



**Inquiry into
The London Borough of Southwark (Aylesbury Estate Sites 1b – 1c)
Compulsory Purchase Order 2014**

**Proof of Evidence of
Catherine Bates
For the London Borough of Southwark**

PINS Reference NPCU/CPO/A5840/74092

§2.1 reasons in AAP
§4.7 Conditions not sufficient
§5.4 Stigma
§ Appendix: Eng Heritage
misrepresented

March 2015

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1. Qualifications and Experience

- 1.1. My name is Catherine Bates and I am a qualified Architect. I have a BA Hons. Degree in Art History (1990), a BSc degree in Architecture (1994) and a Diploma in Architecture (1996). I have been registered with the Architect's Registration Board (ARB) since 1999.
- 1.2. I joined the London Borough of Southwark (the Council) in 2004 and my current post is Principal Design and Technical officer, Aylesbury Regeneration, a position which I have held since December 2011. Prior to this, I was the Design Quality Manager for Southwark's Building Schools for the Future (BSF) programme for four years, seconded to the Council's Local Education Partnership (LEP) and prior to that, Project Architect for three years in the Council's in-house multi-disciplinary design office, Southwark Building Design Service (SBDS). Before joining the Council I worked in private practice. In total, I have 17 years professional experience of design and construction across both the private and public sectors. Over my career to date I have received personal recognition with two awards: Partnership for Schools (PfS), Client Design Advisor of the Year 2009, and British Council for School Environments (BCSE), Advisor of the Year 2011.
- 1.3. My role on the BSF schools project included managing the LEP's design processes from inception to completion and the safeguarding of the Council's interest in its investment in the new school buildings, including two new schools on the Aylesbury Estate.
- 1.4. In my current role within the Aylesbury team, I led the Design and Technical work-stream of the OJEU Aylesbury Development Partner procurement. My day-to-day duties include stewarding the quality aspect of the design delivery across the Aylesbury area, working with the Development Partner Notting Hill Housing Trust (NHHT) and with the Site 7 developer London and Quadrant (L&Q); managing the Council's technical obligations with regards to the Development Partner Agreement (DPA); and overseeing delivery of other technical aspects across the Aylesbury area.

1.5. The nature of my current role means that I am aware of the background to the Aylesbury regeneration as well as the Council's vision for the regeneration. My professional experience means that I am well placed understand and evaluate how the development of the Order Land fits into the delivery of that vision.

1.6. I gave evidence as Design and Technical officer at the inquiry held in March 2013 for the Council's Compulsory Purchase Order no2 of Wolverton 1-59, Aylesbury (CD 29 Page 1937). This evidence was accepted by the Inspector at the inquiry, as set out in the Inspector's report to the Secretary of State (CD 11 Page 668). As the Order Land comprises all the physical features of previous CPO no.2 Order Land - and both are typical of the wider Aylesbury estate - it is therefore relevant, in this evidence, to refer my evidence given at the March 2013 Inquiry.

1.7. I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer.

2. Scope of Evidence

2.1 My evidence covers the technical and design aspects to support the Council's decision to proceed with the development of the Order Land. This is in line with Aylesbury Area Action Plan (AAAP, CD 2), which, in the background section, sets out reasons why the Council concluded it would be better to demolish and redevelop the Aylesbury estate rather than refurbish it.. The key reasons cited are mostly technical and design points. In my evidence, I expand on these points and I demonstrate that they relate to the Order Land.

2.2 My evidence addresses specific paragraphs within the Statement of Reasons (SoR, CD 27) and Statement of Case (SoC, CD 28), which refer to

technical and design aspects of the Order Land as existing and to the new proposals for the Site, which covers the footprint of the Order Land, namely:

- i. SoR paragraph 1.14, and SoC paragraphs 4.3: the Order Land in relation to the AAAP background to the decision to develop
- ii. SoR paragraph 1.12 and SoC paragraph 4.8: the Order land in relation to the condition of the existing buildings and infrastructure
- iii. SoR paragraph 1.12 and SoC paragraph 5.4: the Order land in relation to the existing urban environment
- iv. SoR paragraph 5.4 and SoC paragraphs 5.3 and 5.6: the Order land in relation to the proposed new development

2.3 I begin with a summary of the AAAP statement setting out the background to the decision to demolish and redevelop, and why this is still relevant to the Order Land.

2.4 I go on to set out the technical aspects of the construction and condition of the existing flat blocks on the Order Land. These include: the inherent issues to do with the construction of the blocks, as well as the condition of the external and internal building fabric.

2.5 I then go on to set out the existing urban environment issues that pertain to the Order Land. These include: the estate layout, scale and character of the buildings, and access issues.

2.6 Finally, I set out the merits of the proposed new development in terms of good urban environmental features, design quality and the technical benefits of current design standards; this section includes evaluation on the proposed architectural and public realm design.

2.7 Neil Kirby's evidence provides additional background information in relation to the regeneration of the estate. Detailed information regarding Planning policy compliance is set out in Alison Squires' evidence.

3. Development of the Order Land

3.1. The Council's decision to demolish and redevelop the Aylesbury estate, rather than refurbish it, was made in 2005 and subsequently adopted as policy in 2010 with the Aylesbury Area Action Plan (AAP). The AAP, at paragraph 1.2 Background clause 1.2.4, sets out three key justifications for this decision:

- The structural condition of the estate
- The quality of the environment
- Costs of refurbishment (to bring existing blocks up to decent homes standard)

It then goes on to state that (clause 1.2.5):

- The built fabric is dated and cannot be retained in the long-term because of deterioration in quality
- The existing building fabric goes against good urban design principles

3.2. Since the adoption of the AAP, the prevailing view is unchanged regarding the condition of the buildings and the estate as well as regarding the positive opportunities for creating a good new urban environment. This is borne out by the recent successful CPO no2 (CD29) on the Wolverton 1-59 site within the Aylesbury estate footprint, currently under construction. In his report to the Secretary of State, dated April 2013 (CD 11), the Inspector confirmed (CD11 para 26 Page 674) that the AAP policy document is an adopted part of the Development Plan and sets out a strategy for the wholesale regeneration of the estate. Para 8 of the Secretary of State's (CD11 Page 677) decision letter agreed with the Inspector's conclusions and the Secretary of State decided to confirm that CPO.

