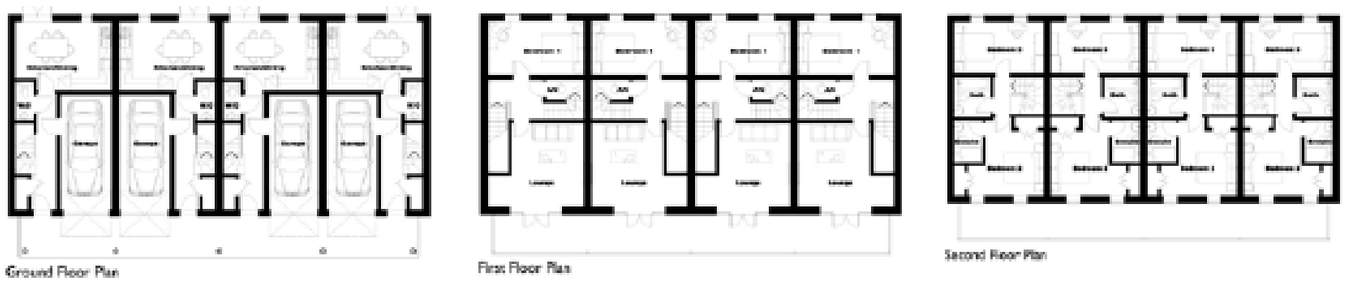


GROUND FLOOR

FIRST FLOOR

SECOND FLOOR

After version
03 (p. 13
Scores - 8

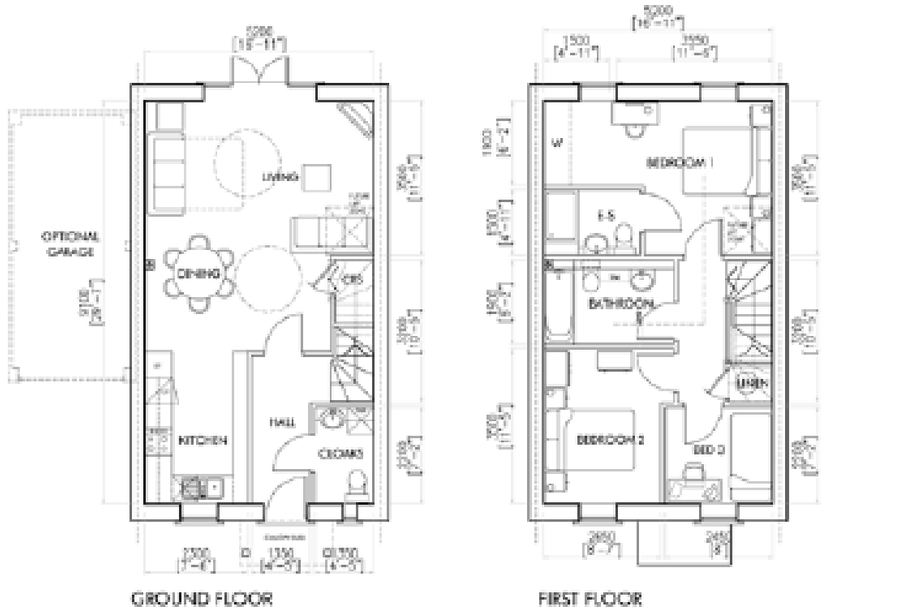


Ground Floor Plan

First Floor Plan

Second Floor Plan

Before version
03 (p. 12
Scores - 16



GROUND FLOOR

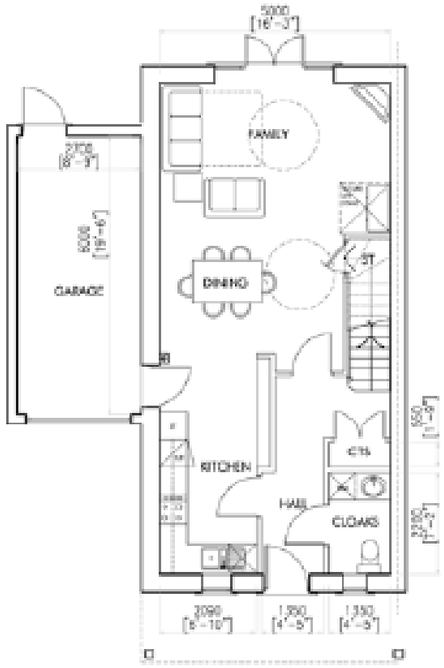
FIRST FLOOR

Alter version
03 (0, 2)
Score - 6

Ground Floor Plan

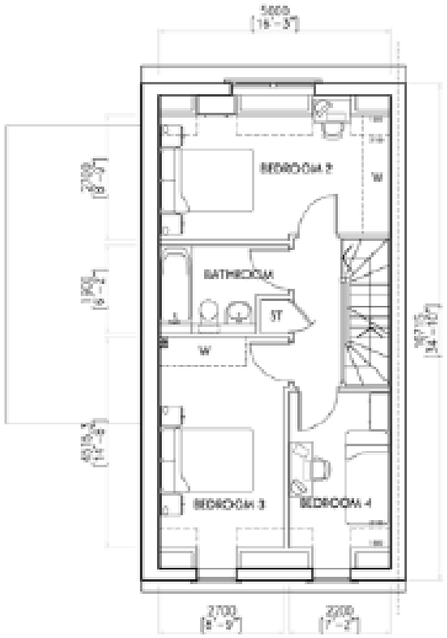
First Floor Plan

Extra version
03 (0, 2)
Score - 6



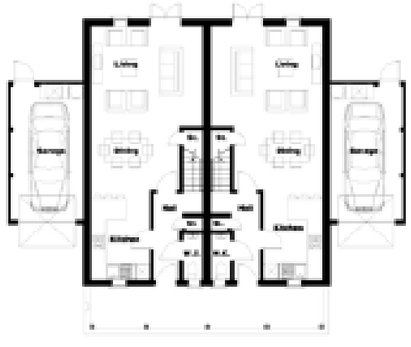
GROUND FLOOR

FIRST FLOOR

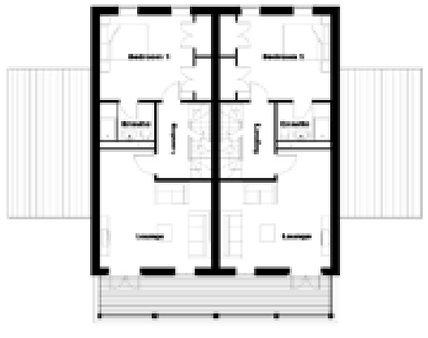


SECOND FLOOR

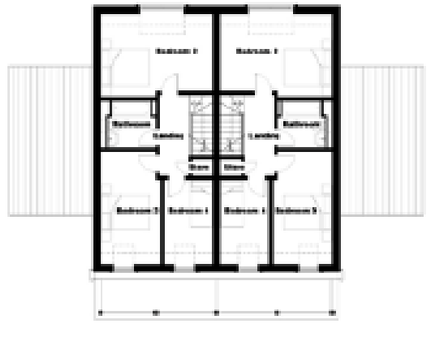
After version
O4 (7). 11
Scores - 3



Ground Floor Plan



First Floor Plan



Second Floor Plan

Before version
O4 (7). 10
Scores - 11

5.0 Conclusions & Additional Comments

5.1 Conclusions

5.1.1 The general level of compliance

At face value, the level of compliance with the standard as evidenced by the plans received is extremely low, although the overview of potential for compliance, as reflected in the scoring and shading, is more optimistic.

The fact that so few plans currently seek to meet the standard is not surprising as we did not specifically request compliant plans and LTH is not yet a widespread mandatory requirement for new homes outside of London.

It does suggest that greater accessibility is not a high priority for the majority of customers (purchasers) as house builders are notoriously quick to respond to market demand. On the other hand, this study provides no direct evidence that purchasers would be less happy if their homes were designed to meet the standard and it may be that they would be more satisfied if they did. Although we have not been asked to consider cost specifically, there is a widely held view that there are financial implications associated with many of the criteria and general awareness that the cost of new homes is a top priority for many purchasers, especially first time buyers.

The low level of compliance also suggests that relatively few Local Authorities have adopted LTH into local planning policy. Outside of this study, there is recent evidence that this is changing, and a number of developers have advised that they are reviewing their housing portfolio to reflect the increasing burden of regulation. Part L and the Code for Sustainable Homes have been mentioned most often, but Lifetime Homes has been cited by some developers – either in response to the Code or to local planning policy. The questionnaires indicate a mixed picture with most respondents expecting the number of dwellings built to LTH to increase over the next two years, but others expecting no noticeable change.

The need for 'future-proofing' does however, seem to be a common theme across the sector. This appears to be partly because re-designing a standard range of plans is a considerable investment in terms of time and cost so the designs need to run for years, not months, and partly to provide them with more flexibility, so that when (as now) the market becomes unstable, they have the option to switch tenure and sell their surplus stock to RSL's for affordable rent.

Few have completed this process of review and updating, and almost the plans received pre-date the current market downturn. Dates on the drawings indicate that the majority of plans were produced up to 4 years ago and relatively few appear to have been produced within the last 12 months. Most of the 'LTH compliant' layouts are amongst the most recent however, which gives some indication of increasing take-up.

5.1.2 The criteria likely to have the most impact and the dwelling types least able to meet the requirements

As described in Section 4.0, this varies from type to type. For all dwelling types, the requirement for level or ramped approach to all ground floor doors is extremely challenging on sloping sites. In flatted developments where amenity space (whether private or shared – balcony or roof terrace) is above ground level, there are significant implications for external doors on upper floors. This study has not been able to reveal much about the impact of the impact of criteria 2 and 3, because of the lack of evidence about site layout and levels, and the suburban house types which pre-dominate amongst the plans supplied, but achieving widespread level access is recognised as a significant issue.

Related to this, the need for higher density urban typologies, including mixed use developments which respond to Lifetime Neighbourhoods objectives by combining community, retail and commercial uses with residential use, is higher than ever on the agenda. The non-residential elements are usually at street level with flats above, and this, coupled with increased flood risk, means that we will continue to build many homes above ground level with all the challenges for amenity, parking, accessibility and social cohesion that implies.

Within the dwelling, the findings indicate that the number of floor levels within each home has the most significant effect on its ability to meet the standard. Maisonettes, or other upper floor dwellings on more than one level, therefore face an onerous combination of challenges. Although none were received in this study, these typologies are felt to be useful urban models for larger families in densities which rule out houses. They tend to plan more efficiently than very large flats in which the circulation often becomes extensive to serve the number of rooms required, and families often appreciate the extra privacy and separation that results from having bedrooms on a different floor from living spaces. Frontage per dwelling and extent of communal circulation can also be significant in very large flats, making them uneconomic typologies.

The impact of applying the standard to small, narrow frontage dwellings will also be much greater than the impact on larger, wider dwellings. Creative and practical design can significantly mitigate against the effects of this but the cumulative impact of wider hallways, wider wc's and 300mm door nibs – particularly on front doors and wc doors which open into circulation areas, seems likely to have some implications for cost and density, even if layouts are re-designed. A number of respondents have commented that many of these typologies, particularly smaller houses are the low cost starter homes which help young people get onto the housing ladder. Put into overall context, the number of plans which would have to be re-planned from scratch and significantly enlarged is relatively few, but the vast majority would need design modification and some adjusted of space allocation and priorities.

Lift access is a controversial area. None of the drawings received indicate a lift to access upper floor dwellings although this does not necessarily infer that those same plans are not lift served in other developments. Similarly, it does not indicate that most flatted developments are not lift served but it does suggest that in the lower rise, more suburban settings (for which standard plans tend to be produced) lift access is not typical and presumably not therefore perceived as a critical issue by purchasers. The block plans of these small 2/3 storey flatted developments indicate that they often serve only 2- 8 upper floor dwellings. This means that a lift would be difficult to afford in terms of capital cost and service charge, with so few residents to share the on-going cost of repair and maintenance.

Although not strictly an LTH issue, as lifts are not required under the standard, it is clearly relevant in terms of the broad inclusive agenda and warrants serious review in the light of the level access requirements under standards 3 and 4.

5.2 Additional comments

5.2.1 The level of understanding of the LTH requirements

Anecdotally, the general principles of LTH seem to be fairly well understood though many feel that it is only aimed at older people or wheelchair users, and an even greater number seem to overlook the visitability or hospitality element of the founding principles.

In terms of direct evidence, the most useful indicator of the level of understanding, has been the 'before and after' plans discussed in Section 4.0. As noted, the improvement in terms of accessibility in the 'after' plans is significant, though lacking in some respects. Average points lost among the 106 plans which do not purport to be designed to LTH, is -8.5 compared with -2.5 amongst the 33 which do.

5.2.2 Attitudes towards LTH

The only direct evidence about attitudes comes from the questionnaires which tend to highlight some fairly negative opinion. In conversation, some developers have been more positive, however. Few seem to fundamentally disagree with the principles, but the detail of what is required, and how to implement it, seems to cause more concern. Extra cost and extra space are almost always cited. Lack of evidence base to demonstrate how many people would benefit from some of the more specific disability-linked requirements is also commonly raised and there is widespread concern about whether, and how, the standard can be consistently enforced. This is a particularly relevant consideration for volume house-builders who operate from regional branches across the country.

5.2.3 Comments about assessing plans against the standard

The practical difficulties in relation to the simple assessment which we have undertaken have been outlined in various parts of the report and warrant careful consideration. Dwelling plans alone are not sufficient to demonstrate compliance with criteria 1-5 although these are arguably the most important in terms of improved accessibility and potentially have the highest impact in terms of cost, design and buildability.

Even within the dwelling, it is not possible to assess compliance with criteria 11, 15 and 16 unless these are specifically annotated, and 7, 9, 10, 11, 12, 13 and 14 are also difficult unless fully furnished scale drawings are available. In the absence of this level of information, assessment relies on a good understanding of the minimum practical room areas required to furnish each type of space adequately, for each household size. Few of the plans received have been detailed enough to allow an inexperienced assessor to accurately consider compliance with criteria other than 6 and 8.

The suitability of a stair to take a future chair stair-lift, criteria 12, is an example of a requirement which is rarely impossible to achieve in practice but will often involve considerable cost and practical difficulty when the adaptation is needed, depending on the original stair configuration. This highlights the need for more definitive guidance about what is considered reasonable at the design stage. Other elements are similarly subjective and tighter wording or deemed to satisfy solutions might be usefully explored in some cases and a more pragmatic approach in others.

With the planned extension of the requirements to private sector dwellings outside of London, the study highlights a need to establish a clear basis for assessment - and in particular, whether that is based on assumptions of fully occupied, reasonably furnished dwellings. Anecdotally, many feel that most people tend not to need wheelchairs or stair-lifts until they are older and at this stage, if not before, most are under-occupying their homes. They question how many of the spatial requirements associated with disability should be imposed on the basis of full occupancy. This is a complex issue, but one which should be debated openly, and the principles and requirements presented clearly and logically.

An example of a plan which achieves a very good level of overall compliance, but which is less than ideal in certain respects, is included (opposite) to illustrate the point that assessment is often a matter of judgement involving some subjectivity.

5.2.4 Considerations for future guidance

In addition to the need for clarity and removal of ambiguity as far as possible, this study suggests that there would be merit in reviewing the way in which the standard is defined and presented in relation to the mechanism envisaged for compliance checking and enforcement. LTH is already a requirement for new housing of all tenures in London which implies a planning interest; likely to fall under the checking remit of Urban Design London (UDL).

Elsewhere, it is a requirement of a number of Registerd Social Landlords (RSL's) for affordable housing, a number of LA planning authorities, either just for affordable or sometimes all tenures, and an optional element of the Code for Sustainable Homes.

