Date: 24 October 2014
Status: Adopted Supplementary Planning Document
Document ID No: 6740
E-mail: planningpolicy@westminster.gov.uk
Direct Tel: 020 7641 2503
Foreword

In Westminster we are only too aware of the sharp rise in planning applications for basement development in recent years.

For many residents, such basement extensions can provide much needed extra accommodation where room to extend in other ways is limited. Where it is appropriate and sensitively managed, I do not wish to prevent residents from undertaking such development.

Yet I also recognise that basement development is a matter of considerable concern to many. Some basement extensions are exceptionally large, the construction phases of work can last for a significant period of time and, in some instances, works have brought an unacceptable level of disruption to neighbours, and resulted in damage to adjoining properties.

I am therefore committed to ensuring the council develops a comprehensive and sensitive approach to the assessment and management of basement development which recognises the existing powers that we have prescribed by central Government.

This Supplementary Planning Document is the first of a suite of guidance and measures we are introducing to manage such development. The purpose of the guidance is to explain the council’s current planning policies and other powers which we have available to manage and control basement works. I hope that this will provide applicants with more certainty on what we expect from them if they intend to submit an application for basement development and will also give local residents some clarity on different areas of concern, how we currently manage the construction process and who to contact where problems arise.

This is only one part of our wider approach. Building on this, we are developing new planning policy on basements, which will form part of our emerging City Plan. A new Code of Construction Practice is also being developed, to bring together the work of different council services and provide a way to fund the monitoring of construction works.

Taken together, I am confident that these measures will allow us to curtail the most excessive proposals for excavation and, where basement works go ahead, ensure these are undertaken more sensitively, in a way which reduces the impacts of construction on the quality of life of local residents to the greatest possible extent.

Councillor Robert Davis DL
Deputy Leader of Westminster City Council
Cabinet Member for the Built Environment
Contents

1. Introduction and Purpose of Guidance 7
2. Planning policy context 9
3. What is basement development and when is planning permission required? 11
4. Submitting a Planning Application 13
5. Advice for neighbours affected by basement development 15
6. Assessing Applications for Basement Development: Planning Considerations 17
   6.1 Sustainable Design 18
   6.2 Trees, Gardens and landscaping 19
   6.3 Flood Risk 21
   6.4 Land Stability and Ground Conditions 26
   6.5 Heritage Assets 28
   6.6 Visual Impact 33
   6.7 Use of basements for residential accommodation 36
   6.8 Managing the Impacts of Construction 37
   6.9 Development under the Highway 39
7. Other regulations, consents and controls 40
8. The Party Wall Act 43

Appendices

A1. Guidance on contents of Structural Methodology Statement
A2. Guidance to inform Best Practice in Construction Management
A4. Sources of further Information
A5. Contacts
A6. List of Great Estates In Westminster
Introduction and purpose of Guidance

1 INTRODUCTION AND PURPOSE OF GUIDANCE

1.1 In recent years basement excavation and extensions have become an increasing popular form of residential development across Westminster.

1.2 The council does not currently have a specific planning policy relating to basement development but is working with local residents and stakeholders to develop one in revising our adopted City Plan\(^1\) to incorporate detailed policy. Until this plan has been adopted, this Supplementary Planning Document (SPD) has been prepared to provide more detailed guidance and advice on the current policy framework in relation to basements both for those wishing to undertake a basement development and for local residents affected by such works. It aims to:

- Explain how planning applications for basement development will be assessed in relation to this (Section 2 & 6);
- Provide advice on the other regimes used to control basement development and other useful sources of information and contacts (Section 7 and appendices).

1.3 This guidance is primarily for householders affected by, or submitting an application for a basement extension to existing residential properties. The general principles will also be relevant to a range of sites, including some commercial properties, particularly where these occupy original residential dwellings or are immediately adjacent to residential properties and in residential areas.

---

\(^1\) www.westminster.gov.uk/westminsters-city-plan-city-management-policies-revision
2 PLANNING POLICY CONTEXT

2.1 All decisions on planning applications must be made using policies from our development plan. This includes the adopted policies from the Mayor’s London Plan and Westminster’s City Plan: Strategic Policies (2013) as well as those 'saved' policies from Westminster’s 2007 Unitary Development Plan (UDP) which have not been replaced by strategic policy in the City Plan. These policies do not specifically refer to basements but cover a range of relevant issues such as design, flood risk, trees, heritage assets and residential amenity.

2.2 The government has also set out national guidance on planning in the National Planning Policy Framework (NPPF), which was published in 2012 and its supporting Planning Practice Guidance, published in revised form in 2014.

2.3 The council is currently developing detailed City Plan policies, which include a draft policy on basements. These will replace Unitary Development Plan Policy and will be merged with the adopted City Plan: Strategic Policies to create a single local plan for Westminster. These detailed policies are unlikely to be used in planning decision-making until mid 2015 at the earliest so are not included in this document. Further advice on progress and the weight of emerging policy can be found on the Westminster website.

2.4 This guidance is a Supplementary Planning Document (SPD) and is one of Westminster’s Local Development Documents. It has been prepared in accordance with the Planning and Compulsory Purchase Act 2004 and the Town and Country Planning (Local Planning) (England) Regulations 2012, having regard to government policy on the role of SPDs as set out in the National Planning Policy Framework (NPPF) and the Planning Practice Guidance. A consultation statement sets out how the public have been involved in the preparation of the document. A Cabinet Member report dated 20.10.2014 details the council’s response to representations received. This along with a schedule of modifications, the adoption statement and Strategic Environmental Assessment (SEA) screening determination are available on the council website.

2.5 As an SPD, this document explains and gives guidance on the council’s adopted planning policies relevant to basement development. It does not introduce new policies but is intended to help applicants understand how to make successful planning applications without adding unnecessarily to the financial burdens of development in line with the requirements of the NPPF. All policies referred to have reasoned justifications set out in their parent document.

2.6 Following the adoption of the City Plan, this guidance will be reviewed and updated to incorporate any additional requirements the basements policy, which do not form part of existing policy.

POLICY FRAMEWORK


Adopted policies and guidance in relation to specific topic areas are referred to throughout this document, with main planning policies and considerations set out in Section 6. These include adopted national, regional and local policy and guidance. Because these were prepared at different times, they overlap in some areas. In accordance with usual planning practice, where this is the case the most recently adopted is applied.

2 www.westminster.gov.uk/planning-policy
What is basement development and when is planning permission required?

3. WHAT IS BASEMENT DEVELOPMENT AND WHEN IS PLANNING PERMISSION REQUIRED?

3.1 Basements are excavations to form new or additional floorspace under the ground level of an existing property or within its curtilage and under its garden. They may also include basements which are part of new build development.

3.2 Most basement developments will require planning permission but there are certain circumstances where it may be 'permitted development', see box for definition (right). This would usually be where the excavation work is under the footprint of an unlisted building and involves no external alterations. In some other circumstances (for example for unlisted buildings outside a conservation area) larger extensions may be classed as permitted development. If your property is located in a conservation area, planning permission may also be required for associated demolition works. New lightwells are also considered an engineering operation meaning they will require planning permission.

3.3 Any alterations to listed buildings are also likely to require listed building consent. If your trees are subject to a Tree Preservation Order (TPO), most tree work and tree removal will require prior consent or formal notification to the council.

3.4 In instances where planning permission is not required for the construction of a basement, it is advisable to consider the advice in this document as best practice. Other regulations will still apply and you will need to make a Building Regulations application.

3.5 A number of council services are involved in assessing different elements of basement works and in managing and enforcing issues encountered in later phases of development, not covered by the planning regime. The diagram overleaf provides an overview of the process involved in undertaking a basement development and the principal responsibilities of the owner/developer and different council services in this process. This is not comprehensive but provides an overview of who needs to be involved at what stage in the process.

3.6 Details of other relevant legislation, permissions required and areas of responsibility of different organisations and council services are set out in Section 7, with contacts in the appendices.

PERMITTED DEVELOPMENT RIGHTS

Permitted Development Rights allow certain alterations to be undertaken without the need to make a formal planning application to the council. Schedule 2 Part 1 Class A of the General Permitted Development Order 1995 (as amended 2008 and 2013) (GDPO) gives ‘permitted development rights’ for certain types of householder extensions, including basement extensions which fall within specific criteria.

These Permitted Development Rights relate to single houses and do not apply to flats/maisonettes. They do not remove the requirement for Listed Building Consent where the works affect the significance of a Listed Building or the legal requirement to preserve trees located within a conservation area or subject to a Tree Preservation Order.

The criteria under which basement works may be permitted development are complicated. For detailed advice on Permitted Development Rights refer to the Planning Portal or contact the council. You can apply for a ‘Certificate of Lawful Development’ and the council will make a formal assessment and confirm whether permission is required.

1 www.planningportal.gov.uk/planning/
2 www.westminster.gov.uk/trees-and-high-hedges
3 www.westminster.gov.uk/conservation-areas
Figure 1: Basements in the Planning process, roles and responsibilities

*Approved Inspectors in the private sector can carry out building control inspections instead of the local authority. In Westminster, 70% of projects are now supervised in this way.
4. SUBMITTING A PLANNING APPLICATION

4.1 Basement development is often contentious, in part due to the length of construction phases of work and the disruption this can cause to adjoining occupiers. Applicants are therefore advised to consult with the council at the earliest opportunity through its pre-application advice service¹ to gain advice on proposals and to ensure such work can be achieved in a way that does not harm neighbours’ amenity.