3.3. The buildings and environment on the Order Land are typical of the rest of the estate and possess all the features and attributes that the AAP highlights as the basis for the decision to demolish and redevelop. The following sections set out some background information to this; reference is made to my evidence for CPO no2 (CD29 Page 1937) as all the technical aspects of that Order land cited there - including the physical features of the

buildings, district heating network and urban environment - also pertain to this Order Land.

4. Condition of the residential blocks on the Order Land

- 4.1. The Order Land includes several of the characteristic Aylesbury residential concrete blocks constructed from Large Panel System (LPS) between 1966 and 1977. Across the 3.9 hectare site, these are: two 14-storey blocks, three 4-storey and two 5-storey blocks; many of these blocks are interconnected by high level walkways. There is also a red-brick 4-storey block, built in 1939.
- 4.2. In my evidence for CPO no2 (CD29 Page 1937)), I set out the key features of the condition of the existing residential concrete buildings on the estate, which demonstrated that those blocks present significant technical challenges, in terms of maintenance and service-life, and fall short of aspects of the current building standards. The issues covered in that proof of evidence included: the deteriorated condition of the external fabric of the buildings, particularly concrete panels, due to water ingress and corrosion of the steel reinforcement bars; issues relating to structural robustness of the 5- and 6-storey blocks; the poor condition of the internal fabric of the buildings due to severe internal leaks and the complexities of accessing internal services encased in the structure for on-going maintenance; the poor thermal performance of the buildings compared to current building standards; and issues with level access to dwellings.
- 4.3. All the evidence given in my evidence of the CPO no2 (CD29) is directly relevant to the concrete blocks on the Order Land and so the detail of that evidence is not repeated here. The CPO no2 Order land comprised two mid-rise LPS concrete blocks connected to the estate heating network; so, too, does the Order Land although this is larger, and there are more residential blocks. Indeed, some of the technical issues cited in the CPO no2 (CD29) evidence are augmented with respect to the two 14-storey blocks on the Order Land, particularly the complexities of maintenance of internal pipework and access issues.

- 4.4. In his April 2013 report to the Secretary of State (CD11), the Inspector confirmed (para. 26 page 674) that the structural condition of the blocks was well documented and noted their environmental inadequacies. The Inspector also found that the buildings on the estate were beyond economic repair and, even if they were repaired and refurbished, they would retain their appearance and would remain in conflict with modern building standards. A similar conclusion was drawn by the Inspector in 2009; in the AAAP Inspector's report (CD3 Page 222), who found that there were 'fundamental shortcomings' in the existing buildings and that refurbishment would be unlikely to achieve satisfactory living conditions in the long-term' (para 3.4).
- 4.5. The red-brick residential block within the Order Land is a different building typology to the characteristic Aylesbury concrete blocks and, as such, it does not present the all of same technical issues of those blocks. However it presents sufficient technical issues that could argue for it, too, being at the end of its service life; these include poor thermal performance in comparison with current building standards, small internal space standards (with flat sizes typically three-quarters of the size of current space standards) and no individual external amenity space.
- 4.6. Since the adoption of the AAAP, the Council continues to carry out major works as part of its programme of Planned Preventative Maintenance (PPM) works in order to comply with its statutory duty to keep the estate in a safe and operational condition; these works have been carefully managed in line with the phasing programme for development set out in the AAAP. On the Order Land, therefore, only necessary and limited work has been carried out to the buildings and infrastructure, in line with the required service life of these dwellings to the projected vacant possession date.
- 4.7. As set out in my evidence for CPO no2 (CD29), the condition of the buildings on the estate does not, itself, present a case for demolition and redevelopment, but it is one of the compounding factors cited in the AAAP. The other fundamental issue is the estate layout and the poor urban environment this presents; even if the condition of the building fabric were

addressed, many negative aspects would remain and only a compromised solution would result.

5. The existing urban environment

5.1. There are key aspects inherent to the physical environment of the existing estate, which go against recognised good practice urban design principles. These aspects all pertain to the buildings and layout of the Order Land and are summarised below. Reference to the Planning application Design and Access Statement (CD19 Page 9), Section 2, serves to illustrate and give further background information to these points.

5.2. It is worth noting that none of the buildings on the Aylesbury Estate, including the Order Land, are of sufficient architectural quality as to have attracted protection or preservation orders. In its response to the NHHT's scheme at Planning application stage, English Heritage made no comment on the existing buildings and concluded that 'the demolition of the slab blocks of the Aylesbury Estates (sic) provides opportunity for enhanced views from various heritage assets' (see Appendix CB01)

5.3. The key issues that contribute to the unsuccessful urban environment can be summarised as follows:

- The appearance and uniformity of the concrete blocks gives a character to this estate that is at odds with the surrounding context. This creates separation between communities and contributes to a sense of isolation.
- The scale and orthogonal formation of the blocks (some of the longest in Europe) does not correspond to the human scale, nor does it create opportunities for neighbourliness and local neighbourhood identity. This is particularly the case with the large 'barrier' blocks, of which there are two on the Order land; these serve to obstruct visual and physical connectivity.