In terms of future guidance, it is due to become a mandatory element of the Code by 2011, for Level 4 status and the HCA are updating their standards to take effect from this date. But the growing support for LTH by various agencies will create important issues in relation to responsibility and consistency within interpretation, assessment and approvals, particularly in the immediate to short term. CLG's stated aspiration, to require all new dwellings to comply with LTH by 2013, should, if it is achieved, simplify the situation in terms of creating a 'level playing field'. Questions about where the standard should sit in terms of regulation are due to be addressed next year and are clearly very relevant.

Space standards are a crucial part of the debate. This study indicates a strong correlation between larger dwellings of each typology, and improved prospects of compliance with LTH. A number of the criteria, notably 5, 6, 7, 9, 10, 12 and 14, have direct implications for space, albeit modest in many cases.

The launch of the new draft London Housing Design Guide in July of this year, proposes new minimum space standards for dwellings with some additional minimum guidelines for individual room sizes. If, as the Mayor, hopes and expects, this becomes mandatory for all new homes in London, many of the LTH criteria, which are fully enshrined in the guidance, will be capable of assimilation into most schemes without significant further impact.

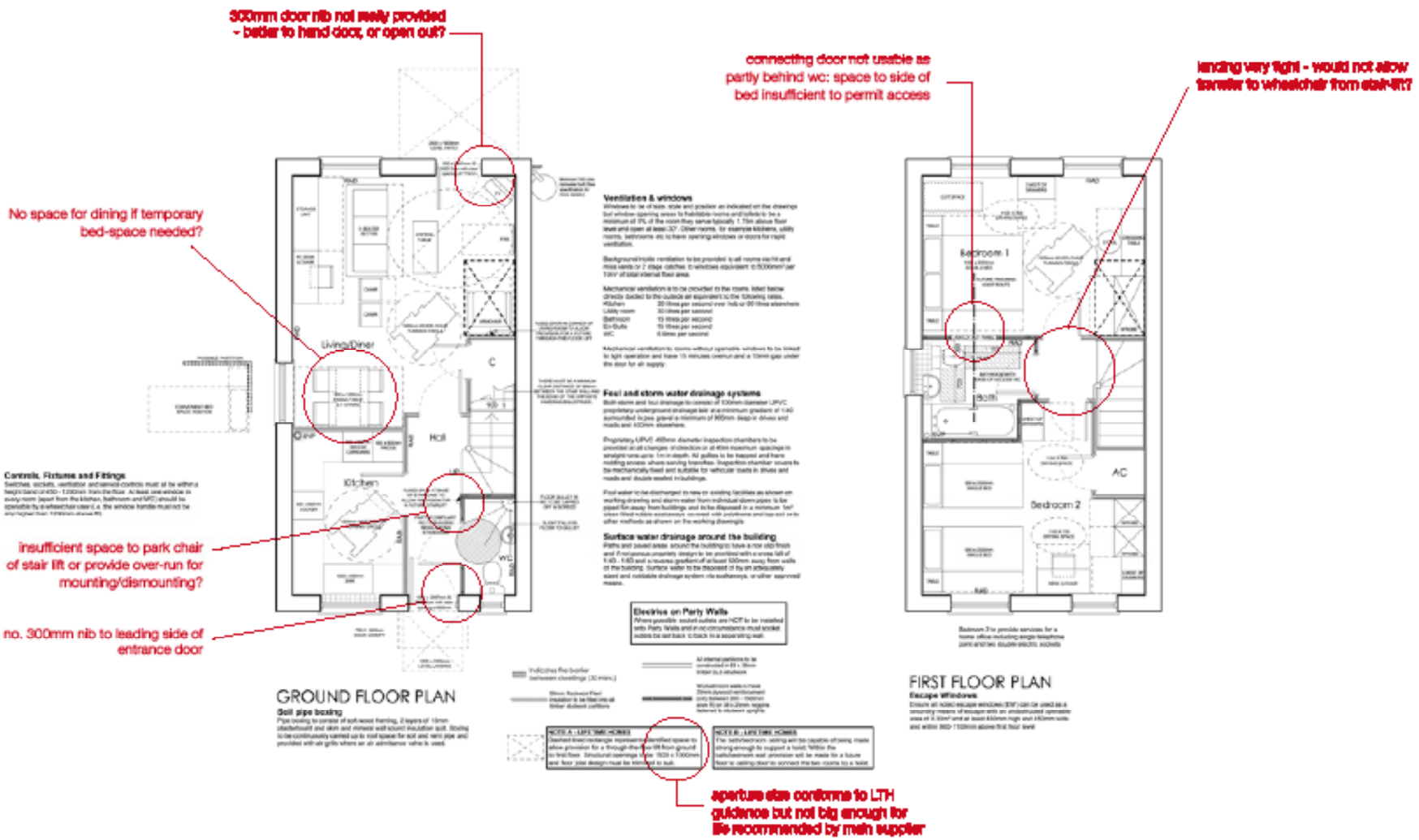
Similarly, The HCA are also expected to announce higher space standards, to take effect from 2011, and this will make assimilation easier for all new affordable housing. There may be some cross tenure application where HCA own the land released for development.

The view that there is a need to ensure streamlining and consistency between the numerous standards which currently apply to new housing is widely held, and has come across in conversation with many of the house-builders who have helped with this study. Some have also mentioned hidden complications associated with some of the LTH standards or areas where these compete with, or even contradict, other standards. There is confusion too about the status of DD 266:2007 and concern that the implications of applying the more onerous requirements in that development draft would be significant.

The differences and overlaps between Part M and the LTH standard are confusing and unfortunate. Many of the requirements are similar but few are exactly the same. Where there is direct duplication, it would seem sensible to remove the requirement from LTH and to achieve greater alignment in the other areas of overlap by strengthening Part M or relaxing LTH.

The report touches on many of these issues, and underlying much of the specific feedback and the general debate, there seems to be a degree of uncertainty about what the Lifetime Homes standards set out to achieve. This implies a need to re-state or re-define the underlying principles, particularly the extent to which LTH, can, and should meet the needs of wheelchair users. This must be reconciled with the need to respond to lifestyle choices and expectations, an aging population, economic imperatives and changing ways of housing construction and procurement.

Example of a very clear, relatively large, fully furnished and annotated 'compliant' plan (one of the most compliant received) but which still has a number of short-comings.



Appendix A

Information request; letter and questionnaire sent to developers

Our ref: J:\2812 ADHT\Docs\04 Design Data\4.4 Design Sketches\CLG letter.docx
Your ref:

1 Kingsland Passage
London, E8 2BB
t: 020 7275 7676
f: 020 7275 9348
w: levittbernstein.co.uk

Levitt Bernstein

Architecture
Urban Renewal
Landscape Architecture

To whom it may concern

By: **Email**

Re: **CLG Research**
30 March 2009

Dear Sirs

We have been commissioned by the Department of Communities and Local Government(CLG) to prepare research about the development of new plan types being prepared for housing for sale. The research is seeking to assess the impact that Lifetime Homes standards will have on current and future mainstream housing typologies.

The project is entitled 'Analysis of distribution of housing typologies in public and private sector and typical compatibility with Lifetime homes Standards.' A simple explanation is set out in a key paragraph in the CLG brief:

'One key issue identified as requiring further research is the question of what impact applying the Lifetime Homes Standards will have to various different Housing typologies that are commonly used in the new build housing sector. The Standards were originally developed with very typical 2, 3 and 4 bed detached housing in mind. How the standards work with other typologies has not been fully examined.' ……

In order to make the data as representative as possible, we are seeking to collect the widest possible range of plan types from a large pool of developers across the country. We wish to stress that we are not auditing levels of compliance. Our remit is to understand the level of compatibility between the types of housing that you are intending to build, and the principles of Lifetime Homes standards.

From this analysis, we shall draw general conclusions about the impact that the proposed implementation of the standards is likely to have on the design of new homes for sale. We therefore do not need you to indicate Lifetime homes features on your plans, or adapt any of them in response to this request. We also wish to assure that the information supplied will be treated as being supplied in confidence, and will be aggregated to ensure anonymity in the research work itself. The results of the research project are likely to be published at a future date by CLG, but the Department itself will not hold the original data supplied, and the identity of contributors will not be revealed.

In order to provide a context for the plans which we receive, we would be extremely grateful if you could also complete and return the attached questionnaire. Similarly, in order to streamline the analysis process, we are including a pro-forma for the information we would like in relation to each plan type supplied. We have a tight timescale and, if possible, need your input by the middle of April.

We recognise that these things take time and energy to prepare and assure you, in advance, that we are very grateful for your co-operation. We are looking for as high a rate of response as possible in order to be able to create a robust evidence base for the analysis work. This will help us in providing the best possible advice to Communities and Local Government for consideration when they come to review their policy on Lifetime Homes Standards in 2010.

If you would like to discuss this further please contact me or Julia Park julia.park@levittbernstein.co.uk

We look forward to receiving your information.

Yours sincerely

Patrick Hammill
patrick.hammill@levittbernstein.co.uk

enc.

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Technical Manager: Andrew Jobling. **IT Manager:** Dylan Murdey-Green.
Company Secretary: Gino Milanese.

CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name

2. Area of operation within England (and Wales?)

3. Name and contact details of person who could help with any queries in relation to information supplied

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

   April 09-10 | April 10-11 | April 11-12 | April 12-13

5. The number of new homes you completed in: April 07-08 | April 08-09

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats			2 storey houses			3 storey houses		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath									
2 bed, 1 bath									
2 bed, 2 bath									
3 bed, 1 bath									
3 bed, 2 bath									
4 bed & larger									

Inter./Sale = Intermediate for sale

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

   Private for sale | Intermediate for sale | Affordable rent

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years

   Increase | Decrease | Remain similar

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

   In order to comply with LA planning requirements Yes/No

   In order to gain credits under the Code for Sustainable Homes Yes/No

   Your company preference Yes/No

For each plan type supplied, please supply the following additional information

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years.

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, p only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers.

Where you are providing flat plans, please provide a typical floor plan of the block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in curtilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback
Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

Please indicate whether you would like to receive a summary of the report findings Yes/No

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

Post: Nancy Edwards, Resources Manager, Levitt Bernstein, 1 Kingsland Passage, London E8 2BB
Tel: 020 7275 7676
Email: nancy.edwards@levittbernstein.co.uk

Appendix B

Lifetime Homes Standard; summary used for assessment purposes

The Lifetime Homes Standards

Summary from Habinteg website including detail from Spec and FAQ where these have a material effect

1 CAR-PARKING WIDTH

Where there is car parking adjacent to the home, it should be capable of enlargement to attain 3.3m width

FAQ: Applies strictly only to in-curtilage parking but wider spaces desirable in other parking areas

AGP: In communal parking situations, at least one parking space within each parking bay / location / lift core location should ideally have a minimum 3300mm effective clear width (3600 preferred) or be a designated accessible parking bay. Overall, 10% of parking should have the increased accessible dimensions.

2 ACCESS FROM CAR PARKING

The distance from the car parking space to the home should be kept to a minimum and should be level or gently sloping.

Spec: A maximum gradient of 1:12 is permissible on an individual slope of less than 5 metres or 1:15 if it is between 5 and 10m, and 1:20 where it is more than 10m. Paths should be a minimum of 900mm wide.

FAQ: Applies to all types of parking including the journey from a basement car-park to the main entrance of a flat block.
Steps only allowed on secondary routes; parking for flats preferably not more than 50m from home.

3 APPROACH GRADIENTS

The approach to all entrances should be level or gently sloping

4 ENTRANCES

All entrances should:
4a be illuminated
4b have level access over the threshold and,
4c have a covered man entrance

FAQ; Criteria 4a/4b covers all entrances to dwellings, and all communal entrances to blocks of dwellings. This includes all balcony doors, terrace doors and doors to roof gardens (whether private or communal) where physical access for members of the household or residents is intended. Juliet balconies are excluded.

5 COMMUNAL STAIRS AND LIFTS

5a communal stairs should provide easy access and
5b where homes are reached by a lift, it should be fully wheelchair accessible

Spec: Minimum dimensions for communal stairs:
Uniform rise not more than 170mm
Uniform going not less than 250mm
Handrails extend 300mm beyond top and bottom step
Handrail height 900mm from each nosing
Minimum dimensions for lifts:
Clear landing entrances 1500mm x 1500mm
Min. internal dimensions 1100mm x 1400mm
Lift controls between 900 and 1200 mm from the floor and 400mm from the lift's internal front wall.
Lift access not essential under LTH

FAQ: Provision of a communal lift in a block of flats is not a Lifetime Home requirement

6 DOORWAYS AND HALLWAYS

The width of internal doorways and hallways should conform to Part M, except that when the approach is not head on and the hallway width is 900mm, the clear opening width should be 900mm rather than 800mm. There should be a 300mm nib or wall space to the side of the leading edge of the doors on entrance level.

Spec: Doorway clear opening width (mm) .....Corridor/passageway width(mm)
minimum
750 or wider.....900 (when approach is head-on)
750 or wider.....1200 (when approach is not head-on)
775 or wider.....1050 (when approach is not head-on)
900 or wider.....900 (when approach is not head-on)
The clear opening width of the front door should be a minimum 800mm.
There should be a 300mm nib to the side of the leading edge of doors at entrance level.

7 WHEELCHAIR ACCESSIBILITY

There should be space for turning a wheelchair in dining areas and living rooms and adequate circulation space for wheelchairs elsewhere.

Spec: A turning circle of 1500mm diameter or a turning ellipse of 1700mm x 1400mm is required.

8 LIVING ROOM

The living room should be at entrance level.

FAQ: For the purposes of satisfying this criterion, 'living room' can be defined as a living room or living space, indicated on plan, adequate for receiving visitors, general socialising within the household and, where there are no entrance level bedrooms, able to provide the bed-space requirement of Criterion 9. It should also provide the location for the potential through floor lift if not provided elsewhere on the entrance level. Kitchen/diners would only satisfy this criterion if the dining area were large enough to provide for these requirements whilst still retaining an adequate dining function for occupancy level.
A dwelling with a lack of key entrance level LTH facilities (i.e. accessible WC, living space, potential for temporary bed-space and space for a through floor lift) cannot fully satisfy the required LTH Criteria. However, a case can be put with flats over garages (FOGs) which have no entrance level accommodation at all, that if a private staircase up to the storey containing the rooms is 'easy going', with goings and risers meeting the 'easy going' pitch (i.e. suitable for some ambulant disabled people), and has adequate width (min 900mm) and landings for a stair-lift, then a FOG has equal, or better, accessibility than a walk up LTH flat approached by a communal stair. If the FOG also contains all the other relevant LTH Criteria, then given the limitations imposed by the stair access situation, the LTH principles for that FOG are met as far as is practicable and possible.

9 ENTRANCE LEVEL BED-SPACE

In houses of two or more storeys, there should be space on the entrance level that could be used as a convenient bedspace.

FAQ: Minimal provision should consist of: A single bed-space, space for a single wardrobe or small chest of drawers and a bedside cabinet. An electrical socket should be available within the space. The position should also allow convenient temporary screening from the rest of the room.

10 ENTRANCE LEVEL WC AND SHOWER

10a there should be a wheelchair accessible wc, with
10b drainage provision enabling a shower to be fitted in the future

Spec: For dwellings with three or more bedrooms, **or on one level**, the WC must be fully accessible. A wheelchair user should be able to close the door from within the closet and achieve side transfer from a wheelchair to at least one side of the WC. There must be at least 1100mm clear space from the front of the WC bowl.
The shower provision must be within the closet or adjacent to the closet.
In small two-bedroom houses where the design has failed to achieve the above fully accessible standard WC, the Part M standard WC will meet this standard.

FAQ: 10b) the drainage provision for a future accessible shower is applicable to all dwellings.

11 BATHROOM AND WC WALLS

Walls in the bathroom and WC should be capable of taking adaptations such as handrails.