4.2 Given the complexity of the basement construction process², it is particularly important that detailed proposals for all aspects of design and construction are fully worked up at an early stage and prior to submission of any planning application. We strongly recommend that a suitably qualified engineer should form part of the initial design team as details of the method of construction and how the process will be managed should also be prepared at this stage.

4.3 It is always advisable for applicants for basement excavation to consult with all neighbouring occupiers (next door neighbours and others in the immediate vicinity) and with the local amenity society³ prior to submitting an application. We recommend that you provide them with details showing that structural matters have been considered by a chartered civil or structural engineer, including the impact on stability of adjoining properties, on drainage, nearby trees and on boundary walls. You should also consult with anyone with a freehold interest in your property (for example the Great Estates, listed in the appendices) and ensure you have complied with their requirements before submitting an application. It will also be helpful to provide evidence of consultation undertaken as part of your application. The council will also consult neighbouring occupiers and amenity societies as part of the application process (see next section: Advice for Neighbours).

4.4 Planning applications can be submitted to the council by post or online via the Planning Portal⁴. We will not begin to consider your application until all necessary supporting information and the appropriate fee are received. For basement development, the main information you will need to submit is set out overleaf. You should also go through the advice in Section 6, to ensure you have addressed all issues relevant to your site.

¹ www.westminster.gov.uk/get-pre-application-advice
³ Details of local Amenity Societies and Residents Groups are available on the Westminster website www.westminster.gov.uk/consultation-your-planning-applications and by searching in the Westminster Community Information Database.
⁴ www.planningportal.gov.uk/planning/
## APPLICATION CHECKLIST

| Required with all applications | Completed Application Forms³  
Drawings including site location plans, existing and proposed plans, sections and elevations and landscaping plan.  
**Structural Statement** prepared and signed off by a Chartered Civil Engineer (MICE) or Structural Engineer (MI Struct.E) and including supplementary geo-hydrology reports where this is not being provided by the same engineer (see Section 6.4 and Appendix 1).  
**Construction Management Plan** (see Section 6.8)  
CiL liability assessment form |
| May be required (check detailed topic advice at Section 6 below for when additional information is required) | **Design and Access Statement** (including information on visual impact, access landscaping and sustainable design).  
**Flood risk assessment, where applicable** (see Section 6.3)  
**Arboricultural report and tree survey** showing location of trees on or within the vicinity of the site, an assessment of the effect of the proposal on the trees, and details of tree protection.  
**Noise Assessment**, where external plant is proposed (or internal plant requiring external ventilation)  
**Heritage Statement**, where applicable (see Section 6.5)  
**Archaeological Desk top assessment** (see Section 6.5)  
**Site Waste Management Plan** (usually information as part of construction management plan) |
| Other useful supporting Information | Evidence of engagement with adjoining occupiers and a schedule and timetable of works. |

These are the main documents likely to be required as part of a basement application. The council reviewed and consulted on its validation requirements and they were adopted on 12 March 2014. Full validation requirements for different types of application are also on the Westminster website, although these do not specifically refer to basement development. Further detail on information requirements in relation to specific issues is set out in the relevant sections below.

³ You will be required to serve notice to those with a freehold interest or leasehold interest with over 7 years left to run, including neighbouring properties if the excavation works include underpinning of, or alterations to, the party wall.
5: ADVICE FOR NEIGHBOURS

5.1 If your neighbour is planning a basement development you should ask them or the developer for a timetable to show what works will be happening and when, and ask them to notify you when particularly noisy works may occur. You may also need to instruct a Party Wall Surveyor (see Section 8 for further information). The party undertaking the development should generally be responsible for the costs incurred.

Commenting on a Planning Application: Material Considerations

5.2 The council welcomes comments as part of its consideration of planning applications. You can support or object to a proposal but you should be aware that any representations made to the council will be public documents and will be read by others. You should also bear in mind that planning applications can only be decided on the basis of planning issues, which include:

- The design & appearance of the proposal;
- The impact on the significance of a heritage asset;
- The impact on amenity, such as noise generated by plant and machinery;
- Issues regarding trees and landscaping;
- The impact on traffic, road access, parking and servicing (of the completed development);
- Whether flood risk, ground conditions and land instability mean the development is not a suitable use of the site (serving the completed development).

5.3 Section 6 of this document provides more detail on the main issues we can take into account in determining planning applications and lists planning policies you may wish to refer to if making representations.

5.4 Government legislation says that we cannot consider non-planning issues such as loss of property value, party wall and land and boundary disputes, the applicant’s personal circumstances or identity, the number of different construction projects going on at the same time or issues controlled by other legislation and regimes such as building control, including means of escape and structural integrity during the course of works. Whilst the council cannot refuse planning permission because construction works may cause noise and disturbance, it can apply conditions to reduce their impact, for example restricting hours of work specific to basement construction. The council as a whole also has a wide range of powers to take enforcement action on other issues (see Section 7).

Problems during construction

5.5 Once work starts, contact the site manager in the first instance if any problems arise and keep a photographic record and log of events.

5.6 The council’s planning enforcement team can help where works are not in accordance with the planning permission. Environmental Health officers can also take action if noise, dust and vibration reach unacceptable levels. The list of ‘other controls’ in Section 7 sets out who is responsible for enforcement of various issues and there are details of who you should contact in relation to various issues at Appendix 5.

5.7 If you have problems with noisy building works you can contact the council’s Environmental Action Line on 020 7641 2000 (24 hours a day, 7 days a week).

5.8 We welcome submission of any evidence of flooding or damage to your property as a result of adjacent basement excavation work, as this will help us with monitoring any ongoing impacts of basement development and assessing the effectiveness of our policies.
6 BASEMENT DEVELOPMENT: UNDERSTANDING THE CONTEXT

6.01 Basement development in Westminster tends to be concentrated in certain high-value residential areas, in particular Belgravia, Knightsbridge, Mayfair, Bayswater and St John’s Wood. The townscape of these areas is dominated by Georgian and Victorian townhouses, mostly laid out in terraces but with a concentration of villas set in large gardens to the north of Westminster, mixed in with later mansion and flat blocks from the Edwardian era and later 20th century.

6.02 These different parts of Westminster raise different challenges. The type and age of a building, whether it is a terrace, villa or a flat will determine the size, layout and character of the garden or amenity space, as well as the accessibility of the site, all of which have a significant influence on the location and extent of excavation which is acceptable, and how construction work should be managed.

6.03 All basement development will need to be appropriate to its site and context. In some cases where large basement extensions are proposed, the resulting intensity of basement use may affect the domestic scale, function and character, in particular in smaller scale streets and mews. Applicants should ensure the development responds to and is appropriate to its site.

6.04 The other main issues which will be considered by the council when assessing planning applications for basement development are set out in this section. This includes further advice on relevant adopted policy and details of information requirements in relation to specific issues.

Applicants should consider how the intensity of use associated with basement development can be accommodated without affecting character, especially in small-scale domestic streets.
6.1 SUSTAINABLE DESIGN

6.1.1 Basement development can have a significant environmental impact. The uses associated with basement spaces may be more energy intensive due to additional requirements for lighting, ventilation and pumps, particularly where underground rooms house swimming pools and media rooms. The primary material used in basement construction is concrete, which has a high embodied carbon* content and excavation and construction can also generate significant waste, and result in the loss of trees, other soft landscaping and green corridors, which may increase flood risk.

6.1.2 Applicants will need to demonstrate that new basement development complies with the above policies and will meet the highest possible standards of sustainable design, contributing to the mitigation of, and adaptation to climate change, as well as minimising carbon emissions. In particular, applicants should consider the following issues:

• Choice of materials, including potential for re-use and recycled content and avoiding materials with high embodied carbon content, where possible;

• Optimising the use of natural ventilation and lighting (also having regard to the potential visual impact);

• Energy efficiency of any lighting, pumps and plant;

• Incorporating Sustainable Urban Drainage measures, green infrastructure and design to minimise flood risk (see Sections 6.2 and 6.3 below);

• Incorporating water conservation measures, throughout the development especially where swimming pools are proposed;

• Waste management, including the reuse or recycling of construction waste (this should be undertaken as close to the site as possible) and transporting waste in sustainable ways.

6.1.3 Applicants should identify potential negative environmental impacts and consider how these can be in particular, the application should show how the amount of waste generated has been minimised and consideration given to reuse and recycling.

6.1.4 If plant is required, full details should be submitted including air intake and extract provisions. Where mechanical ventilation is proposed, applicants should demonstrate that the most energy efficient/ lowest carbon option has been used and that there is no disturbance from noise from mechanical plant.

6.1.5 Where water intensive uses such as swimming pools are proposed, it may be possible to incorporate water re-circulation, recycling and water recovery systems.

6.1.6 Applicants are also encouraged to consider the use of renewables or retrofitting of energy efficiency measures throughout the building to offset carbon emissions, where appropriate.

6.1.7 The Mayor’s Sustainable Design and Construction SPG (2014)¹ includes some specific advice on sustainable design of basements.

INFORMATION REQUIREMENTS

Applicants should provide evidence of how they have addressed the sustainable design principles set out above. This information can be provided as part of a design and access statement, where required, or in a separate sustainable design statement and should demonstrate the highest possible standard has been met for the development, in line with City Plan Strategic Policy S28. A Site Waste Management Plan may be required (as part of the construction management plan).

* Embodied energy may be taken as the total primary energy consumed during resource extraction, transportation, manufacturing and fabrication of a product to separate it from operational impacts. Embodied carbon is the carbon released in the above processes.