- The concrete blocks are designed to separate traffic from pedestrians by creating high level walkways to access front doors and stair wells. This concept, peculiar to 1960s and 1970s urban planning, has been found to contribute to crime and antisocial behaviour as a consequence of severing pedestrians from the street and dispersing footfall. The garages lining the estate roads provide a blank facade at ground level and remove the opportunity for passive supervision usually offered by windows from ground floor accommodation.
- The estate roads, which serve to access garages, typically terminate in dead ends, and have little relationship to front doors of dwellings, create a confusing environment and the potential for misuse. Residents are deprived of a clear address, and identity, and experience various practical inconveniences i.e. deliveries finding it difficult to locate front doors.
- Whilst the estate presents generous green spaces, the lack of designated use and the lack of ownership of these spaces mean that they are under used.

5.4. Whilst some of these issues could be addressed through refurbishment, this would present only piecemeal and partial solution to the wider problems of the urban environment. In his CPO report to the Secretary of State, (ref CPO no2, CD11), the Inspector acknowledged the wider economic, social and environmental issues affecting the estate (CD11 para 8 page 670) and found that the appearance of the system built blocks, given their shape colour, form and materials, is monotonous. The estate is a drab urban landscape which lacks richness or differentiation. This, in contrast to the surrounding areas, serves to increase the stigma attached to the Aylesbury' (CD11 para 7 page 670). He goes on to note some of the negative features of the streets and walkways and concludes that the 'urban design and landscape of the estate is less than poor' (CD11 para 26 page 674).

6. Design merits of the detailed proposals for the Order Land

- 6.1. The detailed proposal for the Site, which covers the footprint of the Order Land, presents a high quality scheme designed in line with the key principles set out in the AAAP. Broadly, this presents the opportunity to redress the anonymity, uniformity and sense of dislocation of the existing estate and, under the new building standards, presents best-practice well-designed, efficient homes.
- 6.2. The proposed design for the Site is comparable in quality to the high standard of the other new residential sites on the Aylesbury Action area footprint; namely, the No.2 Order Land (Site 7), which is currently under construction, and the No.1 Order land (Phase 1a), which is now complete and fully occupied. This last development, completed in 2012, has been the recipient of numerous awards, including 'Best New Place to Live' category in the London Planning Awards in February 2013, and continues to be recognised, receiving a Civic Trust Award Commendation in March this year; the Civic Trust Awards are given to buildings and schemes across the country, which are considered 'architecturally outstanding' which have 'made positive differences to their local community' and each entry is judged by a panel including design and planning experts. A high standard of design is also to be found in the new Michael Faraday School, immediately to the N/E of the Order Land and which also lies within the Aylesbury Action area footprint. In May 2011, this school was the recipient of prestigious Royal Institute of Architects (RIBA) Award.
- 6.3. A pattern of delivering high quality design for the Aylesbury Action Area is, therefore, apparent. The Council and its development partner NHHT is committed to continuing this standard for the rest of the Aylesbury Action Area development and has put in place suitable provision; this includes my role, as a core member of the Aylesbury Regeneration team, the role of Design Director on the Development Partner side and the appointment of high quality design consultants.

- 6.4. The architect team selected for scheme design of the Site comprises three acclaimed architectural practices: HTA Design, Hawkins Brown and MAE Architects. The decision to select three practices to work as a consortium was made in order to encourage design variety across the development as well as to engender a quality scheme, with the designs from each practice benefiting from regular peer reviews.
- 6.5. Extensive consultation with residents has also been instrumental to testing and improving the design proposals (reference to Statement of Community Involvement CD 12 and section 3.3 of the Design and Access Statement CD 43). Throughout the process, the design team has presented the scheme design at consultation events, listened to resident comments and reported back on the design iterations. Residents have responded positively to the consultation process and to the proposals put forward.
- 6.6. Reference to the Planning Application drawings (CD 40) and the Planning Application Design and Access statement (CD 43) serves to give good visual illustration of the high quality proposals for the Site. Detailed information about the component content of the new proposals is also set out in the SoR Section 3 and SoC section 6 (CD 27 page 1823 and CD 28 page 1851 respectively).
- 6.7. In the paragraphs below, I highlight some key features that define the high quality of the design proposal for the Site:
- The new proposal reinstates a traditional street network connecting the six new perimeter blocks of flats and houses. This layout affords all the recognised benefits of the positive relationship of front doors to the street level and overlooking windows at street level. The new streets are the same scale and pattern as those in the surrounding area and, in this way, stitch back the area of the Order Land into the wider urban context. All the new streets are characterised by good practice design features, such as street trees, managed car park bays and good pavement widths.

- An excellent range of new open spaces is proposed across Site. These offer a variety of different types of green spaces as each with recreation equipment, as well as a hard landscaped public square. Careful positioning of these spaces serves to offer local character to the surrounding streets as well as presenting attractive routes through the development.
- High quality architecture features throughout the development proposal. The building elevations present a unified but articulated face to the street, using a carefully considered palette of materials and colour. Along a street façade, each flat block corresponding to an entrance core is expressed as distinct to its neighbour, thereby affirming a sense of address and identity to the future residents. A range of different bricks are used for the buildings, presenting a robust, durable and timeless aspect that responds to the brick facades of the buildings adjacent to the Site and helps to stitch the new development into its urban context.
- All the proposed new buildings will comply with current environmental standards, including energy efficiency, good daylight with a high percentage having dual aspect and BREEAM Communities' standard. Excellent space standards are provided and all dwellings will be built to Lifetime Homes standards.