Spec: Wall reinforcements (if required) should be located between 300mm and 1500mm from the floor.

FAQ: Applies to all rooms with sanitary fittings, including en-suites and cloakrooms

12 STAIR LIFT/THROUGH-FLOOR LIFT

The design should incorporate:

12a provision for a future stair lift

12b suitably identified space for a through-the-floor lift from the ground to the first floor, for example to a bedroom next to a bathroom

Spec: There must be a minimum of 900mm clear distance between the stair wall (on which the stair lift would normally be located) and the edge of the opposite handrail/balustrade. Unobstructed 'landings' are needed at top and bottom of the stairs.

FAQ: A straight flight of stairs is not required for a stair lift.
Although not recommended, winders are not prevented by the current Lifetime Home specification.
The potential lift need only go from the entrance level to a storey containing a main bedroom and bathroom providing Criteria 13 and 14.
An aperture size of 1000mm x 1500mm, with the narrower width against the wall, should prove suitable for a reasonable range of wheelchair accessible through the floor lifts.

13 TRACKING HOIST ROUTE

The design should provide for reasonable route for a potential hoist from a main bedroom to the bathroom

AGP: Direct connection between bedroom and bathroom is preferred but not essential. The route must take into account lift arrival point and the need for knock-out panels above all doors en-route and ceilings to be strengthened.

14 BATHROOM LAYOUT

The bathroom should be designed to incorporate ease of access to the bath, WC and wash basin.

FAQ: Where the dwelling has the fully accessible WC required by Criterion 10a elsewhere (or the Part M WC in dwellings with two or more storeys and two or less bedrooms), then the bathroom catering for this criterion need only have an 'ease of access' WC. An 'ease of access' WC should have a clear space of minimum width 700mm to one side of the WC bowl (but not necessarily the cistern) and a clear 1100mm to the front of the WC.
In flats and bungalows, where the fully accessible WC required on the entrance level by Criterion 10a is not provided elsewhere, it should be incorporated within the bathroom (this would therefore apply to all flats / bungalows with only one WC).

15 WINDOW SPECIFICATION

Living room glazing should begin at 800mm or lower and windows should be easy to open /operate

FAQ: In order to operate a window easily, its handles / controls should be no higher than 1200mm from the floor. This applies to at least one window in each room.

16 CONTROLS, FIXTURES AND FITTINGS

Switches, sockets, ventilation and services controls should be at a height usable by all (ie between 450mm and 1200mm from the floor).

FAQ: All service controls should be within this height band.
At least one window in each room should have window handles (a ventilation control) within this height band.

Levitt Bernstein 10-04-09

ADHT Plan classification and analysis

A: Flats or other single storey dwellings

1 bedroom 2 person units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (N/A)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maximu possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
A.1.(2).01		Ground floor, entered from lobby, 1 bath	60.4	(3)	(3)	(3)	a (3) b c	a n/a b n/a	No 2	* 2	Yes 3	n/a	a No b * 1	(3)	n/a	* 2	No 1	(3)	(3)	-7	W'chair access gen. tight; bathroom/wc main problem, no nib to front door	Access to windows eg in bedrooms would not be achieved	
A.1.(2).02		Stair only access, additional stairs in corridor – no lift, 2 floors above commercial, family bath		(3)	(3)	(3)	a (3) b c	a Yes b n/a 3	No 2	* 3	Yes 3	n/a	a No b * 1	(3)	n/a	* 2	No 1	(3)	(3)	-6	W'chair access gen. tight; bathroom/wc main problem, no nib to front door	Access to windows eg in bedrooms would not be achieved; platform or enclosed lift would be required	A very tyical plan – could easily meet LTH, in principle but more space needed to faciitate w'chair use

note: yellow indicaates upper floor flat not served by lift

Notes about our ref. code	Notes about the LTH compatibilty assessment	Conclusions
A. -.-.- Denotes 1 storey dwelling -.1-.- Denotes 1 bedroom -.-.(2).- Denotes number of bedspaces -.-.-.01-10 Denotes plan number of this type	3 Plan is fully complatible with requirements 2 Plan could be easily adapted to meet requirements 1 Plan would be difficult to adapt 0 Plan not compatible in principle ( ) Brackets indicate no evidence so asumption made * not shown on plan but potential can be assessed	

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

ADHT Plan classification and analysis

A: Flats or other single storey dwellings

2 bedroom (3/4 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	c/a LTH points lost from maximum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
A.2.(3/4).01		Stair only access – no lift, family bath + ensuite	60.5	(3)	(3)	(3)	a b c (3)	A yes B n/a 3	No 2	* 3	Yes 3	n/a	A no B * 2	(3)	n/a	* 2	No 2	(3)	(3)	-4	W'chair access generally reasonable; bathroom/wc needs to be slightly bigger, no nib to front door	Access to some windows problematic; platform or enclosed lift would be required in core	A very tyical plan – could easily meet LTH, with little or no, extra space. Limited storage
A.2.(3).02		Stair only access – no lift 3 st. block, family bath + en-suite	61.9	(3)	(3)	(3)	a b c (3)	A yes B n/a 3	No 2	* 2	Yes 3	n/a	A no B * 1	(3)	n/a	* 2	No 1	(3)	(3)	-7	W'chair access tight in bedrooms; bathroom/wc needs to be bigger, nibs provided but circulation tight into bed 2	Access to some windows problematic; platform or enclosed lift would be required in core	Limited storage
A.2.(4).03		Ground floor flat with own front door in 2 storey block, family bath + en-suite	70.1	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 2	Yes 3	n/a	A yes B * 2	(3)	n/a	No 2	Yes 3	(3)	(3)	-5	W'chair access tight in bedrooms; bathroom/wc layout OK, but no nib to doors, circulation too tight throughout	Access to some windows problematic	Limited storage
A.2.(3).04 LTH classified		'Bungalow' with family bath + en-suite	67.9	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	* 3	Yes 3	n/a	A yes B * 3	(3)	n/a	* 3	Yes 3	(3)	(3)	0	Fully compliant (in view of recent concession re basin encroachment)	Access to some windows problematic	Very practical layout
A.2.(3).05		Ground floor flat with own front door in 2 storey block, family bath + en-suite	57.2	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 1	Yes 3	n/a	A no B * 2	(3)	n/a	* 3	No 2	(3)	(3)	-6	bathroom/wc layout could be modified to comply, inaccesible lobby and circulation too tight throughout		Limited storage
A.2.(4).06		Stair only access – no lift, 3 st. block, family bath + en-suite	67.1	(3)	(3)	(3)	a b c (3)	A yes B n/a 3	No 1	* 2	Yes 3	n/a	A yes B * 2	(3)	n/a	* 3	Yes 2	(3)	(3)	-5	bathroom/wc layout not shown but space looks adequate, circulation too tight throughout	platform or enclosed lift would be required in core	Limited storage
A.2.(4).07		Stair only access – no lift, 4 st. block, family bath + en-suite, study to upper flats	58.4	(3)	(3)	(3)	a b c (3)	A yes B n/a 3	No 2	* 2	Yes 3	n/a	A no B * 2	(3)	n/a	* 3	No 2	(3)	(3)	-4	bathroom/wc layout not shown but space looks inadequate, circulation too tight in places	platform or enclosed lift would be required in core	Limited storage
A.2.(3-4).08		Ground floor flat with own front door in 2 storey block, no hall, family bath	50.15	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 2	Yes 2	n/a	A no B * 1	(3)	n/a	* 3	No 1	(3)	(3)	-7	W'chair access tight throughout; absence of hall allows plan to score well in spite of very small footprint		Very limited storage
A.2.(3).09		Ground floor flat with own front door in 2 storey block, no hall, family bath	55	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 3	Yes 3	n/a	A no B * 2	(3)	n/a	* 3	No 1	(3)	(3)	-3	W'chair access tight throughout; absence of hall allows plan to score well in spite of very small footprint		Very limited storage
A.2.(4).10		Ground floor flat with own front door in 2 storey block, no hall, family bath	60.4	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 3	Yes 3	n/a	A no B * 1	(3)	n/a	* 3	No 1	(3)	(3)	-5	W'chair access reasonable throughout but bathroom small, absence of hall allows plan to score better		Very limited storage
A.2.(3).11		Stair only access (dog-leg) – no lift, 2st. block, family bath	54.4	(3)	(3)	(3)	a b c (3)	A yes B n/a 3	No 2	* 2	Yes 3	n/a	A no B * 1	(3)	n/a	* 3	No 1	(3)	(3)	-6	W'chair access tight throughout; bathroom small, circulation tight	Space for platform or enclosed lift would be required in core	Very limited storage

A.2.(3).12		Stair only access, additional stairs in corridor – no lift, 2 floors above commercial, family bath + en-suite	50.8	(3)	(3)	(3)	a b c (3)	A yes B n/a 3	Yes 3	* 2	Yes 3	n/a	A no B * 2	(3)	n/a	* 3	No 2	(3)	(3)	-3	Very spacious entrance/hall, elsewhere , w'chair access tight but nibs provided throughout	Platform or enclosed lift would be required in core	Very limited storage
A.2 (3-4).13		Stair only access, additional stairs in corridor – no lift, 2 floors above commercial, family bath + en-suite	93.8	(3)	(3)	(3)	a b c (3)	A yes B n/a 3	Yes 3	* 3	Yes 3	n/a	A no B * 2	(3)	n/a	* 3	No 2	(3)	(3)	-2	Very spacious entrance/hall, elsewhere, w'chair access generally good	Platform or enclosed lift would be required in core	Very limited storage
A.2 (3).14		Ground floor flat with own front door in 2 storey block, family bath	59.9	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 2	Yes 3	n/a	A no B * 1	(3)	n/a	* 3	No 1	(3)	(3)	-6	W'chair access generally tight, espcecially bed 2 and access to bathroom		Very limited storage
A.2.(3).15		Ist floor flat, own front door, all room at 1st fl accessed by private dog-leg stair, family bath	56.8	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	Yes 3	n/a	A no B * 1	(3)	n/a	* 3	No 1	(3)	(3)	-6	W'chair access generally tight, espcecially bed 2 and access to bathroom	Space for platform or enclosed lift would be required in core	If stair had been private not shared (as type D.2 flats) would not be regarded as LTH as no Accom. at entrance level; would score -15
A.2.(3).16		Ist floor flat, own front door, all room at 1st fl accessed by private dog-leg stair, family bath	50.4	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	Yes 3	n/a	A no B * 1	(3)	n/a	* 3	No 1	(3)	(3)	-6	W'chair access generally tight, espcecially bed 2 and access to bathroom	Space for platform or enclosed lift would be required in core	As above

note: yellow indicaates upper floor flat not served by lift

Notes about our ref. code	**Notes about the LTH compatibilty assessment**	**Conclusions**
A. -.-.- Denotes 1 storey dwelling -.2-.- Denotes 2 bedrooms -.-.(4).- Denotes number of bedspaces -.-.-.01-10 Denotes plan number of this type	3 Plan is fully complatible with requirements 2 Plan could be easily adapted to meet requirements 1 Plan would be difficult to adapt 0 Plan not compatible in principle ( ) Brackets indicate no evidence so asumption made * not shown on plan but potential can be assessed	

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

ADHT Plan classification and analysis

B: 2 storey houses or other dwelling types

2 bedroom (3/4 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Commmunal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maximum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
B.2.(4).01		Winder stair up from living, Part M wc, family bath, no en-suite	58	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 1	Yes 3	* 1	A yes B * 1	(3)	A * B * 1	* 3	No 2	(3)	(3)	-11	Stair lift would be expensive and dismounting space upstairs very tight; wider doors and/or landing needed at 1st.fl.	Wc would need to be increased, causing dwelling width to increase by 400mm	Very limited accessibilty; ground floor would be unworkable with kitchen door in place
B.2.(4).02		Winder stair up from living, Part M wc, family bath, no en-suite	61.9	(3)	(3)	(3)	(3)	n/a	No 1	* 1	Yes 3	* 2	A yes B * 1	(3)	A * B * 0	* 3	No 2	(3)	(3)	-11	Stair lift would be expensive and dismounting space upstairs unworkable: wider doors and/or landing needed at 1st.fl.	Wc would need to be increased, causing entrance area to increase by 400mm	Very limited accessibilty; first floor unworkable
B.2.(4).03		Winder stair up from living, Part M wc, family bath + en-suite	66.8	(3)	(3)	(3)	(3)	n/a	No 1	* 1	Yes 3	* 2	A yes B * 1	(3)	A * B * 1	* 3	No 2	(3)	(3)	-10	Stair lift would be expensive and dismounting space upstairs very tight; wider doors and/or landing needed at 1st.fl.	Wc would need to be increased, causing dwelling width to increase by 400mm (both floors). More nibs req. at 1st.fl.	Very limited accessibilty, en-suite and bath could be combined to provide accessible bathroom
B.2.(3).04		Winder stair up from open plan LDK, part M wc, family bath, no-ensuite	53.6	(3)	(3)	(3)	(3)	n/a	No 1	* 1	Yes 3	* 1	A yes B * 1	(3)	A * B * 1	* 2	No 1	(3)	(3)	-13	Plan almost unworkably tight throughout, stairlift would be expensive, no space for thro' floor lift; wider doors and/or landing needed at 1st.fl.	Wc would need to be increased, causing entrance area and bed 2 to increase by 400mm. More nibs req. at 1st fl.	Very limited accessibilty
B.2.(4).05		Stair from hall, top winders KD accessed via L, part M wc, family bath, no en-suite	63.4	(3)	(3)	(3)	(3)	n/a	No 1	* 1	Yes 3	* 1	A yes B * 1	(3)	A * B * 1	* 2	No 1	(3)	(3)	-13	Plan almost unworkably tight throughout, stairlift would be expensive, no space for thro' floor lift; wider doors and/or landing needed at 1st.fl.	Wc would need to be increased; more space lost from KDL.	Very limited accessibilty, wc opens directly off kitchen
B.2.(3).06 LTH classified		1 of 2 similar plans, this version designed to face north. Straight stair,access to LD via K, Part M wc, family bath + ensuite	68.4	(3)	(3)	(3)	(3)	n/a	Yes 3	* 2	Yes 3	* 1	A yes B * 1	(3)	A * B * 2	* 3	Yes 3	(3)	(3)	-6	A number of LTH features included but only fairly accessible; no indication of thro' floor lift and no good location apparent	Wc would need to be increased; space would be lost from K, more nibs req. at 1st fl.	Fairly good accessibility, entrance lobby tight
B.2.(3).07 LTH classified		2 of 2 similar plans, this version designed to face south. Straight stair, access to K via LD, Part M wc, family bath + ensuite	68.4	(3)	(3)	(3)	(3)	n/a	No 2	* 2	Yes 3	* 1	A yes B * 1	(3)	A * B * 2	* 3	Yes 3	(3)	(3)	-7	A number of LTH features included but only fairly accessible; no indication of thro' floor lift and no good location apparent	Wc would need to be increased; space would be lost from K, more nibs req. at 1st fl.	Reasonable space in rooms but entrance and rear lobby tight
B.2.(4).08 LTH classified		1 of 2 similar plans, this version designed to face north. Straight stair,access to L via KD, Part M wc, family bath + ensuite	77.6	(3)	(3)	(3)	(3)	n/a	Yes 3	* 2	Yes 3	* 3	A yes B * 1	(3)	A * B * 2	* 3	Yes 3	(3)	(3)	-4	Overall, reasonably accessible, no indication of thro' floor lift and no good location apparent	Wc would need to be increased; space would be lost from K	Larger living space and bedrooms helps with general accessibilty and entrance level bed-space
B.2.(4).09 LTH classified		1 of 2 similar plans, this version designed to face sorth. Straight stair,access to KD via L, Part M wc, family bath + ensuite	77.6	(3)	(3)	(3)	(3)	n/a	No 2	* 2	Yes 3	* 2	A yes B * 1	(3)	A * B * 2	* 3	Yes 3	(3)	(3)	-6	Overall, reasonably accessible, no indication of thro' floor lift and no good location apparent	Wc would need to be increased; space would be lost from dining area	Reasonable space in rooms but entrance and rear lobby tight
B.2.(4).10		Winder stair, Part M wc + family bath, no en-suite	56.2	(3)	(3)	(3)	(3)	n/a	No 1	* 1	Yes 3	* 1	A yes B * 1	(3)	A * B * 0	* 3	No 2	(3)	(3)	-12	Plan almost unworkably tight throughout, stairlift technically posible but no landing space at either level and would be expensive, no space for thro' floor lift, wider doors and/or landing needed at 1st.fl.	Wc would need to be increased, causing dwelling width to increase by 400mm (both floors) more nibs req. at 1st fl.	Very limited accessibilty