¹ https://www.london.gov.uk/priorities/planning/consultations/draft-sustainable-design-and-construction
6.2 TREES, GARDENS AND LANDSCAPING

6.2.1 Private garden land contributes significantly to the local context and character of Westminster. It is important visually and supports biodiversity, trees and green corridors and networks. Gardens and trees also play an important role in reducing the amount of water run-off from hard surfaces, allowing rain to drain naturally into the subsoil, which helps reduce flood risk and the effects of climate change. Subterranean development can affect these functions and result in the loss of important trees and landscaping.

6.2.3 Applicants should demonstrate that basement development will protect important trees² and the garden setting, and ensure surface water drainage is maintained, in accordance with the above policies.

6.2.4 To achieve this, an adequate depth and volume of soil should usually be incorporated above the basement itself to allow for new tree and shrub planting (see diagram below). This will help to provide a suitably landscaped setting for the development and also to regulate the flow of water draining into the surrounding subsoil and promote urban greening.

2 In the UDP ENV16 D refers to trees which make a significant contribution to the ecology, character or appearance of the area.

POLICY FRAMEWORK

Applications will be considered taking into account Westminster’s City Plan Strategic Policies S30 (Flood Risk) and S38 (Biodiversity and Green Infrastructure); policies in the London Plan especially Urban Greening (5.10), Quality and Design of Housing (3.5), Trees (7.21) and Biodiversity (7.18/19); and Unitary Development Plan Policy ENV16 (Trees) and ENV4 (Planting around and on buildings). UDP policy DES 5 (Alterations and Extensions) is also relevant. It states that development should not occupy an excessive proportion of garden land. There is also further advice in the council’s Tree Strategy SPD.

SOIL DEPTH ABOVE BASEMENTS

In the majority of cases, a minimum 1.0m soil plus 200mm drainage layer will provide sufficient soil volumes to support tree growth and health to maturity (See diagram).

In some circumstances, for example where the basement area proposed is extensive, where trees will be planted in confined locations, where the root growth will be impeded, or where particularly large new trees are proposed, soil depths of up to 1.5m (plus drainage layer) will be needed to support tree growth. Details of the proposed soil profile and composition should also be provided.

Figure 2: Guidelines for Soil Depth above Basement Extensions to allow for tree growth, landscaping and surface water drainage
6.2.5 Existing green infrastructure should be retained wherever practical and enhanced where possible, especially where this will contribute to the Mayor's target to increase the amount of surface area greened in the Central Activities Zone by 5% by 2030. We will expect the retention of ample protection for planting. In some cases it is desirable for a margin of unaffected land to be left at the rear of the site. This can help ensure that green corridors and networks are maintained, allowing established mature and larger scale planting to continue to grow naturally and ensuring surface water drainage is maintained without increasing surface water flows onto adjoining properties. The retention of existing mature landscaping is particularly important in areas characterised by large gardens such as St John's Wood. Applicants should consider the desirability of retaining a margin of undeveloped garden land, taking into account the size and character of the site, the requirements to retain existing trees and the results of the analysis of the existing surface water and ground conditions in the structural statement and of any flood risk assessment (see Sections 6.3 and 6.4). Emerging City Management Policy will provide further detail and standards.

6.2.6 Trees with Tree Preservation Orders (TPOs) and within conservation areas are protected. Basement development should not result in the loss of, or damage to, important trees. In cases where the removal of trees can be justified, the council will usually require them to be replaced within the curtilage of the property, either in the soil provided above the basement structure or adjacent to the new basement.

Protection of Trees During Construction Works

6.2.7 Applicants should also consider how they will protect trees during building works, including those trees at the boundary and in adjoining gardens. It is essential to avoid root severance as a result of excavation. Adequate safe working space for construction traffic and building activity needs to be provided around basement excavations without encroaching into the rooting areas of existing trees. Tree roots and branches are easily damaged by heavy construction equipment such as piling rigs, and tree roots are especially vulnerable to compaction damage by the storage of excavated spoil, vehicle movement and contamination from toxic building materials. In addition, vibration during piling has the potential to de-stabilise nearby trees. Altered soil drainage patterns may also affect tree health and longevity.

6.2.8 Further guidance can be found in British Standard BS 5837 2012 (Trees in relation to design, demolition and construction – Recommendations), or by contacting the council's Tree Officers (see contacts, Appendix 5).

INFORMATION REQUIREMENTS

Where there are trees on or adjacent to the site, including any street trees, an arboricultural report will be required with the submission of a planning application. This should set out (i) implications of the proposal for existing trees, (ii) the measures to be adopted during construction works to protect any trees on or adjoining the site, and (iii) the justification for removing any trees. Any construction management plan should also cross-reference those measures set out in part (ii).

Applications for basement development should be accompanied by an adequate landscaping scheme, which takes into account the above issues, as well as the character of the garden and its contribution to the setting of Heritage Assets, where appropriate (see Design and Heritage Assets, below).

Conditions may be applied to ensure the implementation and retention of the approved landscaping scheme, including any replacement trees which have been agreed and tree protection measures.

---

1 London Plan Policy 5.3
2 See www.westminster.gov.uk/trees-and-high-hedges
6.3 FLOOD RISK

6.3.1 Cellars and basements can be vulnerable to flooding. Such flooding can come from a number of different sources, including the overflowing of drains and nearby watercourses, groundwater flooding and surface water flooding.

POLICY FRAMEWORK

The National Planning Policy Framework (NPPF) states that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk and, where development is necessary, it should be made safe without increasing flood risk elsewhere. Further advice is set out in the National Planning Practice Guidance on Flood Risk.

Westminster’s City Plan: Strategic Policy S30 identifies our approach to managing flood risk in Westminster and seeks to ensure that all sources of flooding are taken into account and that potential flood risk is reduced through mitigation measures. Relevant London Plan policies include Flood Risk (5.12) and Sustainable Urban Drainage (5.13).

6.3.2 It is important to establish whether there is a significant flood risk before deciding to go ahead with an application for basement excavation or conversion and you should first determine whether the application property is located in a flood risk zone or within a surface water flood risk hotspot.

6.3.3 The table overleaf (Figure 4) shows locations where basement development will usually be unacceptable and where flood risk assessments will be required. This is based on our current adopted policy. However, the Environment Agency has indicated they may not object to basement extensions in some of the locations we currently identify as unacceptable, in cases where it can be demonstrated that flood risk can be mitigated. This will therefore be reviewed in our emerging City Plan policy, and based on the evidence in the revised Strategic Flood Risk Assessment. Further advice on different types of flood risk is set out below.

Tidal Flood Risk

6.3.4 Large parts of South Westminster are in the Environment Agency’s Flood Zone 3 where there is a significant (1%) chance of flooding from the River Thames in any one year. Part of Flood Zone 3 has also been identified as a
Rapid Inundation Zone. There is also a small section within Flood Zone 2 with a moderate (0.1%) chance of flooding in any one year. The Environment Agency classes self-contained basement dwellings as *highly vulnerable uses*. Such uses are not permitted in Flood Zone 3.

**Surface Water Flood Risk**

6.3.5 In addition to tidal flood risk, throughout Westminster there are a number of areas identified as at greater risk of surface water flooding. During 2013/14, modelling of the City was undertaken to identify those locations most at risk from surface water flooding. Fifteen

<table>
<thead>
<tr>
<th>FLOOD RISK</th>
<th>SELF-CONTAINED BASEMENT DWELLING (where classed as ‘highly vulnerable’*)</th>
<th>BASEMENT DWELLING OR EXTENSION TO EXISTING DWELLING (where classed as ‘more vulnerable’*)</th>
<th>Flood Risk Assessment required</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOOD ZONE 3 (RAPID INUNDATION ZONE)</td>
<td>Not acceptable</td>
<td>Not acceptable</td>
<td>Yes</td>
</tr>
<tr>
<td>FLOOD ZONE 3 (outside tidal breach rapid inundation zone)</td>
<td>Not acceptable</td>
<td>May be acceptable but must consider flood resistance/ flood resilience measures</td>
<td>Yes</td>
</tr>
<tr>
<td>FLOOD ZONE 2</td>
<td>May be acceptable but consider flood resistance/ flood resilience measures</td>
<td>May be acceptable but consider flood resistance and resilience measures</td>
<td>Yes</td>
</tr>
<tr>
<td>FLOOD ZONE 1 (rest of Westminster)</td>
<td>May be acceptable</td>
<td>May be acceptable</td>
<td>No, but flood risk and ground conditions as well as design to minimise flood risk should be addressed in the Structural Method Statement</td>
</tr>
<tr>
<td>SURFACE WATER FLOOD RISK HOTSPOTS</td>
<td>May be acceptable but consider flood resistance/ flood resilience</td>
<td>May be acceptable but consider flood resistance/ flood resilience</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A self-contained basement is one without internal access to the upper floors above breach level and therefore highly vulnerable; more vulnerable would be a basement with access to upper floors above the breach level.*
‘hotspot’ areas have been identified which are at highest risk and these are shown at Figure 5. A list of those streets at particular risk is at the end of this section.

6.3.6 The construction of a basement under a garden may reduce the infiltration capacity of the ground and could therefore result in additional surface water runoff from a site as well as reduced capacity of the ground to act as a store for rainwater. Wherever possible, self-contained basement dwellings should be located outside the Surface Water Flood Risk Hotspots. If building a basement extension in any area prone to surface water flooding you should take steps to avoid increasing (and where possible reduce) surface water flood risk for the site and beyond. A number of Sustainable Urban Drainage measures can be used to reduce the surface water runoff from a site including rainwater tanks, permeable paving and living roofs. Retrofitting of sustainable urban drainage systems will be encouraged where appropriate. Applicants should also show they have had regard to the drainage hierarchy in the London Plan\(^1\), and justification provided where this is not practical or appropriate.