6.8. There are key benefits to the proposed distribution of tenures, unit types, sizes and density across the new development:

- A range of different sized units and different types of units (flats, maisonettes, houses) are evenly distributed across the different tenures, offering real choice to residents. A high number of units are suitable for families, and two of the six blocks comprise mixed tenure family houses.
- All tenures are distributed evenly across the development, with some units of each tenure commanding a park frontage aspect.

- The intensified density of the development has been carefully managed through the design process to present suitable massing in terms of scale and variety. The tall blocks along the park frontage are slim and compact in footprint to enable good sunlight to penetrate into the development. The concentration of units in these blocks is contrasted by the low density houses and a number of open spaces.

6.9. In addition to the standard residential accommodation, the scheme includes other provisions, which will each serve to create a truly mixed community. These are:

- A purpose designed community space: this space, located in front of one of the proposed pocket parks, offers potential for a public function and focal point within the development.
- An Extra Care facility, with 50 residential units and communal space: this facility is part of a wider provision planned across the borough and will be critical to delivering much need accommodation for this sector. The facility has been carefully designed to be part of a larger urban block integrated with standard housing. This offers the potential scope for future flexibility, in terms of models for supported living.
- A bespoke facility for people with Learning Disabilities, with 7 residential units: this is a pilot provision and innovative in the field, offering this client group the chance to live independently. This facility is located alongside family housing and it is hoped that this proximity will help foster tolerance and understanding.

6.10. All of the above points, at para 6.7 – 6.9 of this evidence, affirm, in my professional view, that the proposed development for the Order Land is of a high quality and will offer a positive and enriching physical urban environment for future residents.

7. Summary and conclusion

- 7.1 My name is Catherine Bates and I am a qualified Architect. I have a BA Hons. Degree in Art History (1990), a BSc degree in Architecture (1994) and a Diploma in Architecture (1996). I have been registered with the Architect's Registration Board (ARB) since 1999.
- 7.2 In my current role within the Aylesbury team, I led the Design and Technical work-stream of the OJEU Aylesbury Development Partner procurement. My day-to-day duties include stewarding the quality aspect of the design delivery across the Aylesbury area, working with the Development Partner Notting Hill Housing Trust (NHHT) and with the Site 7 developer London and Quadrant (L&Q); managing the Council's technical obligations with regards to the Development Partner Agreement (DPA); and overseeing delivery of other technical aspects across the Aylesbury area.
- 7.3 In my proof of evidence I have set out the reasons, from a technical and design point of view, which support the implementation of redevelopment with respect to the Order Land in line with the AAAP.
- 7.4 The technical aspects referred to in my previous evidence given for the 2013 CPO no.2 Wolverton 1-59 site (CD29), also pertain to the Order Land. This previous evidence was accepted by the Inspector at the inquiry, as set out in the Inspector's report to the Secretary of State (CD11), and I refer to that report in my evidence.
- 7.5 In my previous evidence I focussed primarily on the technical issues, in this evidence I give further information on the negative aspects of the existing urban environment of the estate and I also set out the positive features of the proposed design for the Site, which covers the area of the Order Land.
- 7.6 I begin my evidence with a reference to the AAAP background to the decision to develop in favour of refurbishment and I note that the reasons set out still pertain to the existing development on the Order Land.

- 7.7 I then set out the technical issues, referring largely to my evidence to CPO no.2 (CD29), to cover the condition and negative features of the existing concrete buildings on the Order Land. I note that one building on the Order land is a different typology to these and I set out why demolition of this building, in the context of the rest of the Order Land, is justified. I note that the condition of the buildings on the Order Land does not, itself, present a case for demolition and development but that it is a compounding factor; the other fundamental issue being the layout of the existing estate and the poor urban environment this presents.
- 7.8 I go on to set out the key issues relating to the existing estate layout and the reasons why this presents an unsuccessful urban environment. These include the aspect of anonymity, lack of animation and passive surveillance at street level, and the oppressive uniformity and monumental scale of the existing concrete slab blocks.
- 7.9 I then go on to explain the commitment to high quality design by both the Council and the Development Partner, Notting hill Housing Trust. I note that this commitment is in line with the already established high quality design delivered to date within the Aylesbury Action Area footprint. I then set out the key design merits of the proposed development for the Site.
- 7.10 I note that, in my professional view, the proposed development for the Site is of a high quality and will offer a positive and enriching physical urban environment for future residents.
- 7.11 In conclusion, my evidence sets out why, from a technical and design point of view, the Council is justified, in line with the AAAP, in proceeding with the demolition of the buildings on the Order Land and the redevelopment of the Site.

8 APPENDICES

Appendix 1: Documents referred to in this proof of evidence

CB01 Letter from English Heritage dated 18 December 2014.



**Inquiry into
The London Borough of Southwark (Aylesbury Estate Sites 1b – 1c)
Compulsory Purchase Order 2014**

**Proof of Evidence of
Catherine Bates
For the London Borough of Southwark**

Appendix CB01

PINS Reference NPCU/CPO/A5840/74092



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Mr Terence McLellan
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18 December 2014

Dear Mr McLellan

**Notifications under Circular 01/2001, Circular 08/2009 &
T&CP (Development Management Procedure) Order 2010
AYLESBURY ESTATE, LAND BOUNDED BY ALBANY ROAD, PORTLAND
STREET, WESTMORELAND ROAD AND BRADENHAM CLOSE, LONDON SE17
Application No 14/AP/3843**

Thank you for your letter of 28 November 2014 notifying us of the application for planning permission relating to the above site. We do not wish to comment in detail, but offer the following general observations.

English Heritage Advice

This application for full planning permission relates to the redevelopment of part the Aylesbury Estate and involves the demolition of the existing buildings on site and the erection of a mixed use development comprising of a number of buildings between 2 and 20 storeys in height.