B.2.(3).11		Straight stair from hall, K + L/D, Part M wc, family bath, no en-suite	64.3	(3)	(3)	(3)	(3)	n/a	No 2	* 1	Yes 3	* 1	A yes B * 1	(3)	A * B * 2	* 3	No 1	(3)	(3)	-10	Plan v tight throughout, stairlift good, no space for thro' floor lift, wider doors and/or landing needed at 1st.fl.	Wc would need to be increased; space would be lost from KDL, more nibs req. at 1st fl.	Limited accessibilty
B.2.(3).12		Winder stair up from hall, K+ LD, Part M wc, family bath, no en-suite	56.8	(3)	(3)	(3)	(3)	n/a	No 1	* 1	Yes 3	* 2	A yes B * 1	(3)	A * B * 2	* 3	No 2	(3)	(3)	-9	Plan v tight throughout, stairlift would be expensive and no space to mount at gnd level. Bedrooms too narrow for w'chair to pass end of bed (2.3m) wider doors and/or landing needed at 1st.fl.)	Wc would need to be increased; footprint would need to be increased, more nibs req. at 1st fl.	Limited accessibilty
B.2.(4).13		Winder stair up from hall, K+ LD, Part M wc, family bath, no en-suite	61.6	(3)	(3)	(3)	(3)	n/a	No 2	* 2	Yes 3	* 2	A yes B * 1	(3)	A * B * 2	* 3	No 1	(3)	(3)	-8	Plan v tight throughout, stairlift would be expensive and no space to mount at gnd level, wider doors and/or landing needed at 1st.fl.)	Wc would need to be increased, causing dwelling width to increase by 400mm	
B.2.(4).14		Winder stair up from hall, K entered via LD, Part M wc, family bath, no en-suite	73.2	(3)	(3)	(3)	(3)	n/a	No 2	* 2	Yes 3	* 3	A yes B * 2	(3)	A * B * 2	* 3	No 2	(3)	(3)	-5	Ground floor space reasonable, but hall narrow and still no nib to front door, beds tight, wider doors and/or landing needed at 1st.fl.)	Wc would need to be increased, causing dwelling width to increase by 400mm or space lost from L	
B.2.(4).15		Winder stair up from hall, K entered via LD, Part M wc, family bath, no en-suite	72.5	(3)	(3)	(3)	(3)	n/a	No 2	* 2	Yes 3	* 3	A yes B * 2	(3)	A * B * 2	* 3	No 2	(3)	(3)	-5	Ground floor space reasonable, but hall narrow and still no nib to front door, beds tight, wider doors and/or landing needed at 1st.fl.)	Wc would need to be increased, causing dwelling width to increase by 400mm or space lost from L	
B.2.(4).16 LTH classified		Winder stair up from hall, K entered via LD, conservatory, Part M wc, family bath, no en-suite	70.3	(3)	(3)	(3)	(3)	n/a	Yes 3	* 3	Yes 3	* 3	A yes B * 2	(3)	A * B yes 2 (lift space too small)	* 3	Yes 3	(3)	(3)	-2	A good level of o/a compliance, but wc and kitchen very small, stairlift expensive, limited space to mount/ dismount, hole for thro'floor lift not large enough,	Wc and kitchen would need to be increased, causing dwelling width to increase by at least 400mm	Significantly more accessible than most other plans of this type, but still significant shortcomings. Compliance has been achieved partly as a result of open plan
B.2.(4).17 LTH classified		Winder stair up open plan LDK, Part M wc, family bath, no en-suite	63.6	(3)	(3)	(3)	(3)	n/a	No 2	Yes 3	Yes 3	Yes 3	A yes B yes 2	yes 3	A * B yes 2 (lift space too small)	Yes 3	Yes 3	(3)	(3)	-3	A good level of o/a compliance, but wc and kitchen very small, stairlift expensive, limited space at 1st, hole for thro'floor lift not large enough + pos. not ideal wider doors needed (both floors)	Wc would need to be increased, causing dwelling width to increase by at least 400mm in order to maintain workable kitchen	Significantly more accessible than most other plans of this type, but still significant shortcomings. Compliance has been achieved partly as a result of open plan
B.2.(3).18 B.2.(4).19																								

Note: the assessment against criteria 10 reflects the ease with which a wheelchair visitor user would be able to use the wc, baering in mind that a Part M wc is permissible under the current standard for this dwelling type.

Notes about our ref. code	**Notes about the LTH compatibilty assessment**	**Conclusions**
B. -.-.- Denotes 2 storey dwelling -.2.-.- Denotes 2 bedrooms -.-.(4).- Denotes number of bedspaces -.-.-.01-10 Denotes plan number of this type	3 Plan is fully complatible with requirements 2 Plan could be easily adapted to meet requirements 1 Plan would be diffucult to adapt 0 Plan not compatible in principle ( ) Brackets indicate no evidence so asumption made * not shown on plan but potential can be assessed	

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

B: 2 storey houses or other dwelling types

3 bedroom (4/6 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m^2 (N/A)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maiximum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
B.3.(4).01		Lobby only – no hall, winder stair, Part M wc, family bath, no en-suite	65.2	(3)	(3)	(3)	(3)	n/a	No 1	* 1	Yes 3	* 3	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-11	Plan needs to be widened by at least 600mm (both floors) to provide fully accessible wc and wider hall/lobby. Wider doors and/or landings at 1st floor.	Additional space would be needed in bedrooms to reach windows etc,more nibs to lst floor doorways	
B.3.(5).02		Lobby only – no hall, straight stair, Part M wc, family bath, no en-suite	72.5	(3)	(3)	(3)	(3)	n/a	No 1	* 1	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 1	(3)	(3)	-10	Plan needs to be widened by at least 400mm (both floors) to provide fully accessible wc and wider hall/lobby. Wider doors and/or landings at 1st floor	Additional space would be needed in bedrooms to reach windows etc, more nibs to lst floor doorways	
B.3.(5).03		Lobby only – no hall, straight stair, Part M wc, family bath + en-suite	77.2	(3)	(3)	(3)	(3)	n/a	No 2	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-9	Plan needs to be lengthened by at least 400mm (both floors) to provide fully accessible wc and wider hall/lobby. Wider doors and/or landings at 1st floor	Additional space would be needed in bedrooms to reach windows etc, more nibs to lst floor doorways	
B.3.(5).04		Enter into K/D, dogleg stair with winders, LTH wc, family bath + en-suite	80.9	(3)	(3)	(3)	(3)	n/a	No 2	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 1	* 3	No 1	(3)	(3)	-6	Wc could be widened within o/s area: hall, stairs + beds tight, wider doors and/or landings at 1st floor	Additional space would be needed in bedrooms to reach windows etc, more nibs to lst floor doorways	
B.3.(5).05 LTH classified		Dogleg stair with winders, Part M wc, family bath + en-suite	97.4	(3)	(3)	(3)	(3)		Yes 3	* 3	Yes 3	* 2	A yes B yes 3	(3)	A * B * 2	* 3	Yes 3	(3)	(3)	-2	Generally good, thro-floor lift diffcult to locate and beds tight. 1st fl. landing tight	Additional space would be needed in bedrooms to reach windows etc, more nibs to lst floor doorways	
B.3.(5).06 LTH classified		Wide frontage, straight stair, LTH wc, family bath + en-suite	96.1	(3)	(3)	(3)	(3)		No 2	* 3	Yes 3	* 3	A yes B yes 3	(3)	A * B * 2	* 3	Yes 3	(3)	(3)	-2	Generally good, thro-floor lift diffcult to locate and beds tight. 1st fl. landing tight for stair lift	Additional space would be needed in bedrooms to reach windows etc,	
B.3.(5).07 LTH classified		Straight stair, LTH wc, family bath + en-suite	96.4	(3)	(3)	(3)	(3)		No 2	* 3	Yes 3	* 3	A yes B yes 3	(3)	A * B * 3	* 3	Yes 3	(3)	(3)	-1	Generaly good, no nib to wc, bed 3 tight	Additional space would be needed in bedrooms to reach windows etc,	
B.3.(5).08 LTH classified		Straight stair, LTH wc, family bath + en-suite	96.6	(3)	(3)	(3)	(3)		No 2	* 3	Yes 3	* 3	A yes B yes 2	(3)	A * B * 3	* 3	Yes 3	(3)	(3)	-2	Generaly good, wc door should open out, bed 3 tight	Additional space would be needed in bedrooms to reach windows etc,	
B.3.(5).09		Winder stair, Part M wc + family bath + en-suite	74.4	(3)	(3)	(3)	(3)		No 1	* 2	Yes 3	* 2	A no B * 1	(3)	A * B * 1	* 2	No 2	(3)	(3)	-10	Plan needs to be widened by at least 400mm (both floors) to provide fully accessible wc and wider hall/lobby. Wider doors and/or landings both fl.	Additional space would be needed in bedrooms to reach windows etc, no landing space for stairlift	

B.3.(5).10		Winder stair, Part M wc + family bath + en-suite (As type H819 but narrower)	66.8	(3)	(3)	(3)	(3)		No 1	* 1	Yes 3	* 1	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-13	As above	As above	
B.3.(5).11		Cranked winder stair, L + KD + D/study, Part M wc + family bath + en-suite	110	(3)	(3)	(3)	(3)		No 2	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 2	No 2	(3)	(3)	-7	Wc could be widened within o/s area: hall, stairs + beds tight, wider doors and/or landings at 1st floor	As above + more nibs req.	
B.3.(5).12		Winder stair, L + KD,Part M wc + family bath + en-suite	78.9	(3)	(3)	(3)	(3)		No 2	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 1	* 3	No 2	(3)	(3)	-8	Plan needs to be widened by at least 400mm (both floors) to provide fully accessible wc and wider hall/ lobby. Wider doors and/or landings both fl.	As above + more nibs req.	
B.3.(5),13		Integral garage, dogleg stair with winders from LD, sep.K, Part M wc, family bath + en-suite	90.2	(3)	(3)	(3)	(3)		No 1	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-8	Plan needs to be widened and lengthened to provide fully accessible wc and wider hall/lobby. Wider doors and/or landings both fl. Stairlift difficult.	As above + more nibs req.	
B.3.(5).14		Straight stair, LD + KD, Part M wc, family bath + ensuite	78.5	(3)	(3)	(3)	(3)		No 2	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-7	Plan needs to be widened by at least 400mm (both floors) to provide fully accessible wc and wider hall/ lobby. Wider doors and/or landings both fls	As above + more nibs req.	
B.3.(5).15		Winder stair, LD + K,Part M wc + family bath, no en-suite	77.0	(3)	(3)	(3)	(3)		No 1	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-8	Plan needs to be widened by at least 400mm (both floors) to provide fully accessible wc and wider hall/ lobby. Wider doors and/or landings both fls	As above + more nibs req.	
B.3.(5).16		Winder stair, L + KD + utility,Part M wc + family bath + en-suite	97.0	(3)	(3)	(3)	(3)		No 1	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 1	* 3	No 0	(3)	(3)	-11	Plan needs to be widened by at least 400mm (both floors) to provide fully accessible wc and wider hall/ lobby. Wider doors and/or landings both fls	Additional space would be needed in bedrooms to reach windows etc, no landing space for stairlift	In spite of large floor area, accessibilty is poor
B.3.(5).17		Winder stair, L + KD,Part M wc + family bath, no en-suite	81.1	(3)	(3)	(3)	(3)		No 1	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-8	Plan needs to be widened by at least 400mm (both floors) to provide fully accessible wc and wider hall/ lobby. Wider doors and/or landings both fls	Additional space would be needed in bedrooms to reach windows etc	
B.3.(4/5).18		Straight stair, double-fronted, L+K+D, Part M wc + family bath + en-suite	90.1	(3)	(3)	(3)	(3)		No 2	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	No 2	(3)	(3)	-5	Plan needs to be deepened by circa 400mm (both floors) to provide fully accessible wc and wider hall/ lobby. Wider doors and/or landings both fls		
B.3.(5).19		Dogleg stair with winders, L+KD,Part M wc, family bath , no en-suite	74	(3)	(3)	(3)	(3)		No 1	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 3	* 3	No 0	(3)	(3)	-9	Plan needs to be widened by at least 400mm (both floors) to provide fully accessible wc and wider hall/ lobby. Wider doors and/or landings both fls	Additional space would be needed in bedrooms to reach windows etc	

B.3.(5).20 LTH classified		Winder stair, open plan LKD + utility, LTH wc + family bath + en-suite	82	(3)	(3)	(3)	(3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Good level of compliance in relation to floor area,but stair far from ideal and bedrooms tight	Additional space would be needed in bedrooms to reach windows etc	Score is increased because of open plan nature ie minimal circulation
B.3.(5).21 LTH classified		Dogleg stair, LD + family KD, LTH wc + family bath + en-suite	92.4	(3)	(3)	(3)	(3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	yes 3	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Good level of compliance but stair amd thro' floor liftfar from ideal and bedrooms tight	Additional space would be needed in bedrooms to reach windows etc	
B.3.(5).22 B.3.(4).23 B.3.(4).24 B.3.(5).25 B.3.(5).26																							

Notes about our ref. code	**Notes about the LTH compatibilty assessment**	**Conclusions**
B. -.-.- Denotes 2 storey dwelling -.3-.- Denotes 3 bedrooms -.-.(5).- Denotes number of bedspaces -.-.-.01-10 Denotes plan number of this type	3 Plan is fully complatible with requirements 2 Plan could be easily adapted to meet requirements 1 Plan would be diffucult to adapt 0 Plan not compatible in principle ( ) Brackets indicate no evidence so asumption made * not shown on plan but potential can be assessed	