6.3.7 In flood risk areas, where permeable surfacing and sustainable urban drainage measures are recommended in the flood risk assessment or structural statement, the council may secure their installation and retention by condition.

**Sewer and Groundwater Flooding**

6.3.8 Basements may be more susceptible to sewer flooding and this should also be considered by the structural or civil engineer. As a minimum, it is recommended that all drainage connections from basements to sewers should be fitted with a one way valve to prevent the drains flooding the basement if they

---

1 London Plan 2011, Policy 5.13 Sustainable Drainage
Flooding

surcharge. During periods when the drains are surcharged, the drainage system may not work. Basement designers should consider installing a pumped sewage system to protect against this, particularly in areas where there is an increased sewer flood risk.

6.3.9 Our technical evidence shows that most basement development is unlikely to impact on, or be affected by groundwater flooding. However, there may be an impact where the basement floor level extends into or close to existing groundwater. Particular care is needed in designing basements where:

- Basements extend through the gravels below the perched water table into the underlying London Clay or which have their lower levels close to the level of Upper Aquifer (within 300mm of it).

- Basements are in the vicinity of the historic routes of the Westbourne and Tyburn Rivers and their tributaries.

- New basements are proposed to existing houses with basements or lower ground floors, where the existing perched water level is close to the lowest occupied area of the existing buildings.

6.3.10 We will expect these issues to be assessed, monitored and addressed by the structural engineer undertaking the basement design. However, it is often a combination of the above types of flooding that leads to increased flood risk and the engineering design should take account of the specific combination of geohydrological conditions on the site. This should be considered in the structural statement and further information is set out in 6.4 below and in Appendix 1.

The Upper Aquifer. Because of the impermeable London Clay which lies beneath the gravel terraces, large areas contain water arising from precipitation within the gravels. This is known as London’s Upper Aquifer which is a perched water table.


Flood Resistance and Resilience

6.3.11 In all basement development, applicants are encouraged to incorporate flood resistance and resilience measures as part of the design. This includes measures to prevent water ingress and to reduce flood damage should flooding occur. These may include, for example, setting all thresholds to basements to be above the

Figure 6: Westminster’s Underground Rivers
flood level and incorporation of one way valves, incorporation of internal staircases and means of escape and placement of electrical circuits to minimise potential for damage.

6.3.12 Further information on flood risk can be found on the council website1 and the Environment Agency website2.

INFORMATION REQUIREMENTS

A site-specific Flood Risk Assessment should be provided if your proposed scheme is located in a flood risk area, as shown at Figure 4. This should demonstrate that the development will avoid increasing flood risk for the site and beyond (and where possible will reduce flood risk, taking climate change into account). This may be through appropriate layout and design, and use of flood resistance and resilience measures to reduce the impact of any flooding.

In all cases the Structural Methodology Statement (see Section 6.4 below and Appendix One) should include detailed site-specific analysis. This should include analysis of the Upper Aquifer, where it exists and how the basement may impact on any groundwater flow, as well as details of how flood risk and surface water flooding has been addressed in the design and should demonstrate how cumulative effects have been considered. In areas where greater risks are identified a specialist geo-technical engineer and/or a geo-hydrologist should be used.

Where works are adjacent to the Grand Union Canal, the Canal and River Trust have produced a Code of Practice which should be referred to (see sources of further information in the appendices).

FLOOD RISK HOTSPOT STREETS

1. Churchill Gardens Road, Lupus street, Johnson’s Place
2. Victoria Street, Kings Scholar Passage, Willow Place, Stillington Street, Greencoat Place, Gillingham Street, Wilton Road, Vincent Square and Vincent Road
3. Elverton Road
4. Old Pye Street and St Anne’s Street
5. Buckingham Gate, Petty France
6. A3212 Whitehall, Whitehall Place, Great Scotland Yard Road, Horseguard’s Parade
7. Marylebone High Street, New Bond Street, Berkeley Street
8. Brompton Square, Cromwell Road
9. South Carriage Drive, A315 Knightsbridge Road
10. Gloucester Terrace, Craven Terrace, Uprook Mews, Brook Mews
11. Paddington Station, Great Western Road, Westbourne Grove
12. Kilburn Park Road, Shirland Road, Maida Vale Park, Lancefield Street, Bracken Street, Downland Street.
13. Elnathan Mews, Bristol Gardens, Formosa Street, Pindock Mews
14. Abbey Road, Springfield Road, Carlton Hill
15. Avenue Road, St Edmunds Terrace, Mackennel Street

---

1 www.westminster.gov.uk/strategic-flood-risk-assessment
2 http://apps.environment-agency.gov.uk/wiyby/default.aspx
6.4 LAND STABILITY, GROUND CONDITIONS AND STRUCTURAL ISSUES

6.4.1 Excavation in a densely developed urban environment is a significant engineering challenge. If it is ill-planned, poorly constructed or fails to properly consider geology and hydrology, it has the potential to damage both the existing and neighbouring structures and infrastructure.

6.4.2 Basement excavation work is more complex than many standard residential extensions\(^1\) and applicants are strongly advised to use a Chartered Structural or Civil Engineer who can demonstrate both the relevant skills and a track record of successful basement projects in central London (see Contacts at Appendix 5 for links to organisations who can help you to find an appropriately qualified engineer).

6.4.3 To comply with the advice in the NPPF, we will not validate planning applications for subterranean development unless they are supported by information which demonstrates that the ground conditions and impacts of the proposed development have been adequately considered using appropriate professional expertise, to ascertain that the development is suitable for its site.

6.4.4 The engineer should therefore form part of the initial design team and should undertake an assessment of local ground conditions, water movement and drainage of the site at the design stage of proposals. The structural statement must set out a site specific structural design solution which explains how the excavation, demolition, and construction work (including temporary propping and other temporary works) can be carried out. This will usually include both a desktop analysis and on-site investigation and monitoring, including trial pits and opening

POLICY FRAMEWORK
While Building Control and associated Regulations determine whether the detailed design of buildings and their foundations will allow the buildings to be constructed and used safely, the National Planning Policy Framework\(^1\) states planning should ensure that development is suitable for its site. It states that development should take into account ground conditions and land instability and that adequate site investigation information, prepared by a competent person, should be provided to demonstrate these impacts have been understood.

Relevant London Plan policies include 5.3 (Sustainable Design and Construction), 5.12, 5.13 (Sustainable Urban Drainage) and 7.20 (Geological Conservation).

\(^1\) National Planning Policy Framework (2012) Para. 121

Alan Baxter WCC Residential Basements Report Paragraph 12.1.1
up works to investigate the existing structure. In areas of higher risk (see paragraph 6.3.9) it is recommended applicants should request a greater level of detail.

6.4.5 The council cannot, however, approve a specific engineering solution as part of the planning application, as this falls within the requirements of the Building Regulations, but the statement is required to demonstrate that the issues have been adequately considered at an early stage and a basement level is suitable for the site and can be provided without undue risk.

6.4.6 To assist applicants in ensuring they obtain structural statements which are comprehensively prepared, the council commissioned a background technical report by Alan Baxter and Associates, which sets out the types of issues which should be considered by the applicants and a structural or civil engineer when a basement project is being considered. This is available on our website and should be referred to for further advice. A summary of the report can be found at Appendix 3.

6.4.7 Many difficulties arise during the construction phases of works. Applicants are therefore advised to appoint a suitably qualified main contractor who has overall responsibility for the sequencing, temporary works and quality of the construction itself. The council cannot recommend particular contractors but the Association of Structural Underpinning Contractors (ASUC) holds details of specialist contractors with experience in basement excavation. Building owners are also strongly advised to retain their structural or civil engineer during the construction stages and instruct them to review the method statements, sequence of construction and temporary works proposals and to visit the site during construction to monitor it is progressing generally in accordance with the proposals. In exceptional circumstances, the council may apply conditions to require works to be monitored by a suitably qualified engineer.

6.4.8 However, the structural integrity of the development during construction is not controlled through the planning system but through Building Regulations and the Party Wall Act (see Section 7-8). Applicants with any concerns with regards to structural stability of a development site during the course of works should contact the council's Building Control service (see contacts, Appendix 5).

6.4.9 In addition to the above, applicants seeking planning permission for subterranean development above or near to London Underground infrastructure, such as tunnels and stations, should contact London Underground (LU) Infrastructure Protection at an early stage in the process to discuss the design proposals and foundation arrangements. In some instances, London Underground may request that a condition is attached to the planning permission. Crossrail or Network Rail may also need to be notified where their railway tunnels and infrastructure are affected.

INFORMATION REQUIREMENTS

To comply with guidance in the NPPF, the council currently requests a Structural Methodology Statement as supporting information with all applications for subterranean development.

Guidance on contents for a Structural Methodology Statement are set out in Appendix 1. Contents should, however, be specific to the site.

This statement must be prepared and signed off by a Chartered Civil Engineer (MICE) or Structural Engineer (MI Struct.E) and should include supplementary geo-hydrology reports where this is not being provided by the same engineer. We recommend that a structural engineer with expertise in historic buildings (CARE accredited) is appointed in most circumstances where heritage assets are affected, especially for works to or adjacent to any listed building. In areas where basement development may impact on the groundwater regime, the building owner should consider appointing a specialist geotechnical engineer and/or a geo-hydrologist.