English Heritage has been aware of these emerging proposals for the Aylesbury Estate for some time, and recently provided comments on the scheme at scoping stage (our ref: PA00321234, 9 May 2014). We advised then that the development, which seeks an increase in height from the existing 14 storeys of the Aylesbury Estate to a maximum of 20 storeys, has the potential to impact on the setting of a wide range of designated heritage assets. These include Grade I listed *Church of St Peter*, various Grade II listed buildings within Burgess Park, as well as a number of conservation areas such as *Liverpool Grove*, *Addington Square*, *Sutherland Square* and *Grosvenor Park*.

On the basis of the information provided in the submitted Townscape, Built Heritage & Visual Impact Assessment, we are satisfied that the proposed development would not have a significant impact on the setting of these or any other designation heritage assets in the vicinity, particularly given the range of existing building heights in the



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English Heritage is subject to the Freedom of Information Act, 2000 (FOIA) and Environmental Information Regulations 2004 (EIR). All information held by the organisation will be accessible in response to an information request, unless one of the exemptions in the FOIA or EIR applies.



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wider area. We also recognise that the demolition of the slab blocks of the Aylesbury Estates provides opportunity for enhanced views from various heritage assets.

Recommendation

Notwithstanding the above comments, we recommend that the application should be determined in accordance with national and local policy guidance, and on the basis of your specialist conservation advice. It is not necessary for us to be consulted again. However, if you would like further advice, please contact us to explain your request.

Please note that this response relates to historic building and historic area matters only. If there are any archaeological implications to the proposals it is recommended that you contact the Greater London Archaeological Advisory Service for further advice (Tel: 020 7973 3712).

Yours sincerely

Alasdair Young

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Inquiry into
The London Borough of Southwark (Aylesbury Estate Wolverton 1-59) (No 2)
Compulsory Purchase Order 2012

Proof of evidence of Ms Catherine Bates ARB, BA (Hons), BSc, Dip Arch,
For the London Borough of Southwark

The logo for Southwark Council, featuring a stylized 'S' that curves around the word 'Southwark' in a script font, with the word 'Council' in a sans-serif font below it.

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1. Qualifications and Experience

- 1.1. My name is Catherine Bates and I am the Senior Design and Technical officer within the Aylesbury Team at the London Borough of Southwark (the Council), a position which I have held since December 2011.
- 1.2. I have been a qualified Architect since 1998. Prior to working as part of the Aylesbury Team, I was the Design Manager for Southwark's Building Schools for the Future (BSF) programme for four years, working within the Council's Local Education Partnership (LEP) and prior to that, project architect for three years in the Council's in-house multidisciplinary design office, Southwark Building Design Service (SBDS). In total I have 16 years professional experience of design and construction across both the private and public sectors.
- 1.3. My experience on the BSF schools project included managing the LEP's design processes from inception to completion and the safeguarding of the Council's interest in its investment in the new school buildings, including two new schools on the Aylesbury Estate.
- 1.4. My day to day duties include managing the team, whose workload currently includes the procurement of a development partner for the Estate; co-ordinating with other departments of the Council regarding technical aspects for the procurement briefing documentation; on-going matters relating to the technical aspects of sites currently under construction.
- 1.5. The nature of my role means that I am aware of the background to the regeneration of the Aylesbury Estate as a whole, the Council's vision for the regeneration and the reasons for the redevelopment of the Estate. I am also well placed to understand how the development of the Order Land fits into the delivery of that vision.

2. Scope of Evidence

2.1. My evidence sets out technical aspects, which support the Council's decision to include the Order Land within Phase 1 of the proposed development phasing as set out in the Aylesbury Area Action Plan (AAAP – CD 12), section 2.2.

2.2. My evidence addresses the Statement of Case (CD 8) paragraphs 4.10, 4.11 and 4.12, which include technical aspects, namely:

- i. paragraph 4.10 and 4.12: the Order land in relation to the layout of the District Heating System (DHS)
- ii. paragraph 4.11: access, environmental sustainability, structural features of the blocks on the Order Land;
- iii. paragraph 4.11: condition of the blocks and planned maintenance

2.3. The Council's decision to redevelop the Order Land within the Phase 1 of the development was rightly made in relation to the technical considerations relating to the District Heating system (DHS). My evidence sets out the specific aspects of the DHS layout and the complexities that this network system presents for phasing and sequencing the development.

2.4. My evidence also sets out why the Council rightly identified that the existing flat blocks on the Aylesbury estate are at the end of their service life; in doing so I will set out the specific technical problems which pertain to the blocks on the Order Land, along the other blocks on the estate. These include: existing access issues, the buildings' thermal performance, the inherent structural features of the block construction on the estate and the complexities this construction system presents for refurbishment, as well as the condition of the external and internal building fabric.

2.5. My evidence then goes on to set out why the Council was right in its decision, taken in 2005, to demolish and redevelop the estate instead of refurbishment.

2.6. It is worth noting that the condition of the buildings on the Order Land does not itself present a case for bringing forward the Order Land for Phase 1 of the development. These buildings are in no worse condition than that of other buildings on the estate. The evidence of Jane Seymour and Tim Cutts, which set out such aspects as site density and specific planning features, present the wider considerations which support the Council's decision to include the Order Land within Phase 1 of the redevelopment.

2.7. Finally, my evidence sets out that, in terms of technical provision, the Council has already begun works based on the assumption of demolition and refurbishment. My evidence sets out current status of the planned preventative maintenance (PPM) work for both the blocks and the district heating system. These PPM works have been devised to extend the life of the blocks and the district heating system only for the finite period of the development, that is 15 - 20 years; the sequence of PPM works has been organised around the development phasing plan set out in the AAAP, with the more extensive PPM work being undertaken to the sites in the last phase with no further work planned for the Order Land.