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

B: 2 storey houses or other dwelling types

4 bedroom (5/7 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maximum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
B.4.(5/7).01		Winder stair, Part M wc, family bath + 2 en-suites	147.8	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 3	Yes 3	* 3	A no B * 2	(3)	A * B * 2	* 3	No 2	(3)	(3)	-4	Generally spacious but study or utility would be lost to achieve accessible wc, single beds small, wider doors and/or landings at 1st floor.	Additional space would be needed in bedrooms to reach windows etc,more nibs to lst floor doorways	
B.4.(6/7).02		Straight stair (no wall at base), Part M wc, family bath + en-suite	100.4	(3)	(3)	(3)	a b c (3)		No 1	* 3	Yes 3	* 3	A no B * 2	(3)	A * B * 2	* 3	No 2	(3)	(3)	-5	Generally spacious but study would need to be reduced to achieve accessible wc, nib req. to wc, wider doors and/or landings at 1st floor.		
B.4.(6/7).03		Straight stair, Part M wc, family bathroom + 2 en-suites	191.0	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A no B * 2	(3)	A * B * 2	* 3	No 2	(3)	(3)	-4	Generally spacious but hall would need to be reduced to achieve accessible wc, nib req. to wc, wider doors and/or landings at 1st floor.		
B.4.(7).04		Straight stair, sep. dining room, Part M wc, family bath + en-suite	107.1	(3)	(3)	(3)	a b c (3)		No 1	* 3	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 1	(3)	(3)	-8	Plan needs to be widened by at least 600mm (both floors) to provide fully accessible wc and wider hall/ lobby. Wider doors and/or landings both fls.		
B.4.(6).05		Stair with 90 degree turn + winders, sep. dining room, LTH wc, family bath + en-suite	111	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A yes B yes 3	(3)	A * B * 2	* 3	Yes 3	(3)	(3)	-2	generally good but stairs and thro'floor lift potential far from ideal and 1st fl landing tight.	Additional space would be needed in bedrooms to reach windows etc	Generally spacious with potential to open-plan and improve further
B.4.(6).06		Stair with 90 degree turn + winders, sep. dining room, Part M wc, family bath + en-suite	111.6	(3)	(3)	(3)	a b c (3)		No 2	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-7	Circ. OK but dorways too narrow. Dining room may be lost to achieve acc. Wc. Wider doors needed.	As above	
B.4.(6).07		Straight stair (runs across the plan), sep. dining room, Part M wc, family bath + en-suite	113.8	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 1	* 3	No 2	(3)	(3)	-6	Circ. and doorways too narrow, storage/part dining space lost to achieve acc. wc, stair poor.	As above	
B.4.(7).08		Straight stair, sep. dining room + study, Part M wc, family bathroom + 2 en-suites	126.4	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	Yes 3	(3)	(3)	-4	Gnd, fl circ. good, need to lose study for wc and en-suite for lift space	As above	Generally spacious with potential to improve accessibilty within same footprint
B.4.(6).09		Straight stair with landing at base, sep. dining room, Part M wc, family bathroom + en-suite	137.6	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	No 1	(3)	(3)	-6	Circ. and doorways too narrow, dining space reduced to achieve acc. wc, stair poor	As above	As above
B.4.(6).10		Straight stair, L+D+K, Part M wc, family bathroom + en-suite	119.5	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 1	(3)	(3)	-7	Plan needs to be widened by at least 600mm (both floors) to provide fully accessible wc and wider hall/ lobby. Wider doors and/or landings both fl	As above	En-suite could be sacrificed to provide lift space and accessible bathroom
B.4.(6).11		Dog-leg stair with winders, L+D+K, Part M wc, family bathroom + en-suite	111.6	(3)	(3)	(3)	a b c (3)		No 2	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 1	* 3	No 1	(3)	(3)	-8	Hall would need to be reduced to achieve acc.wc, nib req. to wc, wider doors and/or landings at 1st fl	As above	

B.4.(6-7).12		Straight stair in centre of plan, L+D+K+utility+study, Part M wc, family bathroom + en-suite	114.0	(3)	(3)	(3)	a b c (3)		No 0	* 2	Yes 3	* 3	A no B * 2	(3)	A * B * 1	* 0	No 1	(3)	(3)	-12	Bathroom access unacceptable, wider doors and/or landings both fls.	As above	o/a space adequate but substntial re-plannng needed
B.4.(6-7).13		Straight stair, L+KD, Part M wc, family bathroom + en-suite, bed 4 above garage	113.3	(3)	(3)	(3)	a b c (3)		No 1	* 2	Yes 3	* 3	A no B * 0	(3)	A * B * 1	* 3	No 2	(3)	(3)	-8	Plan needs to be widened by at least 600mm (both floors) to provide fully acc. wc and wider hall/ lobby. Wider doors and/or landings both fls.	As above	o/a space inadequate
B.4.(6-8).14		Straight stair in centre of plan, L+D+K+utility, Part M wc, family bathroom + en-suite	133.2	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A no B * 0	(3)	A * B * 1	* 3	No 2	(3)	(3)	-7	Plan needs to be deepened by at least 400mm (both floors) to provide fully acc. wider doors and/or landings both fls.	As above	o/a space adequate but substntial re-plannng needed
B.4.(6-8).15		Straight stair in centre of plan, L+KD+utility+study, Part M wc, family bathroom + en-suite	140.2	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	No 2	(3)	(3)	-5	Study would need to be reduced to achieve acc.wc, wider doors and/or landings at 1st fl	As above	o/a space adequate but substntial re-plannng needed
B.4.(6-8).16		Integral garage,straight stair in centre of plan, L+D+K+utility, Part M wc, family bathroom + en-suite	101.0	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 2	No 2	(3)	(3)	-6	Plan would need to be widened by at least 500mm unless wc re-located, wider doors and/or landings at 1st fl	As above	o/a space adequate but substntial re-plannng needed
B.4.(6-8).17		Stair with 90 degree winder turn in centre of plan, L+D+K+utility+study, Part M wc, family bathroom + 2 en-suites + dressing room	159.5	(3)	(3)	(3)	a b c (3)		No 2	* 3	Yes 3	* 3	A no B * 2	(3)	A * B * 1	* 3	No 2	(3)	(3)	-5	Good accessibility, let down but fisrt floor circulation	As above	o/a space adequate but some re-plannng needed
B.4.(6-8).18		Stair with 90 degree winder turn at right angles to circ. L+D+K+utility, Part M wc, family bathroom + en-suite	117.7	(3)	(3)	(3)	a b c (3)		No 2	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 1	No 1	No 1	(3)	(3)	-10	Dining room and bedrooms small (unless furnished as singles)	As above	o/a space adequate but substntial re-plannng needed
B.4.(6).19 LTH classified		Straight stair, L + KD, LTH wc, family bath, no-en-suite	105.0	(3)	(3)	(3)	a b c (3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	3	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Good accessibilty but bedrooms small	As above	
B.4.(6).20 LTH classified		Straight stair, LD + family KD, LTH wc, family bath, + en-suite	104.4	(3)	(3)	(3)	a b c (3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	3	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Good accessibilty but stair not ideal and some bedrooms small	As above	
B.4.(7).21 LTH classified		Straight stair, L + D + family K + utility, LTH wc, family bath, + en-suite	123.2	(3)	(3)	(3)	a b c (3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	3	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Very good general accessibilty but stair not ideal	As above	
B.4.(7).22 LTH classified		Dog-leg stair, L + D + family KD + utility, LTH wc, family bath, + en-suite	128.6	(3)	(3)	(3)	a b c (3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	3	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Very good general accessibilty but stair not ideal	As above	
B.4.(7).23 LTH classified		Straight stair, L + D + family KD + utility, LTH wc, family bath, + en-suite	132.5	(3)	(3)	(3)	a b c (3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	3	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Very good general accessibilty but stair not ideal	As above	
B.4.(7).24 LTH classified		Straight stair, L + D + family KD + utility, LTH wc, family bath, + en-suite	131.5	(3)	(3)	(3)	a b c (3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	3	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Very good general accessibilty but stair not ideal	As above	
B.4.(8).25 LTH classified		Straight stair, L + D + family KD + utility, LTH wc, family bath, + en-suite	131.5	(3)	(3)	(3)	a b c (3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	3	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Very good general accessibilty but stair not ideal	As above	
B.4.(8).26 LTH classified		Straight stair, L + D + family KD + utility, LTH wc, family bath, + en-suite	154.5	(3)	(3)	(3)	a b c (3)		Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	3	A * B yes 2	Yes 3	Yes 3	(3)	(3)	-1	Very good general accessibilty but stair not ideal	As above	
B.4.(6).27, 28, 29, 30, 31, 32, 35, 36 B.4.(7).33, 34																								

Notes about our ref. code

B. -.-.- Denotes 2 storey dwelling
-.4-.- Denotes 4 bedrooms
-.-.(5/7).- Denotes number of bedspaces
-.-.-.01-10 Denotes plan number of this type

Notes about the LTH compatibilty assessment

3 Plan is fully complatible with requirements
2 Plan could be easily adapted to meet requirements
1 Plan would be diffucult to adapt
0 Plan not compatible in principle
( ) Brackets indicate no evidence so asumption made
* not shown on plan but potential can be assessed

Conclusions

C: 3 storey houses or other dwelling types

3 bedroom (4/6 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Commmunal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maximum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
C.3.(6).01		Ground floor L, winder stair, Part M wc, family bath + en-suite	105.3	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-7	Plan would need to widen by at least 600mm (all floors) to achieve acc. wc, circ./doorways too narrow esp. at 1st	More space needed for stairlift and access to windows. Design to allow for stairlift and thro' floor lift to all floors.	Reasonable accessibilty for 3 storey plan type; stairs repeat so stair lift could go to 2nd floor in theory
C.3.(6).02		Ground & 1st floor L,dogleg stair with winders, Part M wc, family bath + en-suite	114.5	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 3	Yes 3	* 3	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-6	Wc poorly located, utility would need to be sacrifced for lift space, main L at 1st fl, circ./ doorways too narrow esp. at 1st	More space needed for accees to windows. Design to allow for stairlift and thro' floor lift to all floors.	Reasonable accessibilty for 3 storey plan type; stairs repeat so stair lift could go to 2nd floor in theory
C.3.(6).03		lst floor living, winder stair, Part M wc, famliy bath + en-suite	120.0	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 2	* 2	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-9	Plan would need to widen by at least 600mm (all floors) to achieve acc. wc, main L at 1st fl – not ideal, circ./ doorways too narrow esp. at 1st	As above	Stairs repeat so stair lift could go to 2nd floor in theory
C.3.(5-6).04		Ground and first floor L, straight stair but landing at base, Part M wc, family bath + en-suite	110.0	(3)	(3)	(3)	a b c (3)	n/a	No 0	* 1	No 2	* 2	A no B * 0	(3)	A * B * 1	* 1	No 2	(3)	(3)	-15	Entrance area and circulation unacceptable, lift could link 2 sitting rooms, circ./ doorways too narrow esp. at 1st	As above	inadequate space throughout
C.3.(5).05		Ground floor L, straight stair, Part M wc, family bath at 1st fl., en-suite at 2nd fl.	110.1	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 1	Yes 3	* 2	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-10	Living room undersized for occupancy, plan would need to be widened by at least 600mm,circ./ doorways too narrow esp. at 1st	As above	inadequate space at ground floor
C.3.(4-5).06		1st floor L+KD, above integral garage+bed 3/study+utility, 2 beds,family bath + en-suite	114.5	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 0	No 0	* 3	A no B * 0	(3)	A * B * 1	* 0	No 0	(3)	(3)	-19	Fails in 5 fundamental respects due to location of key spaces	As above	inadequate space at ground and 1st floor
C.3.(5).07		Ground floor LD+K,winder stair to 1st,dog-leg winder to 2nd,Part M wc,family bath at 1st.fl., en-suite at 2nd fl.	111.2	(3)	(3)	(3)	a b c (3)	n/a	No 0	* 2	Yes 3	* 2	A no B * 0	(3)	A * B * 0	* 3	No 2	(3)	(3)	-11	Plan would need to be widened by at least 600mm,circ./ doorways too narrow esp. at 1st	As above	V poor o/a accessibilty
C.3.(5).08		Ground floor L+KD,winder stair to 1st and 2nd, Part M wc,family bath at 1st.fl., en-suite at 2nd fl.	127.5	(3)	(3)	(3)	a b c (3)	n/a	No 0	* 2	Yes 3	* 2	A no B * 0	(3)	A * B * 0	* 3	No 1	(3)	(3)	-13	Thro' floor lift would work well if 1st floor study sacrificed; plan would need to be widened by at least 600mm, wider doors req. at 1st fl.	As above	V poor o/a accessibilty
C.3.(6).09		Ground floor family D+K, dog-leg stairs to 1st and 2nd, Part M wc, family bath at 1st.fl., 2 en-suites at 2nd	122.4	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 3	Yes 3	8 3	A no B * 0	(3)	A * B * 2	* 3	No 1	(3)	(3)	-7	Thro' floor lift could link 2 sitting rooms; wider doors req. at 1st fl.	As above	reasonable accesibilty for 3 storey plan type
C.3.(5).10		Ground floor family DK, winder stairs to 1st and 2nd, Part M wc, family bath + en-suite at 2nd	91.8	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 2	* 3	A no B * 1	(3)	A * B * 2	* 0	No 0	(3)	(3)	-13	No accessibilty to bathroom, wider doors req. at all floors	As above	V poor o/a accessibilty

C.3.(5).11		Ground floor LD+K,winder stairs to 1st and 2nd, family bath at 1st.fl., no en-suite	96.8	(3)	(3)	(3)	a b c (3)	n/a	No 0	* 2	Yes 3	* 2	A no B * 0	(3)	A * B * 1	* 3	No 2	(3)	(3)	-11		As above	poor o/a accessibilty
C.3.(6).12 C.3.(6).13																							

Notes about our ref. code	**Notes about the LTH compatibilty assessment**	**Conclusions**
C. -.-.- Denotes 3 storey dwelling -.3-.- Denotes 3 bedrooms -.-.(5/6).- Denotes number of bedspaces -.-.-.1-10 Denotes plan number of this type	3 Plan is fully complatible with requirements 2 Plan could be easily adapted to meet requirements 1 Plan would be diffucult to adapt 0 Plan not compatible in principle ( ) Brackets indicate no evidence so asumption made * not shown on plan but potential can be assessed	

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

ADHT Plan classification and analysis

C: 3 storey houses or other dwelling types

4 bedroom (6/8 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maximum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
C.4.(7).01		Ground floor LD + K, winder stair, Part M wc at ground fl., family bath at 1st fl.+ en-suite at 2nd fl.	110.5	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	No 1	(3)	(3)	-6	Plan could accom. larger wc, circ./doorways too narrow esp. at 1st floor where landing v. tight, stairlift diff./ expensive	More space needed for stairlift and accees to windows. Design to allow for stairlift and thro' floor lift to all floors.	Reasonable accessibilty for 3 storey plan type; stairs repeat so stair lift could go to 2nd floor in theory
C.4.(8).02		Ground floor living rooms + KD, dogleg stair with winders, Part M wc at ground fl., family bath at 1st fl.+ 2 en-suites at 2nd fl.	165.8	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 3	Yes 3	* 3	A no B * 2	(3)	A * B * 2	* 3	No 1	(3)	(3)	-5	Plan could accom.larger wc, circ. v good/doorways would need to be wider, bathroom is en-suite but large enough?	More space needed for stairlift and accees to windows. Design to allow for stairlift and thro' floor lift to all floors.	Good spacious layout; stairs repeat so stair lift could go to 2nd floor in theory
C.4.(7).03		Integral garage, lst floor L + KD + bed 4 at ground level. Dog-leg stair with winders, Part M wc + shower at ground fl., wc at 1st fl., family bath + en-suite at 2nd	130	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 2	No 0	* 3	A no B * 1	(3)	A * B * 1	* 0	No 0	(3	(3)	-15	Fails in 3-4 fundamental respects due to location of key spaces, thro floor lift not possible, no bathroom at 1st fl.	Design to allow for stairlift and thro' floor lift to all floors.	No accommodation is accessible to disabled users; would need to be re-planned completely
C.4.(6).04		Integral garage, ground fl. KDL + lst floor L, straight stair, Part M wc at ground fl., family bath at 1st fl.+ en-suite at 2nd fl.	121.5	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 2	Yes 2	* 2	A no B * 0	(3)	A * B * 2	* 0	No 1	(3)	(3)	-13	Plan would need to be widened by min.600mm (all floors) for acc. wc and wider hall, lift could connect 2 living spaces, wider doorways needed	More space needed in bedrooms to accees windows. Design to allow for stairlift and thro' floor lift to all floors.	Stair lift could go to 2nd floor in theory
C.4.(7).05		Ground floor L + KD, straight stair, Part M wc at ground fl, family bath at 1st fl + en-suite at 2nd fl.	139.4	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 2	Yes 2	* 2	A no B * 0	(3)	A * B * 2	* 3	No 2	(3)	(3)	-10	Plan would need to be widened by at least 600mm (all floors) for acc. wc and wider hall, wider doorways req.	As above	Stair lift could go to 2nd floor in theory
C.4.(7).06		Ground floor KD + sep. D, 1st fl. L, dog-leg stair, Part M wc at ground fl, add. Wc at 1st fl., family bath + en-suite at 2nd fl.	151.2	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 2	No 2	* 3	A no B * 0	(3)	A * B * 1	* 0	No 0	(3)	(3)	-14	Fails in 3 fundamental respects due to location of key spaces and inaccessible wc, no bathroom or main bedroom at 1st fl., wider doorways req.	As above	Stair lift could go to 2nd floor in theory; would need to do so in order to reach usable bed+bath
C.4.(6).07		Ground floor KD + L, straight stair across plan, LTH wc, add. L + bed + ensuite at 1st, 3 beds + bath at 2nd fl.	99.6	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	* 3	Yes 3	* 3	A yes B * 2	(3)	A * B * 2	* 0	No 0	(3)	(3)	-10	Ground floor reasonable (no entrance hall). Bathroom located on top floor; not acc. even by stair lift	As above	Stairlift would be unworkable at 2nd. Fl.
C.4.(6).08		Ground floor LDK, straight stair, LTH wc, add. L + bed + bath at 1st, 3 beds + en-suite at 2nd fl.	110.4	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 2	Yes 3	* 3	A yes B * 2	(3)	A * B * 2	* 2	No 2	(3)	(3)	-7	Ground/first floor reasonable, wider hall needed + nib to sitting room, beds 2-4 small	As above	Stair lift could go to 2nd floor in theory
C.4.(6).09		Ground floor LD + K, winder stair, Part M+ wc, 2 beds + family bath at 1st, 2 beds + en-suite at 2nd fl.	87.8	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 1	Yes 2	* 2	A yes B * 2	(3)	A * B * 2	* 0	No 0	(3)	(3)	-14	Plan would need to be at least 200mm wider all floors, lst fl. only has en-suite but could be enlarged, stairlift very difficult/expensive	As above	Very limited living space
C.4.(7).10 C.4.(7).11																						