For links to the relevant organisations who will help you find an appropriately qualified engineer and contractor, see the Contacts sections in the Appendices.
6.5 HERITAGE ASSETS

6.5.1 The quality of the historic environment is a defining characteristic of Westminster and its conservation is a key objective of the council. All basement development should protect heritage assets\(^1\) and their settings.

POLICY FRAMEWORK

Applications affecting heritage assets will be determined having regard to Westminster’s City Plan Strategic Policy S25, London Plan Policy 7.8 (Heritage Assets and Archaeology) and the saved UDP policies in the design chapter, in particular DES9 (Conservation Areas), DES10 (Listed Buildings), DES11 (Archaeology) and DES12 (Historic Parks and Gardens). These policies seek to ensure that development will conserve heritage assets including listed buildings, conservation areas and significant archaeological deposits. The National Planning Policy Framework provides further guidance and states that decisions should be based on an understanding of the significance of the assets.

Listed Buildings

6.5.2 The council has a statutory duty to have special regard to the desirability of preserving listed buildings, their settings and any features of special architectural or historic interest which they possess\(^2\).

6.5.3 Listed building consent will be required for basement excavations or extensions to existing basements to listed buildings even where planning permission is not required.

6.5.4 The acceptability of basement excavations under listed buildings will be assessed on a case-by-case basis, having regard to the impact on the significance of the building. The main elements of listed buildings which contribute to their significance and may be affected by basement excavations include: original or important architectural features and fabric, structural integrity, plan form and hierarchy of spaces.

6.5.5 Many of Westminster’s listed buildings are terraced houses which date from the

---

\(^1\) Heritage assets may include listed buildings, the World Heritage Site, conservation areas, historic parks and gardens and archaeology including Scheduled Ancient Monument and Archaeological Priority Areas, as well as non-designated assets.

features which give an insight into their historic function for example stone flag floors, original ranges, wine cellars, larders and vaults with exposed brickwork. Where they do remain, these can provide important evidence of the history of the building and, where considered to be of significance, these should be retained.

6.5.11 Underground accommodation may be susceptible to damp and best practice solutions should be employed to manage damp and ventilation. Tanking of existing basement areas can have a harmful impact on historic fabric and if this is required the method proposed must be included as part of the application submission.

**Structural Issues and Construction Methodology and Management**

6.5.12 Structural integrity should be given particularly careful consideration when dealing with heritage assets and in particular listed buildings or buildings immediately adjacent to a listed building. Significant structural intervention may be required as part of basement construction, and this could adversely affect historic fabric. The most straightforward structural method may not be appropriate and you should seek the advice of specialist conservation engineers.

6.5.13 Protection of historic fabric and specific features of interest during the course of construction works should also be considered. Although evidence suggests historic buildings tend to be more able to accommodate ground movements than more modern rigid structures, excavation work needs to be undertaken sensitively and appropriate protection put in place, so as not to affect delicate historic fabric and finishes and protect architectural detail from damage or theft. These issues should be addressed in both the structural methodology statement and construction management plan, which should identify potential impacts and measures to protect both the application property and any adjoining heritage assets.

6.5.14 In certain cases, such as in mews, basement excavations may not be possible without the substantial demolition of the existing building. In these instances the acceptability of demolition will be assessed in accordance with the tests set out in the NPPF\(^3\) and this may mean proposals are unacceptable in principle. On constrained sites, if permission for demolition is not being sought, the structural and construction methodology should set out how excavation can be undertaken without the need for substantial demolition.

---

3 See advice set out in the NPPF, para 133-136
Conservation Areas

6.5.15 The council also has a duty to pay special attention to the desirability of preserving or enhancing the character and appearance of conservation areas when considering development proposals. Alterations associated with basement development may affect the character and appearance of a conservation area. In conservation areas such as St John’s Wood, trees, gardens and boundary walls make a particularly important contribution to the Arcadian suburban character (also see trees Section 6.2, above). Detailed characterisation for each area is set out within conservation area audits, which identify those features that contribute to character of individual areas and should be protected. Further advice on design and visual impacts is set out below in Section 6.6.

Archaeology

6.5.19 Heritage assets in Westminster also include the extensive and varied archaeological record, consisting of deposits from most periods of history and pre-history. The buried archaeology of the city can give us important data about the prehistoric environment and settlement, Roman occupation, Anglo-Saxon Lundenwic, the medieval and post medieval periods, the political and religious centre of Westminster and expansion of London. Such archaeological remains are particularly vulnerable during excavation works associated with basement development.

6.5.20 Westminster has identified five areas of special archaeological priority, within which the likelihood of discovering surviving archaeological remains is particularly high. These are Lundenwic and Thorney Island, Ebury Village, Tyburn Settlement, Paddington and Lilestone Villages and Marylebone Village. They are shown on the map below and described in more detail in the leaflet A Guide to Archaeology and Planning in Westminster.

6.5.21 Beyond the areas of special archaeological priority, there is still scope for the survival of significant archaeology. The expansion of medieval London from the Thorney Island and the Strand across the West End,

1 Planning (Listed Buildings and Conservation Areas) Act Section 72
2 www.westminster.gov.uk/conservation-area-audits
Establish the archaeological interest of the area, its topographical and geological context, and its land use and building history in order to establish the archaeological potential of the site and its environs. In some cases geo-technical pits, trial excavation or boreholes will be needed, typically this would be where the presence of remains of regional or national significance is suspected. Where assessment indicates that significant remains are likely to be harmed the report should also consider how that impact could be mitigated. This would include considering logistical challenges such as those of mounting an effective archaeological excavation beneath a standing building.

6.5.22 Where an archaeological assessment is required, the applicant’s archaeologist will need to consult the GLHER and other sources to establish the archaeological interest of the area, its topographical and geological context, and its land use and building history in order to establish the archaeological potential of the site and its environs. In some cases geo-technical pits, trial excavation or boreholes will be needed, typically this would be where the presence of remains of regional or national significance is suspected. Where assessment indicates that significant remains are likely to be harmed the report should also consider how that impact could be mitigated. This would include considering logistical challenges such as those of mounting an effective archaeological excavation beneath a standing building.

6.5.23 For small-scale schemes or those in less sensitive locations it will sometimes be possible...
for Greater London Archaeological Advisory Service (GLAAS) to establish using information from the GLHER either that there is unlikely to be a significant impact or to define appropriate mitigation without the need for a full assessment as described above.

6.5.24 Even where no archaeological investigation is required by condition, developers are advised to be vigilant for archaeological deposits, and to alert GLAAS if such remains are discovered during the course of construction works. Procedures to be followed should archaeological remains be discovered during construction works should be referenced in the Construction Management Plan, where appropriate (See Section 6.8).

INFORMATION REQUIREMENTS
An assessment of the significance of all affected heritage assets should be submitted with applications including any contribution made by their setting. This should outline the potential impact of the proposal on the significance of the heritage asset to inform the council’s own assessment of any conflicts between the proposal and the conservation of the heritage asset.

Detailed plans should be provided which identify the extent of any demolition proposed and clearly identify all features of interest and confirm their retention. The Structural Methodology Statement and Construction Management Plan (see appendices) should consider the impact on historic fabric and how any delicate fabric or features will be protected during the course of works. Where these works are to a listed building or share a party wall with a listed building, we recommend the engineer should be CARE accredited.

Within the five named areas, or sites with known archaeological potential, a desk based archaeological assessment, prepared by an accredited archaeological consultant, will be expected as part of any planning application involving below ground excavation. The council may add conditions to any planning permission requiring on site archaeological investigation, recording and subsequent publication of the results.

Figure 8: Archaeological Priority Areas in Westminster
6.6 VISUAL IMPACT

6.6.1 While basement extensions are largely hidden from public view, they may include a number of external features, such as lightwells, plant, vents, skylights and means of escape.

6.6.2 It is important that any such external features are sensitively designed and sited to minimise their impact on the appearance of the building, the character of the surrounding area, the landscape setting and the setting of heritage assets, as well as the amenity of adjoining occupiers, taking into account policies listed below.

POLICY FRAMEWORK

The relevant City Plan policy is S28 (Design) which seeks to ensure that all development meets exemplary standards of design which respects Westminster’s heritage and local distinctiveness. In the Unitary Development Plan DES5 seeks to ensure alterations and extensions are integrated with their surroundings and are of a scale and detail which reflects the existing building. DES7 (Townscape Management) protects characteristic boundary features. Heritage policies (set out at 6.5) should also be referred to, where relevant.

Lightwells and Skylights

6.6.3 Open front lightwells are characteristic features in many streets in Westminster. Where there are existing traditional front lightwells, their further excavation and alteration will not be permitted if this will have a materially harmful visual impact in street views or cause harm to the significance of a listed building.

6.6.4 If new lightwells are being introduced, the most discreet location will generally be to the rear of the building, immediately adjacent to the rear elevation. Lightwell openings set away from buildings within the garden itself, including those for secondary means of escape, may harm the garden setting and result in harmful illumination or light spill, and are likely to be resisted.

6.6.5 New lightwells to the front of properties are more contentious but may be allowed where they follow a prevailing characteristic or an established pattern within the street. In streets where lightwells do not form part of the local character, applications will be assessed taking into account the characteristics of the street, any existing front garden area and their relationship with the existing building. However, new lightwells set in shallow front garden areas are unlikely to be acceptable and will be particularly

Figure 9: Guidelines for basement design to typical terraced townhouse, with existing open front lightwell
contentious in mews or similar properties where there is no visual buffer between the front elevation and the street, and lightwells do not form part of local character.