3. District heating mains

3.1. This part of my evidence sets out why the Order Land, being on the periphery of the estate and at the end of one of the primary heating mains, is rightly identified for development within Phase 1.

3.2. A key factor which governed the selection of sites, phasing and sequencing as set out in the AAAP (CD12) at figure 6 (page 27 AAAP) and appendix 7 (page 164 AAAP), was a practical and technical one, namely where the existing blocks were located in relation to the area network of the DHS. This is apparent when comparing the phasing sequence and site numbering of the AAAP. Though not explicitly set out in the AAAP, the consideration of the existing DHS network layout and how this would influence the sequencing of the redevelopment phasing was specifically referred to Options Report which informed the AAAP (Appendix 6 ' 8 Issues and Options report Part 3, Delivery

and Phasing', ref p. 153, October 2007). Further detailed research was undertaken on the DHS network, including the layout of the pipework, to inform the AAAP.

3.3. All the concrete blocks on the estate are heated from the centralised district heating system (DHS) (Appendix 1, Plan of Aylesbury DHS), which was constructed and installed at the time of the construction of the estate. The central boiler house is located on the junction of Thurlow Street and Inville Road; all underground primary heating main pipe runs, stem from the boiler house and are laid out radially over the estate area. Each primary main serves a chain of blocks.

3.4. In order to minimise disruption to residents and to minimise the extent of underground pipe work (diversions and the like), staged demolition requires that the blocks furthest out from the boiler house be disconnected and demolished before the ones further in.

3.5. Each of the sites in Phase 1 is also located at the end of pipe runs; each site is relatively easy to disconnect without disruption to any other site, requiring only cutting and capping off of the primary main.

3.6. The Phase 2 sites are all linked to one separate primary main, but this main is routed in a complex path across the three Sites 4a, 4b and 5, making the isolation of one site difficult without some diversion works. The Phase 3 sites are linked to the same primary main that serves the assumed capped-off Site 7 secondary main (in Phase 1). Phase 4 sites are linked to two primary mains; one of which serves the assumed capped off Site 1b/1c main (in Phase 1).

3.7. It is recognised that there are sites both in Phase 3 (8 and 9) and Phase 4 (3a and 3b), which, like the Phase 1 sites, are at the end of a single primary mains and which, therefore, could be brought forward earlier. Three key factors contributed to locating these sites in Phases 3 and 4 of the AAAP phasing sequence:

- o that Sites 8 and 9 include non residential functions which would have to be re-provided before demolition could occur

- o the poor condition of some of the blocks in Phase 2, which makes them a priority for re-development over Phase 3 sites
- o the proposed high densities of the redeveloped Phase 4 sites, which would require the enhanced public transport provision only deliverable towards the latter part of the development.

3.8. In the case of the Order land, which is in Phase 1, this site is located at the end of one of the underground primary heating mains which is routed through Site 6 (Phase 3), nearer to the boiler house. The blocks on the Order Land therefore are required to be demolished before Site 6. With the demolition of the blocks on the Order Land, the existing primary heating main will be cut back, capped and continue to serve Site 6.

3.9. Were the Order Land to be developed later - out of the sequence currently identified in the AAAP - diversion work would be required in order to de-couple the Order Land from Site 6 and link it directly to the boiler house. This work would involve a new below-ground primary main under the main highway (Thurlow Street), incurring costs and disruption to residents.

3.10. As currently planned in the AAAP development phasing plan, the existing boiler house will continue to be operational throughout the development period, serving the diminishing existing housing stock; preventative maintenance works have been planned accordingly, with the assumption of a reduced capacity on the boilers.

3.11. The AAAP identifies the location of for a new Combined Heat and Power Plant (CHP) on Site 10 (within Phase 1), adjacent to the existing boiler house. It is expected that, to meet the energy requirements of the London Plan, a new district-wide energy solution will be provided and located on this site. It is intended that the CHP plant will supply energy to the new development sites, the extent of mechanical equipment within the boiler house increasing as sites are developed.

3.12. Those development sites which are to be developed in advance of the construction of the new boiler house (the Order Land, and Site 1b/1c), will achieve the energy requirements by means of energy centres located on each site, however each will have a provision for future connection to the new district system. Site 1a already has such a system in place.

4. Technical building features of the existing blocks on the Order Land: access, environmental sustainability, structure and general condition

4.1. The following paragraphs set out building features of the blocks on the Order Land: paragraphs 4.4 and 4.5 set out aspects which demonstrate that the blocks provide poor dwelling accommodation in comparison to new buildings constructed to current Building Regulation standards; Paragraphs 4.6 – 4.9 set out structural issues pertaining to the blocks; paragraphs 4.10 and 4.11 set out the condition of the internal and external fabric of the blocks. The building features and condition of the blocks on the Order land are common to all the concrete blocks on the estate.

4.2. This part of my evidence therefore sets out why, from a technical point of view, the Council was right to decide to reject the option of refurbishing the blocks on the estate generally in favour of demolition and redevelopment.

4.3. This part of my evidence does not seek to present a case for bringing forward the Order Land for Phase 1 of the redevelopment on the basis of the condition of the blocks; that case is presented is on the basis of other factors, namely its location in relation to the DHS and other aspects set out in the evidence of Jane Seymour and Tim Cutts.