Notes about our ref. code

C. -.-.- Denotes 3 storey dwelling
-.4-.- Denotes 4 bedrooms
-.-.(6/8).- Denotes number of bedspaces
-.-.-.01- 10 Denotes plan number of this type

Notes about the LTH compatibilty assessment

3 Plan is fully complatible with requirements
2 Plan could be easily adapted to meet requirements
1 Plan would be diffucult to adapt
0 Plan not compatible in principle
( ) Brackets indicate no evidence so asumption made
* not shown on plan but potential can be assessed

Conclusions

ADHT Plan classification and analysis

C: 3 storey houses or other dwelling types

5 bedroom (7/10 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment															Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maiximum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
C.5.(9).01		Ground floor L + KD + utility, straight stair to 1st fl. Part M wc, family bath + ensuite at 1st fl., 2nd en-suite at 2nd fl.	148.9	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	No 1	(3)	(3)	-7	Space would be lost from KD to achieve acc. wc, first floor landings + door widths inadequate	Design to allow for stairlift and thro' floor lift to all floors.	V large house so could probably be replanned to comply within same footprint. Central stair creates problems and doesn't continue to 2nd
C.5.(10).02		Ground floor L + KD + sep. dining + study, straight stair to 1st fl., dog-leg to 2nd., Part M wc at ground fl., family bath + ensuite at 1st fl., 2nd en-suite at 2nd fl.	174.9	3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	Yes 3	(3)	(3)	-5	Space would be lost from D to achieve acc. wc, (swap with study?) first floor landings + door widths inadequate	As above	V large house so could probably be replanned to comply within same footprint. Central stair creates problems and doesn't continue to 2nd
C.5.(9).03		Ground floor L + KD + sep. dining + study, straight stairs, Part M wc at ground fl., family bath + 2 en-suites at 1st fl., 3rd en-suite at 2nd	156.0	3)	(3)	(3)	a b c (3)	n/a	No 1	* 1	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 2	No 2	(3)	(3)	-9	Space would be lost from K to achieve acc. wc, first floor landings + door widths inadequate	As above	V large house so could probably be replanned to comply within same footprint, but may lose study.
C.5.(7).04		Ground floor L + KD + sep. dining + study + utility, straight stairs in center of plan, Part M, family bath + en-suites + dressing rm. at 1st fl., shower room at 2nd .	173.0	3)	(3)	(3)	a b c (3)	n/a	No 1	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 1	* 2	No 2	(3)	(3)	-9	Hall snd stair need widening, utility or study lost to achieve acc. wc	As above	V large house so could probably be replanned to comply within same footprint, but may lose study or utility.

Notes about our ref. code	Notes about the LTH compatibilty assessment	Conclusions
C. -.-.- Denotes 3 storey dwelling -.5-.- Denotes 5 bedrooms -.-.(7/10).- Denotes no. of bedspaces -.-.-.01-10 Denotes plan number of this type	3 Plan is fully complatible with requirements 2 Plan could be easily adapted to meet requirements 1 Plan would be diffucult to adapt 0 Plan not compatible in principle ( ) Brackets indicate no evidence so asumption made * not shown on plan but potential can be assessed	

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

ADHT Plan classification and analysis

C: 3 storey houses or other dwelling types

6 bedroom (8/12 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maiximum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
C.6.(9).01		Ground floor living rooms + KD + sep. dining, straight stair, Part M wc at ground fl., family bath + ensuite at 1st fl., 2nd en-suite at 2nd fl.	180.7	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 3	Yes 3	* 3	A no B * 2	(3)	A * B * 2	* 3	No 2	(3)	(3)	-4	Circulation reasonable, wc could be widened at expense of kitchen, wider doorways req.	Design to allow for stairlift and thro' floor lift to all floors.	V large house so could probably be replanned to comply within same footprint. Stairlift could continue to 2nd
C.6.(10).02		Ground floor L + K + D, winder stair, Part M wc, family bath + ensuite at 1st fl., 2nd en-suite at 2nd fl.	162.4	(3)	(3)	(3)	(3)	n/a	No 1	* 1	Yes 3	* 3	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-11	Plan would need to be widened by at least 600mm (all floors) and circ./doorways increased, beds 4-6 too tight.	As above	V tight all floors; partitions would need to be removed and rooms combined in order to provide reasonable access.

Notes about our ref. code

C. -.-.- Denotes 3 storey dwelling
-.6-.- Denotes 6 bedrooms
-.-.(8/12).- Denotes no. of bedspaces
-.-.-.01-10 Denotes plan number of this type

Notes about the LTH compatibilty assessment

3 Plan is fully complatible with requirements
2 Plan could be easily adapted to meet requirements
1 Plan would be diffucult to adapt
0 Plan not compatible in principle
( ) Brackets indicate no evidence so asumption made
* not shown on plan but potential can be assessed

Conclusions

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

ADHT Plan classification and analysis

D: Miscellaneous dwelling types

Other 1 bed (2 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m^2 (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maximum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
D.1.(2).01		lst floor flat, own front door, alll rooms at 1st fl accessed by private stair, family bath	68.7 (incl. stair)	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 0	* 0	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-15	Plan type fails to provide any accom. at entrsnce level, though is essentially similar to any above ground flat with no lift.		Stair could be widened so that it could take a stair lift

Notes about our ref. code	Notes about the LTH compatibilty assessment	Conclusions
D. -.-.- Denotes miscellaneous dwelling type -.1.-.- Denotes 1 bedroom -.-.(2).- Denotes number of bedspaces -.-.-.01-10 Denotes plan number of this type	3 Plan is fully complatible with requirements 2 Plan could be easily adapted to meet requirements 1 Plan would be diffucult to adapt 0 Plan not compatible in principle ( ) Brackets indicate no evidence so asumption made * not shown on plan but potential can be assessed	

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

D: Miscellaneous dwelling types

Other 2 bed (3/4 person) units for market sale

General information				Lifetime Homes Standard: Compatibilty assessment																Comments		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maixmum possible for this type	In relation to LTH	In relation to DD 266:2007	Other comments
D.2.(3/4).01		Flat over garage 'FOG'. All rooms at 1at floor level accessed by private stair, family bath	55.6	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 0	* 0	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-15	Plan type fails to provide any accom. at entrsnce level, though is essentially similar to any above ground flat with no lift.	Difficult to access wndows in bedrooms.	Stair could take a stair lift
D.2.(4).02		Ist floor flat, own front door, alll rooms at 1st fl accessed by private stair, family bath + en-suite	76.9	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 0	* 0	A no B * 0	(3)	A * B * 1	* 3	No 2	(3)	(3)	-14	As above		As above
D.2.(3).03		Flat over garage 'FOG'. All rooms at 1st fl level accessed by private stair, family bath + en-suite	62.8	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 0	* 0	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-15	As above		As above
D.2.(3).04		Ist floor flat ,own front door, all rooms at 1st fl accesed by private stair, family bath + en-suite	61.8	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 0	* 0	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-15	As above		As above
D.2.(4).05		Ist floor flat, own front door, all room at 1st fl accessed by private stair, family bath	68.9	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 0	* 0	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-15	As above		As above
D.2.(3).06		Flat over garage 'FOG'. All rooms at 1at floor level accessed by private stair, family bath	64.8	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 0	* 0	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-15			
D.2.(4).07		Ist floor flat, own front door, all room at 1st fl accessed by private stair, family bath	63.0	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 0	* 0	A no B * 0	(3)	A * B * 1	* 3	No 1	(3)	(3)	-15	As above		As above
D.2.(4).09		Flat over garage 'FOG'. All rooms at 1at floor level accessed by external private stair, family bath	44.8	(3)	(3)	(3)	a b c (3)	n/a	No 1	* 3	No 0	* 0	A no B * 0	(3)	A * B * 1	* 3	No 2	(3)	(3)	-14	As above but external stair makes access even more difficult		As above but would require external stair lift

Notes about our ref. code	Notes about the LTH compatibilty assessment	Conclusions
D. -.-.- Denotes miscellaneous dwelling type -.2.-.- Denotes 2 bedrooms -.-.(4).- Denotes number od bedspaces -.-.-.01-10 Denotes plan number of this type	3 Plan is fully complatible with requirements 2 Plan could be easily adapted to meet requirements 1 Plan would be diffucult to adapt 0 Plan not compatible in principle ( ) Brackets indicate no evidence so asumption made * not shown on plan but potential can be assessed	

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

Mixed house types for private sale: before and after LTH, direct comparisons

General information				Lifetime Homes Standard: Compatibilty assessment																	
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Our ref. Code	Original plan ref name or no. and source	General characteristics and features	Floor area m² (NIA)	Car parking width	Access from car parking	Approach gradient	Entrances	Communal stairs and lifts	Doorways/ hallways	Wheelchair accessibility	Living room	Entrance level bed space	Entrance level WC and shower	Bathroom and WC walls	Stair lift/through-floor lift	Tracking hoist route	Bathroom layout	Window spec.	Controls, fixtures and fittings	Points lost from maximum possible score	In relation to LTH	Comments about the changes made to accommodate LTH
B.2.(3).18 LTH classified		Hall, part M wc + lounge/ bed 2 at gnd. fl. with drive under. Winder stair to LDK + bed +en-suite bath at 1st floor	65.3	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 2	Yes 3	A yes B no 2	(3)	A yes B yes 2	Yes 3	Yes 3	(3)	(3)	-3	The ground floor living space is a bedroom with a sofa indicated; main LDK at 1st floor. Gnd. fl. stairlift looks v difficult, shower gulley in wc not indicated	The previous version of this house type is deleted from the range as it could not comply with LTH.
B.2.(4).19 LTH classified		Lobby only, no hall; KD entered from L, part M wc + LDK at gnd. fl. Winder stair to beds + family bath at 1st floor, no en-suite	65	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 2	Yes 2	A yes B no 2	(3)	A yes B yes 2	Yes 2	Yes 2	(3)	(3)	-6	L would be inadequate with lift installed, bed-space located in KD (dining function would be lost). At 1st fl. stairlift v. tight; (intrudes on doorway) shower gulley not shown. Lift arrives in bed 2, but hoist from bed 1. Wc location in bath not compliant.	The previous version of this house type is deleted from the range as it could not comply with LTH.
B.3.(5).22 LTH classified		Lobby only, no hall, wc + LDK at gnd. fl. Straight stair to beds + family bath at 1st floor, no en-suite	79.4	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 2	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B yes 3	Yes 3	No 2	(3)	(3)	-2	Tight throughout but reasonable, no space to turn w'chair in beds 2,3 and wc location in bath not compliant .	The previous version of this house type is deleted from the range as it could not comply with LTH.
B.3.(4).23		LD + K, part M wc, winder stair to beds + family bath + en-suite	84.1	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	* 2	Yes 3	* 2	A no B * 1	(3)	A * B * 2	* 3	No 2	(3)	(3)	-6	Wide circulation makes this a reasonable layout, except wc and bath layout. works at 4p, but not 5p.	
B.3.(4).24 LTH classified		Basic layout unchanged	84.1	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B no 2	Yes 2	No 2	(3)	(3)	-3	Plan now more compliant though lift arrives in single bed 3 (would need to be combined with bed 4 to be workable) but hoist from bed 1. Wc location in bath not compliant.	No change to NIA; space lost from kitchen and beds 1 + 2 to increase wc and bathroom. Wider doorways at 1st fl.
B.3 (5).25		Open plan gnd, fl. LDK with connection to side garage, Part M wc, winder stair, family bath + en-suite	93.0	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 1	* 3	No 1	(3)	(3)	-8	Space reasonable but wc and stairs v tight.	
B.3 (5).26 LTH classified		Basic layout unchanged at ground floor, first replanned	96.5	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B yes 1	Yes 2	No 2	(3)	(3)	-3	Plan now more compliant though stairlift mounting diff. at 1st Thro'flor lift not large enough, bed would become too tight when lift space increased. Bed 3 now too tight, wc location in bathroom not compliant.	NIA incresaed. Plan widened and kitchen reduced to increase hall + wc, 1st fl. replanned to increase bathroom. Linen cup'd now over stairs. Accessibility vastly improved but still some problems.
B.4.(6).27		L + D + K + utility. part M wc entered off uitility, straight stair, wide frontage with integral garage	113.9	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	No 1	(3)	(3)	-7	Spacious house but accees to wc v poor via K, then utilty, no nibs, bathroom small and landing tight	
B.4.(6).28 LTH classified		Basic layout unchanged	113.9	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B yes 2	Yes 3	No 2	(3)	(3)	-2	Plan now more compliant though access to wc still awkward. Stairlift mounting diff. at gnd. and 1st. dining room not usable with thro'flor lift in place and arrives in single bed, not main better in L/Bed 1?). Wc location in bath not compliant.	No change to NIA; space lost from kitchen to increase wc, stair loation adjusted to widen landing at 1st fl. and beds 2,3+ 4 adjusted to incfrease to increase bathroom . Wider doorways at 1st fl.
B.4.(6).29		L + D + K + utility + study. part M wc with straight stair; wide frontage	117.5	(3)	(3)	(3)	a b c (3)	n/a	No 2	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	No 2	(3)	(3)	-6	Spacious house but circ. quite tight, wc v small, thro-floor lift would be diffilcult, stairlift would be tight, esp. at 1st fl.	
B.4.(6).30		Basic layout unchanged, but wc re-located and replaces study	117.5	(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B yes 1	Yes 2	Yes 3	(3)	(3)	-3	Plan now more compliant though stairlift mounting diff. at gnd. and 1st Dining room not usable with thro'flor lift in place and arrives in	No change to NIA; study lost completely to increase wc and stair location adjusted to widen landing at 1st fl and bathroom re-