6.6.6 In any location where the introduction of a new lightwell is considered acceptable in principle, its size and depth should relate sensitively to the composition of the building and size of the garden area. To achieve this, in general new open lightwells should not be more than one additional storey in depth and the width of lightwells proposed should follow the established character within the street and the composition of the existing building. Large lightwells may be harmful to the architectural integrity of the building and the character of the garden setting and will usually be resisted.

6.6.7 Fall protection must be considered at application stage and be designed into the proposed scheme. Where an open lightwell is proposed, lightwell railings may be acceptable where they follow an established pattern within the streetscene and/or do not harm the appearance of the building. However they should not result in visual clutter or compete with other features such as the existing boundary treatment and features on the front elevation. Horizontal grilles set within the lightwell may be more appropriate and can provide the necessary fall protection without causing harm to the appearance of the building.

6.6.8 Skylights may be acceptable to the rear of buildings, and should be of minimal size, located within and flush to the hard landscaping and positioned adjacent to the rear elevation. In certain circumstances they may be a more appropriate solution than lightwells, to allow a continuous level between the rear of the building and its garden setting to be maintained. Skylights and lantern lights set within the garden and away from the building typically form uncharacteristic features which may be harmful to the garden setting by virtue of their design and light spill.

6.6.9 In instances where creation of a new lightwell in an existing large front garden area is considered appropriate, the diagram at Figure 10 shows the sort of detail which is likely to be acceptable.
INFORMATION REQUIREMENTS

The Design and Access Statement along with detailed drawings and sections should demonstrate that proposals will have an acceptable visual impact, taking into account the impact on the garden setting and the setting of Heritage Assets.

The impact of alterations and extensions on garden character should be described within the Design and Access Statement and full landscaping details provided as part of the application.
6.7 USE OF BASEMENTS FOR LIVING ACCOMMODATION

6.7.1 Basements can create valuable new accommodation where land is scarce. However, where residential accommodation is proposed below ground it is important that it provides a reasonable standard of accommodation and is comfortable and safe to use. Some of these issues are not enforced through planning legislation but dealt with by other codes and standards (see also Section 7).

6.7.2 Proposals for basement extensions to an existing family sized home should not be carried out with the intention of splitting the unit into smaller living units if they lie within the family housing areas (as shown on UDP maps 3.1-3.5).

6.7.3 The quality of accommodation provided should also be considered. Extensions to create new living accommodation at basement level will generally only be acceptable if used with the rest of the premises as part of a single dwelling. To comply with their standards, Environmental Health recommend that the proportion of subterranean living accommodation does not exceed the above-ground living space and the space is in addition or ancillary to the existing residential accommodation at ground level and above. Staff accommodation located wholly within basements may not comply with their standards.

6.7.4 New accommodation must meet the requirements of the Housing Act 2004 and the Building Regulations (see other standards at Section 7, below) and, although not enforced through planning, this may affect your design. New basement levels should have acceptable headroom and adequate daylight and ventilation, especially if any part of the basement will form habitable accommodation rather than ancillary rooms such as studies and media/home cinema rooms. Suitable access should also be provided to allow for evacuation and flood risk (see Section 6.3 Flooding). Building Control and Environmental Health will be able to advise you further on these standards and contacts are set out in Appendix 5.

6.7.5 If you intend to rent out the accommodation, additional controls and standards may be required under the Housing Acts. You are strongly advised to check with the council’s Private Housing teams whose contact details are at the end of the document.

If basements are to be used for residential accommodation, they should have adequate headroom, daylight and ventilation.
6.8 MANAGING THE IMPACTS OF CONSTRUCTION

6.8.1 Basement construction can be complicated and lengthy and, if badly managed, may cause nuisance and disturbance for neighbours and others in the vicinity, due to additional traffic and to the noise, dust and vibration of construction itself.

6.8.2 As construction works associated with basement developments have the potential to cause disruption which often lasts longer than other residential extensions, we usually request a construction management plan is submitted at planning stage to demonstrate that reasonable consideration has been given to issues such as access, working hours and impact on local amenity. Although we recognise full detail may not be available before any contract is let, the broad approach to construction method and management should be considered by the applicant and their design team at this stage. Some of the main issues which should be considered to ensure construction works do not cause undue disturbance are set out below.

**Contacts and Communications**

6.8.3 Property owners or developers undertaking basement development should maintain a dialogue with adjoining occupiers at all stages of the design and construction process and ensure all neighbours are aware of the phasing and programme of works and any changes to the schedule, especially where noisy works are likely to be involved.

6.8.4 We strongly recommend works are carefully planned in consultation with neighbours and programmed so they can be completed in the shortest time possible and with minimum disruption. In planning the timetable for works, applicants should be aware that hours of work for basement excavation will usually be subject to additional control, restricting excavation to between 08.00 and 18.00 Monday to Friday and not at all on Saturdays, Sundays, bank holidays and public holidays. This will be a condition of any permission granted. We also recommend contractors join the nationally recognised Considerate Constructors Scheme, as this will help demonstrate your commitment to good site management.

6.8.5 Contact details for a site manager must be clearly displayed on the site so adjoining occupiers know who to contact in the event of problems arising.

**POLICY FRAMEWORK**

Westminster City Plan Strategic Policies S29 (Health and Well-being), S31 (Air Quality) and S32 (Noise) seek to maintain or improve residential amenity of neighbouring residents and minimise noise and air pollution. In the London Plan, relevant policies include policy 5.18 (Construction and Demolition Waste), 5.20 (Aggregates), 5.21 (Contaminated Land) and 7.14 (Air Quality). UDP Policy ENV6 contains detailed requirements relating to noise pollution, including disturbance to surrounding areas and hours of work during construction.

The scale of basement construction works can cause significant disruption and it is important to consider how disruption can be minimised at an early stage in the process.
Traffic Management and Site Access

6.8.6 Traffic and access to the site should be managed to safeguard existing rights-of-way, minimise congestion, and consider safety of other road users. Proposed vehicle sizes and movements should be identified and restricted on constrained sites such as mews which may only be able to accommodate smaller vehicles.

Parking and Use of the Highway

6.8.7 Arrangements for parking for contractors and visitors must also be considered, as well as the location of items such as skips. The contractor must minimise the use of on-street parking and obtain the permits and licences for any temporary uses of the Highway. Any damage to the highway will need to be repaired and the council’s highways team may take a deposit to secure this (See Section 7 Other Controls and Contacts).

Handling Materials and Waste

6.8.8 The recycling and transportation of materials and waste resulting from excavation, demolition and construction works will be a particularly important consideration and applicants should consider how waste can be minimised and reused and recycled where possible. Special consideration should be given to waste removal if the site includes contaminated land (See para. 7.7).

Noise, and Dust

6.8.9 The contractor should put in place suitable measures to control the emission of dust and dirt during construction and ensure works will not generate noise audible at the site boundaries outside of permitted working hours. Dust should be controlled at source by a continuous fine water spray and the perimeter of the site should be screened to a sufficient height to prevent the spread of dust. Applicants should refer to the Mayor of London’s Guidance on Control of Dust and Emissions during Construction and Demolition and ensure they are aware of and can adhere to Environmental Health standards in relation to control of dust, noise and vibration.

Protecting Trees and Heritage Assets

6.8.10 Appropriate protection should be put in place to ensure heritage assets and trees are protected, taking into account the guidance in Sections 6.2 and 6.5 of this SPD.

Cumulative Impact of Construction Work

6.8.11 Many neighbours objecting to basement extensions have asked us to allow only one development to take place at a time to minimise nuisance, or to only allow such number that can reasonably be accommodated according to the characteristics of the street. Two badly run construction sites within a small mews, for example, can have a disproportionately harmful effect on amenity of neighbours. The council cannot impose such restrictions through the planning regime and would not be able to predict when approved schemes are started within the three years the permission remains live. However, where large estates have a controlling freehold interest, we will encourage the co-ordination of these developments as far as practicable to minimise nuisance. Where this is not possible, construction management plans should identify other permitted schemes for basements and other major work which may be undertaken during the development period, and identify what mitigating controls can be put in place to reduce the incidence of uncoordinated and poorly managed construction. Noise levels, traffic management, dust, vibration, street cleaning and spoil removal measures will be paramount.

6.8.12 It should be noted that the planning system has limited powers to control the construction process and its impacts, and not all of these issues will be considered or enforced by planning officers. However, a number of other regimes and a large body of environmental and safety requirements allow the council as a whole to closely monitor and control processes and impacts which result from basement construction works. This includes requirements relating to noise and vibration, dust and air quality, traffic and transport and protection of existing buildings and infrastructure from harm, disturbance or damage. The construction management plans are umbrella documents which may incorporate mechanisms which overlap with or refer to these other regulatory regimes (particularly highways and environmental health) but which will not be enforced through planning. For further information, see Other Controls (Section 7) and contact details at Appendix 5.

6.8.13 In addition to the advice in this section, a list of questions to encourage best practice
INFORMATION REQUIREMENTS

A Construction Management Plan is currently required with planning applications for basement development. This should be site-specific and include sufficient information to demonstrate that you have followed the guidance in this section including, as a minimum, the following details (where appropriate):

(i) a construction programme including a 24 hour emergency contact number;
(ii) parking of vehicles of site operatives and visitors (including measures taken to ensure satisfactory access and movement for existing occupiers of neighbouring properties during construction);
(iii) locations for loading/unloading and storage of plant and materials used in constructing the development;
(iv) erection and maintenance of security hoardings (including decorative displays and facilities for public viewing, where appropriate);
(v) wheel washing facilities and measures to control the emission of dust and dirt during construction; and
(vi) a scheme for recycling/disposing of waste resulting from excavation, demolition and construction.