Access

4.4. Access to the two blocks on the Order Land, 1-27 Wolverton and 28 – 59 (4 and 5 storeys respectively) is poor and does not meet the requirements of current Building Regulations. The blocks comprise maisonettes to the ground

and first floors, and flats to the second and third floors. Access to the maisonettes is from individual ground floor front doors; access to the second and third storey flats is by means of a ramp (located at the eastern end of 1-27 block) or stairs (located along the 29-59 block). The vertical access is remote from front doors to flats on the second and third storeys, the route to these being along raised access decks. With regards to current Building Regulations the buildings do not comply in certain aspects including: the gradient of the ramps; the spacing of landings; the staircases, in terms of being narrow and that they are not enclosed within a fire resistant; the length of escape route distances from some dwellings. Neither of the blocks is served directly by a lift. Lift access is only available via the lift located in Wendover nos. 1-36; access from the lift to the blocks on the Order Land is via a raised walkway routed along nos. 1-36 Wendover and nos 60-84 Wolverton via two pedestrian link bridges.

Environmental sustainability

- 4.5. The environmental sustainability aspect of the blocks on the Order Land is poor and does not meet Building Regulations. In particular the thermal performance of the external envelope of the buildings, roof, walls and windows is poor. No specific values are available on this, but industry knowledge of buildings built at this time and with this construction system indicates that these buildings fall significantly short of current standards. By way of example, a typical measure of thermal conductivity (U-value) for such buildings would be a U-value of 0.6 W/m²K roof, 1.0 W/m²K walls and 5.7 W/m²K for single glazed windows, (based on Building Regulation requirements 1974), compared to the current values of 0.2 W/m²K roof, 0.3 W/m²K walls and 2.0 W/m²K for double glazed windows 0.6W/m2K.

Structural robustness

- 4.6. The two blocks on the Order Land are constructed using a concrete large panel system (LPS), which is a construction system formed of large panels for the walls, floors and roof slabs. The 5-storey block on the Order Land does not meet British Research Establishment (BRE) recommendations in terms of structural robustness. This feature is common to all 5 and 6 storey blocks on

the estate. Although not explicitly set out in the statement of case, this feature of the structure was a key factor in the Council's decision to demolish and refurbish and is set out in the Council's 2005 Executive report (Appendix 2). The following paragraphs explain the issue of structural robustness.

4.7. The question of structural robustness arose during the preparations for the refurbishment of Site 1a in the South West corner of the estate. A structural report (Appendix 3, Briefing Report on Structural Robustness of 5 and 6 storey Jespersen blocks by Alan Conisbee and Associates, BPTW partnership and Levitt Bernstein Architects Nov 2004) was commissioned to assess the structural robustness of the 5 and 6 storey LPS blocks. The key points of the report are summarised as follows. It identifies that the blocks on the Estate are constructed with the Jespersen LPS system, it explains the relationship of structural collapse and LPS construction, and it sets out the compliance of the blocks in relation to Building Regulations. Its findings are that, whilst the blocks over 6 storeys comply with Building Regulation, the 5 and 6 story blocks are un-strengthened and do not meet the structural aspects of the 1987 BRE recommendations. It puts forward options for works, including structural strengthening and removal of gas connections, with costs and the extent of disruption to residents identified. (All dwellings on the Estate over 3-storeys have now been fitted with electric hobs.)

4.8. The report offers a brief history of the Building Regulations with respect to LPS which were changing at the time of the design and construction of the Aylesbury estate: following the collapse caused by a gas explosion at Ronan Point, in 1968 (also an LPS construction building), Building Regulations stipulated that LPS buildings over 6 storeys were required to be tied together in the event of an (gas) explosion; this was later adapted to pertain to buildings to which gas was not supplied. In 1970 the revised Building Regulations clarified that the requirement applied to LPS buildings over 4 storeys. Regulations are, and were, not retrospective, so many 5 or 6 storey blocks built by 1970 such as those on the Aylesbury, were left un-strengthened. It was not until 1987 that the BRE recommendations required existing blocks to be checked for robustness if greater than 4 storeys.

4.9. The assumption made in the report that all 5 and 6 storey blocks on the estate do not meet BRE recommendations was later confirmed in a subsequent structural reports carried out the following year (Appendix 4, Robustness consideration report to inform risk assessment by Alan Conisbee and Associates March 2005). One of the blocks on the Order Land is a 5-storey block and therefore the findings of the reports apply to it, as one of the Estate blocks which does not meet the BRE recommendations, with respect to structural strengthening.

Condition of the structural concrete elements

4.10. The structural concrete of the blocks is in need of substantial repairs. The two key aspects of deterioration are the extent of carbonation, particularly to the in situ concrete, and the corrosion of the reinforcement bars caused by water penetration. (Appendix 5, Structural Survey of the External precast concrete cladding panels and in situ concrete elements of housing at the Aylesbury Estate, Southwark by Jenkins and Potter Consulting Engineers 1997). The Codes of Practice to which the concrete structure of the Aylesbury was built (1965) have since been superseded by later standards; in that time concrete technology has progressed significantly. For example, new standards stipulate an increase 'cover depth' to concrete reinforcement bars and a reduction to chloride content. The structural concrete of the Aylesbury blocks suffers from extensive carbonation which exceeds the 'cover depth' of the concrete, causing the reinforcement bars to be exposed. Another cause of deterioration to the concrete is the water penetration occurring through the structure via joints between the precast concrete slab units forming access decks and private balconies, through cracks in the in situ concrete balcony and floor slabs, external stair and ramps. Such water ingress is widespread across the estate blocks and has caused significant deterioration of the structural concrete.