LTH classified	AFTER																				single bed 3, not double . Hoist shown from main bed 1. (no obvious solution).	planned to improve wc access. Wider doorways at 1st fl.
B.4.(6).31		L + D + K + utility. part M wc, winder stair, wide frontage with integral garage	118		(3)	(3)	(3)	a b c (3)	n/a	No 2	* 3	Yes 3	* 3	A no B * 1	(3)	A * B * 1	* 3	No 1	(3)	(3)	-7	Spacious houes but circ. quite tight, wc v small, thro-floor lift would be diffilcult, stairlift would be tight, esp. at 1st fl.	
B.4.(6).32 LTH classified		Basic layout unchanged	117.5		(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B yes 1	Yes 2	Yes 3	(3)	(3)	-3	Plan now more compliant though stairlift mounting diff. at gnd. 1st Living room not really usable with thro'flor lift in place and arrives in single bed 3, not double. Hoist shown from different bed. (no obvious solution).	No change to NIA; hall reduced to increase wc and beds 2, 3 adjusted to increase bathroom. Wider doorways at 1st fl.
B.4.(6).33		L + D + K + utility + study. part M wc with straight stair; wide frontage	117.5		(3)	(3)	(3)	a b c (3)	n/a	No 2	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	No 1	(3)	(3)	-7	Spacious house, but wc v small, thro-floor lift would be difficult, stairlift would be tight, esp. at 1st fl.	
B.4.(6).34 LTH classified		Basic layout unchanged	117.5		(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B yes 2	Yes 2	Yes 3	(3)	(3)	-2	Plan now more compliant though stairlift mounting diff. at gnd.+ 1st Study not usable with thro'flor lift in place; arrives to bed 3 but hoist shown from bed 1. Wc location in bathroom not compliant.	No change to NIA; study and L reduced to increase wc and beds 2, 3 adjusted to increase bathroom. Master bed re-located. Wider doorways at 1st fl.
B.4.(6).35		L + D + K + utility + study. part M wc with winder stair; wide frontage	130.2		(3)	(3)	(3)	a b c (3)	n/a	No 2	* 2	Yes 3	* 3	A no B * 1	(3)	A * B * 2	* 3	No 1	(3)	(3)	-7	Spacious house, but wc v small and stairs v tight. Stairlift would be difficult.	
B.4.(6).36 LTH classified		Basic layout unchanged	130.2		(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B yes 2	Yes 2	No 2	(3)	(3)	-3	Plan now more compliant though stairlift mounting diff. at 1st Study not usable with thro'flor lift in place; arrives to bed 3 with hoist but is only single. Wc location in bathroom not compliant.	No change to NIA; study and hall reduced to increase wc, and bed 3 adjusted to increase bathroom. Wider doorways at 1st fl.
C.3 (6).12		KD + part M wc + integral garage at gnd. level. Winder stairs to L + bed 1 at 1st, beds 2, 3 + family bath + en-suite at 2nd	105.8		(3)	(3)	(3)	a b c (3)	n/a	No 1	* 2	No 1	 1	A no B * 0	(3)	A * B * 1	* 0	No 0	(3)	(3)	-18	Plan fails due to location of key spaces though KD could provide hospitality and bedspace. no bathroom at 1st floor	
C.3 (6).13 LTH classified		Completely re-planned to give ground fl LDK + study (no garage), add. L at 1st fl, with bed + bath, 2 more beds + en-suite at 2nd	128.5		(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B yes 1	Yes 2	No 1	(3)	(3)	-5	Plan now more compliant though stairlift mounting diff. at 1st Thro'flor lift not large enough, bed would be unworkable due to size and location of lift. Wc now LTH, but not bathroom.	NIA increased significantly. Plan completely re-planned as noted and garage omitted. Accessibility vastly improved but still some significant problems.
C.4 (7).10		Open plan gnd. fl. LDK with side garage, Part M wc, winder stair to add. L, bed + ensuite, 2 more beds +family bath at 2nd.	149.5		(3)	(3)	(3)	a b c (3)	n/a	No 2	* 2	Yes 3	 3	A no B * 0	(3)	A * B * 2	* 0	No 1	(3)	(3)	-11	Reasonble hospitality and bedspace at ground level but v smal, wc and only en-suite shower room at 1st floor	
C.4 (7).11 LTH classified		Basic layour remains similar but lst floor en-suite upgraded to bathroom and door from landing added	153.9		(3)	(3)	(3)	a b c (3)	n/a	Yes 3	Yes 3	Yes 3	Yes 3	A yes B yes 3	(3)	A yes B yes 2	Yes 3	No 2	(3)	(3)	-2	Plan now more compliant though stairlift mounting diff. at 1st . Thro'flor lift not large enough, but could be increased. Wc now LTH, but wc location in bathroomnot compliant.	NIA increased. Accessibility vastly improved with only some minor problems.

Notes about our ref. code	**Notes about the LTH compatibilty assessment**	**Conclusions**
A. -.-.- Denotes 1 storey dwelling -.3-.- Denotes 3 bedrooms -.-(5)- Denotes number of bedspaces -.-.-.01-10 Denotes plan number of this type	3 Plan is fully complatible with requirements 2 Plan could be easily adapted to meet requirements 1 Plan would be diffucult to adapt 0 Plan not compatible in principle ( ) Brackets indicate no evidence so asumption made * not shown on plan but potential can be asessed	

Analysis of Housing Distribution Typologies: CLG CI ref. no. 71/4/66

Appendix D

Questionnaire responses; data and comments received

CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name [redacted]

2. Area of operation within England (and Wales?) Predominantly North East of England

3. Name and contact details of person who could help with any queries in relation to information supplied [redacted]

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

   April 09-10 163 April 10-11 386 April 11-12 337 April 12-13 420

5. The number of new homes you completed in: April 07-08 202 April 08-09 252

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats			2 storey houses			3 storey houses		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath	0	0	0	0	0	0	0	0	0
2 bed, 1 bath	4	0	6	0	0	15	0	0	0
2 bed, 2 bath	4	0	6	5	0	0	0	0	0
3 bed, 1 bath	0	0	0	5	0	0	0	0	0
3 bed, 2 bath	0	0	0	15	0	30	0	0	0
4 bed & larger	0	0	0	3	0	7	0	0	0

Inter./Sale = Intermediate for sale

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

   Private for sale 0 Intermediate for sale 0 Affordable rent 3

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years

   Increase Yes Decrease No Remain similar No

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

   In order to comply with LA planning requirements Yes/No No

   In order to gain credits under the Code for Sustainable Homes Yes/No Yes

   Your company preference Yes/No No

For each plan type supplied, please supply the following additional information

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years.

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, p only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers.

Where you are providing flat plans, please provide a typical floor plan of the block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in curtilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback
Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

Please indicate whether you would like to receive a summary of the report findings Yes/No

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

Post: Nancy Edwards, Resources Manager, Levitt Bernstein, 1 Kingsland Passage, London E8 2BB
Tel: 020 7275 7676
Email: nancy.edwards@levittbernstein.co.uk

2.

CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name [redacted]

2. Area of operation within England (and Wales?) Gloucestershire, Herefordshire, Oxfordshire and South Wales.

3. Name and contact details of person who could help with any queries in relation to information supplied [redacted]

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

   April 09-10 100 April 10-11 100 April 11-12 100 April 12-13 100

5. The number of new homes you completed in: April 07-08 April 08-09

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats			2 storey houses			3 storey houses		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath									
2 bed, 1 bath									
2 bed, 2 bath									
3 bed, 1 bath									
3 bed, 2 bath									
4 bed & larger									

Inter./Sale = Intermediate for sale

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

   Private for sale 0 Intermediate for sale 5 Affordable rent 5

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years

   Increase Yes Decrease Remain similar

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

   In order to comply with LA planning requirements Yes/No

   In order to gain credits under the Code for Sustainable Homes Yes/No Yes

   Your company preference Yes/No

For each plan type supplied, please supply the following additional information

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years.

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, p only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers.

Where you are providing flat plans, please provide a typical floor plan of the block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in curtilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback
Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

Please indicate whether you would like to receive a summary of the report findings Yes/No YES

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

Post: Nancy Edwards, Resources Manager, Levitt Bernstein, 1 Kingsland Passage, London E8 2BB
Tel: 020 7275 7676
Email: nancy.edwards@levittbernstein.co.uk

CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name [redacted]

2. Area of operation within England (and Wales?) London, Thames Gateway & South East England

3. Name and contact details of person who could help with any queries in relation to information supplied

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

April 09-10	149	April 10-11	116	April 11-12	112	April 12-13	468

5. The number of new homes you completed in: April 07-08 446 April 08-09 377

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats			2 storey houses			3 storey houses		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath	40%	80%	100%	40%	80%	100%	40%	80%	100%
2 bed, 1 bath	40%	80%	100%	40%	80%	100%	40%	80%	100%
2 bed, 2 bath	40%	80%	100%	40%	80%	100%	40%	80%	100%
3 bed, 1 bath	40%	80%	100%	40%	80%	100%	40%	80%	100%
3 bed, 2 bath	40%	80%	100%	40%	80%	100%	40%	80%	100%
4 bed & larger	40%	80%	100%	40%	80%	100%	40%	80%	100%

Inter./Sale = Intermediate for sale

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

Private for sale	40%	Intermediate for sale	70%	Affordable rent	70%

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years

Increase	X	Decrease		Remain similar	

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

In order to comply with LA planning requirements	Yes/No	Yes
In order to gain credits under the Code for Sustainable Homes	Yes/No	Yes
Your company preference	Yes/No	No

For each plan type supplied, please supply the following additional information

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years.

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, p only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers.

Where you are providing flat plans, please provide a typical floor plan of t block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units
1865 – 011	Private	Unknown	Parking Court	N/A

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in cartilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback
Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

Please indicate whether you would like to receive a summary of the report findings Yes/No Yes

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

Post: Nancy Edwards, Resources Manager, Levitt Bernstein, 1 Kingsland Passage, London E8 2BB
Tel: 020 7275 7676
Email: nancy.edwards@levittbernstein.co.uk

4.

CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name [redacted]

2. Area of operation within England (and Wales?) UK wide

3. Name and contact details of person who could help with any queries in relation to information supplied [redacted]

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

April 09-10	10500	April 10-11	No	April 11-12	No	April 12-13	No

5. The number of new homes you completed in:

April 07-08	21000	April 08-09	13500

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats			2 storey houses			3 storey houses		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath	Aproximately 30% of total, breakdown not available								
2 bed, 1 bath									
2 bed, 2 bath									
3 bed, 1 bath									
3 bed, 2 bath									
4 bed & larger									

Inter./Sale = Intermediate for sale

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

Private for sale	Negligible	Intermediate for sale	Approx 10%	Affordable rent	Approx 5%

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years

Increase	yes	Decrease		Remain similar	

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

In order to comply with LA planning requirements	Yes/No	Yes
In order to gain credits under the Code for Sustainable Homes	Yes/No	No
Your company preference	Yes/No	No

For each plan type supplied, please supply the following additional information

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years.

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, p only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers.

Where you are providing flat plans, please provide a typical floor plan of t block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units
A609-A665	Private sale	Not known	Variable	
A656	Private sale	Not known	Variable	
D1227	Private sale	Not known	Variable	
D1289	Private sale	Not known	Variable	
D1400	Private sale	Not known	Variable	
D1536	Private sale	Not known	Variable	
H621	Private sale	Not known	Variable	
H745	Private sale	Not known	Variable	
H819	Private sale	Not known	Variable	
H1089	Private sale	Not known	Variable	
H1216	Private sale	Not known	Variable	
H1225	Private sale	Not known	Variable	
D1685	Private sale	Not known	Variable	
D1735	Private sale	Not known	Variable	
D2000	Private sale	Not known	Variable	

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in cartilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback

Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

The drawings provided are for the [redacted] standard product that is currently being plotted. We are working on a new product range for both brands of the merged company [redacted], this is still at concept stage, expected to be rolled out to the business for use next year. This will be designed to provide greater compliance with Lifetime homes, especially the affordable housing part of the range.

Current information on usage is almost impossible to get following regional closures and reorganisations following the merger and in the current economic climate.

Please indicate whether you would like to receive a summary of the report findings Yes/No Yes

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

Post: Nancy Edwards, Resources Manager, Levitt Bernstein, 1 Kingsland Passage, London E8 2BB
Tel: 020 7275 7676
Email: nancy.edwards@levittbernstein.co.uk

5.

CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name [redacted]

2. Area of operation within England (and Wales?) England

3. Name and contact details of person who could help with any queries in relation to information supplied [redacted]

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

April 09-10	30	April 10-11	80	April 11-12	68	April 12-13	48

5. The number of new homes you completed in:

April 07-08	48	April 08-09	48

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats			2 storey houses			3 storey houses		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath			5%						
2 bed, 1 bath			5%	11%		13%			
2 bed, 2 bath									
3 bed, 1 bath						21%			5%
3 bed, 2 bath				13%					
4 bed & larger				13%					14%

Inter./Sale = Intermediate for sale

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

Private for sale	nil	Intermediate for sale	nil	Affordable rent	nil

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years

Increase	yes	Decrease		Remain similar	

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

In order to comply with LA planning requirements	Yes/No	Yes
In order to gain credits under the Code for Sustainable Homes	Yes/No	yes
Your company preference	Yes/No	No

For each plan type supplied, please supply the following additional information

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years.

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, p only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers.

Where you are providing flat plans, please provide a typical floor plan of t block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units
Z03015 120	Affordable	13	1	
Z03015 136	Affordable	2	1	
Z03015 137	Affordable	2	1	0%
Z03015 138	Affordable	1	1	0%
Z03015 – 08.017 110	Affordable	15	1	
Z03015 – 08.017 115	Affordable	10	1	
Z03015 – 08.017 125	Affordable	15	1	
Z03015 – 08.017 130	Affordable	4	1	
Z03015 – 08.017 AF10	Affordable	2	1	
Z03015 – 08.017 AF12	Affordable	5	1	0%
Z03015 – 08.017 B3	Affordable	1	1	
Type A 7	For Sale	94	1	
Type B Board Type B Brick	For Sale	94	2	
Type C –	For Sale	6	2	
Type D –	For Sale	11	2	
Type E brick	For Sale	25	2	
Type F – Type F rendered	For Sale	25	2	
Type G boarded Type G rendered	For Sale	23	2	
Type H brick Type H rendered	For Sale	10	2	

Type J boarded Type J brick Type J rendered	For Sale	12	2	
Type K – Type K rendered	For Sale	13	2	
Type L -	For Sale	15	2	

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in cartilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback
Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

N.B. the numbers of builds (Amount) shown against the plans (A to L inclusive) are part of a longer term project and span up to 2017. Numbers are still to be verified and calendarised against these housetypes and therefore are subject to change.

Please indicate whether you would like to receive a summary of the report findings Yes/No **Yes**

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

Post: Nancy Edwards, Resources Manager, Levitt Bernstein, 1 Kingsland Passage, London E8 2BB
Tel: 020 7275 7676
Email: nancy.edwards@levittbernstein.co.uk

6.

CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name [redacted]

2. Area of operation within England (and Wales?) England (Leeds to South Birmingham).

3. Name and contact details of person who could help with any queries in relation to information supplied [redacted]

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

April 09-10	400	April 10-11	300-500	April 11-12	500-700	April 12-13	700-1000

5. The number of new homes you completed in: April 07-08 998 April 08-09 686

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats			2 storey houses			3 storey houses		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath	12	5	1						
2 bed, 1 bath	5	8.5	0.5		5	5			
2 bed, 2 bath	6								
3 bed, 1 bath				12	9.5	5			
3 bed, 2 bath	2			4	0.3		1.5	0.3	0.3
4 bed & larger				6	0.2	0.2	2	6	2.7

Inter./Sale = Intermediate for sale

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

Private for sale	Intermediate for sale	Affordable rent

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years

Increase	Yes	Decrease	Remain similar

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

In order to comply with LA planning requirements	Yes/No	Yes
In order to gain credits under the Code for Sustainable Homes	Yes/No	Yes
Your company preference	Yes/No	

For each plan type supplied, please supply the following additional information

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years.