Where appropriate, details such as hours of work may be assured through planning condition and, in some instances, a more detailed construction management plan may be required where adequate detail is not available at planning application stage.

6.9 DEVELOPMENT UNDER THE HIGHWAY

6.9.1 Some properties in Westminster have front vaults, which may extend under the pavement. Basement development works can involve the extension of these areas.

6.9.2 A large number of utilities and services are located under the highway including access cables, pipes and sewers. Any basement development must be carefully undertaken so as not to interfere with these essential services (or their future provision) and the council will therefore limit the extent of any new basement vaults under the highway and require adequate space to be retained between the highway and any basement. The adopted UDP therefore sets out that the lateral and vertical extent of new or extended basement areas under the highway will be restricted so that there remains a minimum vertical depth below the footway or carriageway of about 900mm and the extent of the new or extended basement area does not encroach more than about 1.8m under any part of the adjacent highway. This zone also allows for essential street furniture (e.g. signage, lighting etc.) to be located in the highway where necessary.

POLICY FRAMEWORK
TRANS 19 Development Under the Highway is the adopted Unitary Development Plan Policy.
7 OTHER REGIMES AND CONTROLS

7.1 The assessment and enforcement of applications for subterranean development intersects with a wide range of other legislation. This includes primary legislation (Acts of Parliament e.g. the Environmental Protection Act 1990, Highways Act 1980, Control of Pollution Act 1974), secondary legislation (Statutory Instruments, including Regulations and Orders e.g. the Control of Asbestos Regulations 2012) and statutory guidance and Codes of Practice. Although this does not form part of consideration of your planning application, it is important to note the different consents and licenses that must be applied for before you start works.

Building Control

7.2 Building Control enforces minimum standards and issues associated with engineering design and structural stability and ensuring construction work undertaken is professional and competent. In addition to planning permission, Building Regulations approval is required for the excavation or enlargement of a basement, and also to convert a cellar into habitable accommodation. Due to the complexity of the Building Regulations as they affect basements, it is highly recommended that you contact the council’s Building Control service in the first instance to discuss your project. Further advice on Building Regulations is available on the Planning Portal.

Highways

7.3 The Highways Act ensures the efficient and safe use of roads and highways. You will need a licence under the Highways Act for any activities on the highway, such as the placing of skips, the transfer of spoil, or erection of hoardings. Where a new basement extends underneath the public footway or carriageway, the new basement design (or structural alterations in the case of an existing basement) may require Technical Approval to ensure the designs have been undertaken by a suitably qualified engineer and take into account current highway loading standards. Permission is also required for suspension of parking bays or road or footway closures. For most streets you should contact the council as the highway authority but on Strategic roads forming part of the Transport for London Network you may need to obtain relevant permissions from Transport for London. The council will also be able to let you know if you live on a main road which is the responsibility of Transport for London².

Environmental Health (Noise, Vibration and Dust complaints)

7.5 Environmental Health enforces issues related to the Environmental Protection Act and Control of Pollution Act (such as noise and dust). The provisions of the Control of Pollution Act (1974)³ are the principal mechanisms by which construction noise and vibration is controlled. These are separate from the planning system. Control of dust in the construction phase is dealt with by the Environmental Protection Act (1990). This enables the council to impose requirements to prevent or abate nuisance from dust and smoke. Guidance is given on the Westminster website at https://www.westminster.gov.uk/information-to-contractors-noise-and-atmospheric-pollution and in British Standard BS 5228: Parts 1 and 2 (1984) and Part 4 (1986) entitled ‘Noise control on constructions and open sites’.

---

The council’s 24 Hour Noise Team is part of the Premises Licensing Department and responds to all complaints of noise, dust and smoke from building sites.

**Environmental Health (Contaminated Land)**

Environmental Health is also responsible for issues related to contamination. Where development involves excavation the applicant should consider if there could be any source of contamination, e.g. oil storage tanks associated with the heating system or any previous land use. If you have questions or find any unexpected contamination during the works you must contact [Environmental Health](https://www.westminster.gov.uk/contaminated-land).

**Environmental Health (Consultation Teams)**

Habitable accommodation must also meet fitness standards, including those set out in the Housing Health and Safety Rating System (HHSRS) under the **Housing Act 2004**. Advice on these and other standards for use of basement areas as living space e.g. room height (min 1.9m), ventilation levels, avoiding dampness etc. can be obtained from the Environmental Health Consultation Team. Where it does not meet these standards, the dwelling may be considered for action under the Housing Act 2004 and Environmental Health would have the power to require works to improve natural light and the view to the affected rooms (which may require planning permission) or alternatively, where this is not practicable, to prohibit the use of those rooms.

**Freeholder permission and other Codes and Guidance**

If you are not the freeholder of the property, then landlord permission is likely to be required. Within Westminster, many of the Great Estates have produced their own guidelines on basement development which may, in some circumstances, be more restrictive than planning controls. You should always contact the freeholder prior to submitting an application and ensure you have complied with their requirements before submitting an application (see list of estates in Westminster within the appendices).

**Other**

You must get [Thames Water](http://www.thameswater.co.uk/developers/592.htm)'s agreement to carry out any building work over or within 3 metres of a public sewer to ensure that no damage is caused to it or restrictions made to the way sewers are used or maintained.

It will also be the applicant’s responsibility to ascertain whether any existing underground services including electric, gas or telecommunications services will be affected by works and notify utility companies and relevant parties of any impacts. Transport for London and London Underground should be contacted to confirm that works will not interfere with any of their assets.

Where works are adjacent to the Grand Union Canal, the Canal and Rivers Trust have produced a Code of Practice, which should be referred to.

See contacts list at Appendix 5 for detail of who to contact in relation to different issues. Further guidance on construction good practice is available on the Westminster website. See overleaf, Section 8 for advice on requirements the Party Wall Act.

---

4 https://www.westminster.gov.uk/contaminated-land
5 http://www.thameswater.co.uk/developers/592.htm
8 THE PARTY WALL ACT

8.1 The Party Wall Act is in place to control development on each side of a party wall and maintain its integrity and function. If you are undertaking a basement excavation it is likely that you will need a Party Wall agreement with your neighbours. You must give notice to adjoining owners at least one month before works start. The provisions of the Act apply when an adjoining owner is carrying out work in the ground within three metres of the party wall or within six metres if it falls below a line drawn at 45 degrees from the bottom edge of the foundation of the wall. Further advice on the Party Wall Act for both owners undertaking works and adjoining occupiers can be found on the planning portal1.

8.2 The Party Wall Act is civil legislation and this is therefore always a private matter between neighbours which cannot involve the council. The Act can be used by neighbours to address issues where damage occurs and their Party Wall surveyor can request that a sum of money is held in ‘escrow’ in case of any damage.

ESCROW The Party Wall Surveyor can request that a sum of money is held in ‘Escrow’ meaning a sum is kept as security for example in case there is a need to step in and complete the works to a party wall to repair damage.

8.3 It is advisable to seek the advice of a structural engineer with experience on party wall matters. The Professional Institutes listed in the appendices can provide details of engineers with party wall expertise. Further advice on issues to consider if you need to enter into a Party Wall agreement is set out in the Alan Baxter’s Report, Part 92.

8.4 Where problems or disputes arise, Common Law can also provide some protection for occupiers of properties in the vicinity of a development, allowing them to seek injunctive relief or damages through the courts. Neighbours adversely affected by a basement development should take legal advice about their potential remedies.

2 WCC Residential Basement Repor (July 2013)
APPENDIX 1: CONTENTS OF STRUCTURAL METHODOLOGY STATEMENT (SMS)

The SMS should be submitted in the form of a report and supporting drawings. The level of content required will depend on the site, but in all cases it must be signed and validated by the structural or civil engineer. The following list is provided for guidance purposes only and to assist in the preparation of your SMS:

A. A thorough **desk study** to include the site history, age of the property, site survey, geology, historic river courses and underground infrastructure, including utilities services, drains and tunnels. This should also identify other basement developments in the area, so that cumulative effects can be considered.

B. An appraisal of the existing structure including drawings to show the arrangement of the existing structures. The appraisal should identify previous alterations and any obvious defects. It should also assess the condition and location of the building with adjoining buildings. This should include opening up works to investigate the existing structure, which should be summarised on a set of drawings.

C. A **site investigation** which can be demonstrated to be relevant to the site together with trial pits to show the existing foundations and the material they are founded on, for all walls which may be impacted by the proposals. If groundwater is present, the levels should be monitored for a period of time.

D. Details of the engineering design which should be advanced to detailed proposals stage. Relevant drawings should be provided to show how the designers have addressed the following:

- ground conditions and groundwater
- existing trees and infrastructure
- drainage
- flooding
- vertical and horizontal loading
- structural engineering general arrangement and details; drawing showing underpinning, piled wall etc.

E. An analysis of the Upper Aquifer (when it exists) and how the basement may impact on any groundwater flow.

F. Details of flood risk, surface water flooding, critical drainage areas explaining how these are addressed in the design. A full flood risk assessment should be carried out in those areas identified as requiring one at Figure 4 of the guidance.

G. An assessment of movements expected and how these will affect adjoining or adjacent properties. This needs to include both short term and long term effects. The design and construction should aim to limit damage to all buildings to a maximum of Category 2 as set out in CIRIA Report 580.