Condition of the internal fabric

4.11. The internal fabric is in poor condition mainly due to leaks from internal the heating pipes. The complexity of the LPS makes these pipes difficult to access and leaks are therefore only dealt with by means of responsive repairs

(as opposed to planned preventative maintenance). In a conventional frame construction, the building will have a structural frame (columns and floor slabs) into which are inserted service risers and non-load bearing partitions for walls. With this construction type, walls can be moved and services can be accessed without disturbing the structure. However, in the case of LPS construction, the blocks LPS panels the walls, ceilings and floors are, themselves, the structure; the panels interlock to act as diaphragm structure. This has the consequence of severely limiting modifications to the internal layout of the blocks, where each dwelling is compartmentalised within structural walls. More onerous are the problems around accessing the services for repair and replacement; routed within cavities between the wall panels, the services are embedded in the structure. In most cases, access to the services can only be gained with intrusive work into the structural fabric of the building.

4.12. The complexity and extent of issues regarding the existing buildings on the Order Land and the Aylesbury estate, and the considerable works and cost required to address these, were reflected in the Council's 2005 Executive report (Appendix 2). This document identified that existing Aylesbury housing stock was in need of considerable works to bring it up to decent homes standard. It noted that these improvements would deliver virtually no visible improvement to the estate, and that, to deliver sustained and visible improvement, significant further works would need to be carried out on internal and external improvements. For these reasons, the Council rightly decided to reject the option of refurbishing the blocks on the estate generally in favour of demolition and redevelopment.

5. Planned Preventative Maintenance

5.1: The following paragraphs sets out the Councils planned preventative maintenance programme of works (PPM) which is based on an assumption of demolition and construction. The sequence of PPM works has been organised around the development phasing plan set out in the AAAP, with the more extensive PPM work being undertaken to the sites in the last phase with no further work planned for the Order Land.

- 5.2. A programme of planned preventative maintenance (PPM) to the existing blocks has been put in place to extend the life of the buildings for the duration of the development period only (15 – 20 years). These works address only necessary repairs and aspects that impact on safety and operations.
- 5.3. The PPM works include works to bring the blocks up to basic decent homes standards only. They include the Warm Dry Safe programme, which covers basic roof repairs, internal electrical repairs, window repairs and where necessary bathroom replacements; upgrades to external emergency lighting; internal duct cleaning; lift repairs. Works associated with fire risk assessments have recently been carried out.
- 5.4. A similarly limited scope of PPM works are in place on the DHS. The system, installed at the same time the estate was constructed, is at the end of its service life, with some of the failing underground pipe work causing extensive water loss (up to 15,000 litres per week), and falls short of current energy standards. The planned works have been designed to extend its life for the duration of the development period only (15 – 20 years). They include repairs to the boilers and selective repairs and replacement of sections of underground pipe work where the leaks are worst.
- 5.5. Both the PPM works to the blocks and the DHS have been designed in line with the phasing sequence of sites defined in the AAAP, i.e. more works planned to extend the life of the blocks and pipe work located in Phase 4. Minimal works only are programmed for the Order Land.

6. Summary and conclusions

- 6.1. My evidence sets out the technical reasons supporting the Council's decision to include the Order Land as one of the sites in Phase 1 of the redevelopment of the Aylesbury estate.
- 6.2. The Order Land's location at the periphery of the Aylesbury District Heating System (DHS) network means that, within the sequence of demolition and redevelopment of sites on the Aylesbury Estate, it should be demolished before the sites further in, nearer to the DHS boiler house, are demolished.
- 6.3. On this basis, the blocks on the Order land require to be developed before the blocks on the adjacent Site 6. Were they to be developed after Site 6, then works would be required to lay a new below-ground primary mains pipe along the main thoroughfare, Thurlow Street. This would incur costs and disruption to residents.
- 6.4. Other similarly located sites, on the end of a primary mains pipe run, are also in Phase 1 (Site 1b/1c, Site 10). Whilst there are sites in Phase 3 (site 8 and 9) and Phase 4 (3a and 3b) which are also at the end of a primary mains pipe run, other reasons contributed to their place in the phasing sequence, as set out in my evidence.
- 6.5. The issue of the DHS consideration presents a technical factor which, combined with other factors set out in the evidence of Jane Seymour and Tim Cutts, justifies the Council's decision to identify the Order Land for Phase 1 of the redevelopment of the Aylesbury estate.
- 6.6. My evidence also sets out technical building features of the blocks on the Order Land. In terms of access provision, environmental sustainability, structural robustness and general condition, the blocks on the Order Land fall short of current Building Regulation and BRE recommendations.
- 6.7. These technical building features of the blocks on the Order Land are common to all the concrete panel buildings on the estate. Therefore this part of my

evidence is not presenting a case for bringing forward the Order Land in the redevelopment phasing, but rather to present a general technical summary of the blocks, which justifies the Council's position to redevelop the Aylesbury estate in favour of refurbishment.

6.8. Finally my evidence sets out that in terms of planned preventative works, the Council has already implemented the phasing and sequencing of the AAAP. Works are scheduled in relation to maintaining the blocks and the DHS on the estate for the finite period of time anticipated as the development period and works have structured in accordance with the phasing sequence set out in the AAAP, with more work planned for the sites in Phase 4 and only minimal work planned for the Order Land and the other sites in Phase 1.

7. Appendices

- Appendix 1 Plan of Aylesbury District Heating system, by Ramboll 2007
- Appendix 2 Executive report in 2005
- Appendix 3 Briefing Report on Structural Robustness of 5 and 6 storey Jespersen blocks by Alan Conisbee and Associates, BPTW partnership and Levitt Bernstein Architects. Nov 2004.
- Appendix 4 Robustness consideration report to inform risk assessment by Alan Conisbee and Associates March 2005
- Appendix 5 Structural Survey of the External precast concrete cladding panels and in situ concrete elements of housing at the Aylesbury Estate, Southwark by Jenkins and Potter Consulting Engineers 1997.
- Appendix 6 8 Issues and Options report Part 3, Delivery and Phasing, October 2007, Extract only ref p. 153