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, p only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers.

Where you are providing flat plans, please provide a typical floor plan of t block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units
Life-2B4P(67)	Affordable	4	100-150% MIXED	
Life-3B5P(83)	Affordable	53	100- 200% MIXED	
Life-4B6P(95) (2 versions)	Affordable	9	100- 200% IN CURT	

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in cartilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback
Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

All Figures are approximate.

Please indicate whether you would like to receive a summary of the report findings Yes/No Yes

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

Post: Nancy Edwards, Resources Manager, Levitt Bernstein, 1 Kingsland Passage, London E8 2BB
Tel: 020 7275 7676
Email: nancy.edwards@levittbernstein.co.uk

7.

CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name [redacted]

2. Area of operation within England (and Wales?) SOUTH WEST REGION

3. Name and contact details of person who could help with any queries in relation to information supplied

[redacted]

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

April 09-10	600	April 10-11	700	April 11-12	800	April 12-13	900

5. The number of new homes you completed in:

April 07-08	800	April 08-09	500

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats			2 storey houses			3 storey houses		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath		2	3						
2 bed, 1 bath				7	2	6			
2 bed, 2 bath	7	1	2	7					
3 bed, 1 bath					3	7			
3 bed, 2 bath				7			40		
4 bed & larger					1	2	3		

Inter./Sale = Intermediate for sale

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

Private for sale	70	Intermediate for sale	10	Affordable rent	20

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years

Increase	YES	Decrease	NO	Remain similar	NO

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

In order to comply with LA planning requirements	Yes/No	NO
In order to gain credits under the Code for Sustainable Homes	Yes/No	YES
Your company preference	Yes/No	NO

For each plan type supplied, please supply the following additional information:

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years.

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, please only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers.

Where you are providing flat plans, please provide a typical floor plan of t block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units
A338 ASDG, ASDF, ASDS	PRIVATE SALE	APPROX. 130	2 (ALLOCATED OFF STREET PARKING)	PRIVATE STAIR
A210 ASDG, ASDF	PRIVATE SALE	APPROX. 80	1 (ALLOCATED OFF STREET PARKING)	PRIVATE STAIR
AF13 ASDG, ASDF, ASDS	PRIVATE SALE	APPROX. 20	1 (ALLOCATED OFF STREET PARKING)	100% VIA COMMUNAL STAIR

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in cartilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback
Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

THE HOUSETYPES PROVIDED ARE FROM OUR CURRENT 'CORE RANGE', AND ARE CURRENTLY UNDER REVIEW TO BRING THEM IN-LINE WITH CURRENT REGULATIONS AND LEGISLATION.

Please indicate whether you would like to receive a summary of the report findings Yes/No YES

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

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Email: nancy.edwards@levittbernstein.co.uk

8. CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name [redacted]

2. Area of operation within England (and Wales?) England & Scotland

3. Name and contact details of person who could help with any queries in relation to information supplied [redacted]

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

April 09-10	2000	April 10-11	2500	April 11-12	3000	April 12-13	3500

5. The number of new homes you completed in: April 07-08 4000 April 08-09 2058

Note: The above figures represent total completions at the Company's corporate year end, i.e. 31st December. The figure of 2058 represents total completions in the year ending 31st December 2008.

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats			2 storey houses			3 storey houses		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath									
2 bed, 1 bath									
2 bed, 2 bath									
3 bed, 1 bath									
3 bed, 2 bath									
4 bed & larger									

Inter./Sale = Intermediate for sale

The mix varies across all nine of our regional businesses but there is little provided in the way if 1bed accommodation. Apartments have represented up to 25 – 30% of our product range but we a deliberate policy in place not to plan any further apartment schemes, due to market saturation, costs and a significant fall in selling price yields.

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

Private for sale [ ] Intermediate for sale [ ] Affordable rent [ ]

Our provision of LTH's has been quite small, conceivably no more than 50 – 60 dwellings having been constructed in all seven of our English Regions in 2008.

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years. We do not expect any significant increase in LTH provision in the next two years.

Increase [ ] Decrease [ ] Remain similar [ ]

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

In order to comply with LA planning requirements Yes [ ]

In order to gain credits under the Code for Sustainable Homes Yes* [ ]
*This has been in response to design brief impositions by EP.
Your company preference Yes/No [ ]

For each plan type supplied, please supply the following additional information

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years. (Unable to respond to this request – our present product portfolio is undergoing a significant review to address the dramatic change in market conditions).

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, p only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers. (2, 3 and four bed dwellings are likely to dominate our future product mix from hereon accompanied by a return to more conventional forms of housing layout. Terrace/mews style developments are likely to be a prominent feature).

Where you are providing flat plans, please provide a typical floor plan of t block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in cartilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback
Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

Based on our experiences in Scotland, we are able to confirm that there is significant cost attached to the provision of LTH. Smaller, narrow-fronted dwellings are the more susceptible to significant cost increases, largely driven by the need to provide sufficient floor space for future furniture and circulation space needs. Based on a recent product review exercise, the strict application of LTH standards that are preferred in DD 266:2007, increased the floor area of a 906 sq ft dwelling by 162 sq ft. Taking an average, all-in build cost of £53/sq ft, this would equate to an increase in construction cost of £8586/dwelling. At a plotting density of 17 dwellings/acre (42 dwellings/hectare), this would equate to a land value of circa £146k/acre and would come at a time when land values have already fallen by around 58% and where other social infrastructure payments through either Section 106 or CIL would be competing for a share of land value. Alternatively, normal business/commercial models would look to achieve a profit of say 15% on this construction cost, which would result in a selling price increase of circa £10,000 to recover these costs. This is not possible in the present market and it is unlikely to be an alternative funding option that is open to UK House-builders for quite some time.

Please indicate whether you would like to receive a summary of the report findings Yes

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

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Email: nancy.edwards@levittbernstein.co.uk

9.

CLG Housing typologies research

Request for information: questionnaire to house builders

Please provide the following background information:

1. Company Name [redacted]

2. Area of operation within England (and Wales?) NORTHEAST & YORKSHIRE.

3. Name and contact details of person who could help with any queries in relation to information supplied [redacted]

4. Are you able to estimate the number of new homes you expect to build (start on site) during the next 4 years?

   April 09-10 140 April 10-11 160 April 11-12 ~~180~~ 220 April 12-13 250

5. The number of new homes you completed in: April 07-08 150 April 08-09 140

6. Please use this table to indicate the approximate % breakdown of the various housing types and tenures which you now expect to provide just over the next 2 years (April 09-11)

	Flats 26%			2 storey houses 54%			3 storey houses 20%		
	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent	Sale	Inter./ Sale	Affordable rent
1 bed, 1 bath	6%	–	1%	–	–	–	–	–	–
2 bed, 1 bath	17%	–	1%	7%	–	3%	–	–	–
2 bed, 2 bath	1%	–	–	7%	–	–	–	–	–
3 bed, 1 bath		–	–	–	–	1%	–	–	–
3 bed, 2 bath		–	–	28%	–	–	10%	–	10%
4 bed & larger		–	–	13%	–	1%	–	–	–

Inter./Sale = Intermediate for sale

7. Please indicate, for each tenure, the approximate % of new homes which you have recently built (say over the last 2 years) to Lifetime Homes Standards

   Private for sale 0% Intermediate for sale 0% Affordable rent 0%

8. Please indicate whether you expect the proportion of the new homes which you will build to Lifetime Homes Standards to change over the next 2 years

   Increase ✓ Decrease Remain similar

9. Where you are building now to LTH standards or intend to before the Government require it, can you indicate whether this is usually:

   In order to comply with LA planning requirements Yes/No N/A.

   In order to gain credits under the Code for Sustainable Homes Yes/No N/A.

   Your company preference Yes/No N/A.

For each plan type supplied, please supply the following additional information:

Please provide scale plans in PDF or dwg format (with a visible scale) of your most typical current plan plan types and any new and emerging plan types which you feel are likely to become mainstream over the next two years.

Please try to provide those types which you expect to build in the largest numbers. If you rarely build flats, please only send house plans, but if possible include 2 or more plans of any type (eg 3 bed 2 bath) which you expect to build in reasonably large numbers.

Where you are providing flat plans, please provide a typical floor plan of t block where possible

For each plan supplied, please note:

Plan reference	Tenure	Amount	Parking	Access to upper floor units
DALTON HOUSETYPE.	SALE	30	1 IN CURTILAGE.	N/A.
LUMLEY HOUSETYPE.	SALE	20	2 IN CURTILAGE (INC GARAGE)	N/A
NEWMARKET HTYPE.	SALE	25	2 IN CURTILAGE (INC GARAGE)	N/A
HAREWOOD HOUSETYPE.	SALE	10	4 IN CURTILAGE (INC GARAGE)	N/A
RIPLEY HOUSETYPE.	SALE	10	4 IN CURTILAGE (INC. GARAGE)	N/A
TRAFALGAR HOUSETYPE.	SALE.	6	1 IN CURTILAGE	0%.

Plan reference – your drawing number or other unique name or reference
Tenure – the tenure or tenures for which plan type is intended (i.e. sale, intermediate rent, affordable rent
Amount – the approx. number of dwellings of this type you expect to build over the next 2 years
Parking – the level and type of parking you would usually expect to provide in association with this plan type (i.e. 1-in cartilage space per dwelling or 0.5 on-street spaces per dwelling
Access to upper floor units – where upper floor flats, maisonettes or duplex plans are provided, please indicate the approximate proportion (%) which would usually be lift-served (as opposed to stair only access)

Comments and feedback
Please use this box for any comments you wish to make in relation to Lifetime Homes or the plans provided.

Please indicate whether you would like to receive a summary of the report findings Yes/No No.

Please complete both pages of this questionnaire and return them to us by post or email, as soon as possible, together with a copy of each plan type.

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Appendix E

Stair-lifts and through-floor lifts; technical background research

Stair lifts:

Information from web-site literature and conversation with Stannah (11-06-09 and 150609 - Keith Burke, sales and Matt Stevens, Steve Green, drawing office)

1. **Possibilities/limitations** - almost all stair configurations possible, subject to a maximum pitch of 52 degrees and a minimum pitch of 24 degrees. With winder stairs, the rail and chair often need to be very high above parts of the flight in order to remain within the permitted pitch range and often have to maintain a steeper pitch than the straight part of the flight in order to reach the landings at the right level. This looks messy and also tends to require a longer over-run. (diagram to be added)

2. **Stair width** - dictated by the practicalities of the rail + chair + seated person's thigh length + feet. (640mm is considered absolute minimum for a straight flight, 700mm for winders) but 850mm+ is comfortable so not usually a problem with new-build.

3. **Rail configurations** - standard single rails are required for straight stairs and double rails for curved stairs. All curved installations are bespoke (made-to-measure) and are very rarely re-usable. The rail is usually fitted to the outside of the flight, but may be fitted to the inside. With winder stairs fitting to the inside creates a much more difficult situation because of the pitch constraints (max 52) but is preferable in other ways because it locates the rail and chair over the un-usable part of the flight.

4. **Support/fixings** - rails are at low level, supported by legs fixed to the landings and treads at approx 1m centres, max.leg height 850mm. No wall fixings are necessary.

5. **Rail over-runs** - at the bottom of the flight, the rail needs to continue down almost to floor level; the length is determined by the pitch of the stair but is typically 300mm for a straight flight. A hinged option is available to deal with doorways or other problems and in that case, the rail need not extend beyond the bottom nosing. At the top of the flight, no rail over-run is needed. Audible warnings are available as an optional extra when a doorway obstructs the rail or chair, but this is highly undesirable. (diagram to be added)

6. **Getting on and off** – at the bottom of the stair, the chair usually rests just beyond the flight on the floor or lower landing with its back to the rail. At the top of the stair, the seat normally swivels though 90 degrees to face the landing and has its back to the flight. At top or bottom, the rail can be extended to take the chair to a more suitable place for getting on or off, or parking the chair.

7. **Parking the chair** – the chair may rest at the top or bottom or at any point in between ie on the stair itself. As noted above, the rails may be extended horizontally to take it to a preferred location beyond the flight. The seat, foot rest and arm rests fold up to reduce the depth of the chair to between 330mm and 405mm from the face of the wall.

8. **Multiple flights (either a private stair within a 3 storey house or a communal stairs in a block of flats)** – this is easily possible but the rails would need to run up the inside of the flight in order to provide continuity and, in the case of the communal stair, not obstruct the doorways at each landing level.

9. **Outdoor chairs** – outdoor installations are possible; the principles are similar and the components are weather-proof.

10. **Cost** - the cost for a straight stair is approximately £2-3000 depending on rail length, type of chair, and options for control and swivelling etc. Price varies considerably for curved stairs but likely to be at least twice the price of a straight stair installation.

11. **Demand** - Stannah are market leaders and sell approximately 500 stair lifts per week in the UK. They advise that the number is rising as fewer people are moving house.

Through floor lifts:

Information from web-site literature and conversation with Wessex Lifts (David Johns 15-06-09) and their competitors Pollock and Terry lifts.

1. **Description** - referred to as 'Lifetime homes vertical home lifts'; provide a platform suitable for a wheelchair with half height guarding (also available are seated lifts; not suitable for wheelchair use).

2. **Size** – Wessex recommend the use of their VM36 model, 'large wheelchair car' which requires a min. shaft size of 1046 x1555 mm. The smaller VM31 requires an opening of 946 x 1505mm. Both carry a maximum weight of 225kg and require a minimum floor/ceiling height on the upper floor level of 2040mm.

3. **Support/location** - Wessex home lifts are now free-standing and need no wall support; so in theory, they can be in the centre of a room. 75% of the load is taken by the intermediate floor (through which the lift passes) and the remaining 25% is taken at the upper ceiling level. In order to take the load, the hole needs to be double or triple trimmed; this depends on a number of factors especially where it is located in relation to load bearing walls. Wessex advise that where they encounter an existing aperture, these are rarely suitable and usually require alteration. The hole may be too small, either because people (and therefore wheelchairs and platforms too) are getting larger, so technology is always changing, or because it was incorrectly formed.

4. **Rise** – maximum travel distance for Wessex is 3m.

5. **Other general design constraints** – a minimum floor/ceiling height of 2040mm is required on the upper floor by Wessex, 2250mm by Polllock.

6. **Particular difficulties** - typical lifts suit an intermediate floor depth of 180 – 300mm. engineered timber joist floor construction often exceeds that depth (350mm+) so can pose problems requiring the edges to be lined and extra measures to retain the fire resistance of the ceiling. Sloping soffits mean that the ceiling plate cannot be fixed so in these cases, support from a structural wall is required.

7. **Demand** - Wessex sell approx. 900 lifts per year which is half the market share. They expect sales to drop this year because of the credit crunch; demand outstrips funding.

Other manufacturers

Competitors are Pollock and Terry lifts. **Pollock lifts** are also free-standing but require a min. floor/ceiling height on the upper floor of 2250mm. They operate up to 3.2 with hydraulic and 4.2 with traction).
Their smallest wheelchair lift (750 x 1100mm internal) requires an aperture of 930 x 1425mm; the mid range (850 x 1150 internal) requires an aperture of 980 x 1575mm.

Terry lifts usually require wall support to rails at the short end of the lift. Standard vertical travel distance is 3m. but they can increase this to 3.5m as a special requirement, Their smallest wheelchair lift, (Harmony S 710 x 1170mm internal) requires an aperture of 910 x 1290 mm; the mid-range (Harmony W 860 x 1170 internal) requires an aperture of 1045 x 1300mm.

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