H. Details of sequences of construction and temporary propping to demonstrate how the basement can be built to prevent movements exceeding those predicted. It should show how the horizontal and vertical loads are supported and balanced at all stages of construction and consider the interaction between permanent works and temporary works.
NEW APPENDIX 2: QUESTIONS TO INFORM BEST PRACTICE IN CONSTRUCTION MANAGEMENT

The following list of questions has been prepared to help applicants understand some of the main issues they will need to consider in relation to construction management and may assist in the preparation of any construction management plan. This list is not exhaustive and is provided for guidance purposes only, to help promote good practice. Although planning-led, any construction management plan will usually be an umbrella document managing a range of construction impacts and it will be helpful if you identify other relevant legislation and standards you will need to comply with and the key contacts you will liaise with, using the advice in Section 7.

A Management Arrangements, Communication and Neighbour Liaison

Who will have responsibility for management of the site and communications with neighbours and the council? Are they aware of the range of legislation they must comply with and who they must contact in relation to different issues? Have you consulted neighbours and residents groups in drawing up this plan and taken on board any issues raised?

• Provide the name and address of a key contact (may be the Project Architect or Engineer, a Site Manager, or an Agent acting on behalf of the owner). Confirm you will display 24 hour emergency contact details at the site.

• Identify adjoining occupiers most likely to be affected by proposals and any local amenity society or residents group, who you will keep informed about the programme of works and any significant changes to this programme or the contact details. Confirm that a complaints process and log will be in place on site.

• Confirm that the identified key contact or site manager will be made aware of and ensure compliance with any conditions attached to the planning permission and notify the relevant council officers of any changes during the course of works. Confirm they will be made aware of the relevant contacts in the council’s Building Control, Environmental Health and Highways teams, having regard to responsibilities set out in the process diagram in the SPD at Figure 1 and the advice in Section 7.

B Other Codes, Freeholder Permissions and Requirements

Who is the freeholder? What other codes, guidance or good practice will you adhere to?

• If you are not the freeholder, identify who they are and whether they have any guidelines or Codes of Construction you must adhere to.

• Ensure the site manager/ other designated contact will take responsibility for managing the site according to best practice and other codes or guidance you have identified, and we recommend you only appoint contractors who are members of the Considerate Constructors Scheme.

C Timetable and Programming of Works

How long do you estimate works will last and when will noisy works take place? Are there other schemes proposed in the vicinity at the same time and, if so, can you work with them to minimise disruption?

• Provide information on likely duration of works, including a total timescale for the project, a broad-brush schedule with rough duration of the major phases of works, in particular any demolition or noisy works. If known, include the anticipated start date. Ensure the site manager/ other contact will contact neighbours with a more detailed timetable once this has been determined and before works start.

• Identify any other consented schemes in the same street or immediate vicinity and contact the applicant to establish their programme of work and whether you can work together to minimise disruption.

D Working Hours

What are the proposed days and hours of site operation?

• Confirm this will comply with our standard working hours condition: i.e. Works to take place, Monday - Friday: 8am - 6pm. Saturday, Sunday and Bank Holidays: No noisy activities on site.

• Confirm you will maintain a dialogue with adjoining occupiers in relation to working hours and where practicable seek to avoid any particularly noisy operations at any sensitive times.
E  Storage of Materials and Equipment and Use of the Highway
Where will any plant, equipment and materials needed be stored on site? Will any structures or equipment be located on the highway? Will parking bays need to be suspended or waiting/loading restrictions put in place?
- Identify where materials, skips and plant will be stored. While one car parking space will usually be required for a skip, other materials should generally be stored within the site and not on pavements or road to protect on-street parking and rights of way. Parking bay suspensions are normally only permitted outside the property being redeveloped.
- Construction related equipment, structures or activities on or over the public highway will require authorisation and/or a licence issued by the council and include: Skips, Hoardings, Material storage, Scaffolding, Temporary structures, Gantries, Cranes, Signage, Temporary traffic Signals, footway and carriageway diversions or closure. Confirm you have spoken to the council’s highways team about any proposed use of the highway and you are aware of their requirements for licenses and what these are.

F  Access, Parking, Traffic Management and Deliveries
Has the impact on the surrounding highway network been considered? How will access to the site be managed to safeguard existing parking, rights of way and public safety? How will deliveries and collections be managed to minimise congestion and prevent obstructions to the highway? Are roads en route suitable for the size of vehicles to be used? How will you protect neighbours and pedestrians from the construction works, particularly vulnerable users?
- Provide a site plan showing all points of access, and how vehicles will access the site, detailing available space for vehicles and adjoining occupiers, cyclists and pedestrians to pass, and where vehicles will load/unload.
- Identify any arrangement for parking vehicles of site operatives and visitors and whether this will affect existing residents parking.
- Show the location and height of any hoardings
- Provide details of the type and size of vehicles accessing the site and an estimate of numbers. If delivery vehicles cannot access the site, identify where will they wait to load/unload.
- Identify whether they will be any impact on waiting/loading restrictions; parking facilities; emergency services access; public transport; refuse collection; deliveries; adjacent land uses — for example schools, railway lines or busy roads, local businesses etc.
- Confirm the adjoining public highway will be kept clean and free from obstructions and that you are aware of Highways requirements to make good any damage to the highway once works are complete and will undertake repairs to WCC requirements in the event of any damage.
- Confirm you have contacted the council’s Highways team and you are aware of timescales and requirements in relation to any temporary Traffic Management Orders. Road closures are likely to need public consultation.

G  Handling Materials and Waste
What arrangements have you made for recycling and transportation of construction waste?
- Whatever method is chosen the delivery/collection lorries must not block the road.

H  Managing Environmental Impacts, Noise, Vibration and Dust
What steps will you take to reduce noise emission and prevent nuisance from dust and smoke when carrying out building work? Will vehicle wheel wash facilities be provided and where will they be sited? What best practice measures will you implement to protect the amenity of neighbouring occupiers?
- Contact our Environmental Health teams and confirm you are aware of all the requirements they will expect you to meet before you draw up the contracts for demolition and building work. Set out their requirements in relation to acceptable levels of noise and vibration and who will be responsible for ensuring these requirements are adhered to.
- Consider the types of plant and equipment to be used and that you can ensure compliance with noise levels in accordance with good practice and Environmental Health requirements. Confirm you will inform neighbours when particularly noisy works will take place and outline steps to be taken to minimise impacts on neighbours amenity.
- Confirm you have had regard to the Mayor’s Best Practice Guidance on Control of Dust and Emissions and what measures you will use to prevent the spread of dust for example screening to prevent spread of dust, water sprays or wheel washing. Confirm who will be responsible for ensuring the site is kept clean and tidy and mud/detritus originating from the site is not deposited on the public highway.

I  Other
- Identify any heritage assets and protected trees on or adjoining the site and confirm what measures will be put in place to protect these from damage, having regard to the advice in this SPD.
- Confirm the construction management plan will be subject to review during the course of works and who will be responsible for this.
APPENDIX 3: SUMMARY OF BASEMENTS REPORT

This detailed technical report is aimed at engineers, architects, contractors and applicants for basement design. It provides background information on hydrology, geology and flooding issues in the City of Westminster and their impact on basement design, as well as some limited information on other issues which may affect construction, such as construction management and temporary works, sustainability and trees. This report has been prepared as part of Westminster’s evidence base for emerging policy but does not contain council planning policy and has been produced for guidance only. The full report can be downloaded from the Westminster website.

The report identifies that basements can be constructed in any area of Westminster but that there are varying levels of risk involved according to ground conditions and construction technique used.

It highlights the importance of detailed investigation of the ground conditions and adjacent structures by a qualified engineer at an early stage in the design process. It suggests detailed information should be presented as part of a planning application in the form of a structural methodology statement (SMS) and recommends the content and level of detail that this SMS should contain.

Ground Conditions & Flood Risk

Those designing and building new basements need a thorough understanding of the flood risks and groundwater conditions. Desk-top analysis and site investigation should be undertaken.

The desk study should include the site history, age of the property, site topographical survey, geology, historic river courses and underground infrastructure, including utilities services, drains and tunnels.

The report identifies and maps the main types of ground conditions found in Westminster. The following need to be considered: routes of historic water courses (the Tyburn, the Westbourne and their tributaries), geological conditions including presence of London Clay at the surface (to the north of the City) London Clay overlain with sands and gravel, Langley Silt (brickearth), Alluvial deposits (laid down by the River Thames and along the routes of the Tyburn and Westbourne), areas overlain with fill or made ground. Areas at the boundaries between the different geological layers at the surface and existence of eroded shallow channels in the surface of the clay will also have an impact.

It identifies the main areas and types of flood risk in Westminster including risk of tidal flooding and rapid inundation areas, local surface water flood risk areas including critical drainage zones and where sewer flooding may present a risk. It suggests flooding of basements is usually caused by a combination of events (surface water, groundwater and sewers).

Basements planned in flood risk areas will need to be designed to take account of combined risks. The SMS should provide details of flood risk, surface water flooding, critical drainage areas explaining how these are addressed in the design. If the basement is in Flood Zone 3, a full flood risk assessment should be carried out. All drainage from basements should be fitted with one way valves. Basements within critical drainage areas or areas within local surface water flood risk zones should have a pumped drainage system.

Groundwater Considerations

In relation to groundwater, the report identifies that this is only a consideration in certain circumstances. Particular consideration to groundwater should be given where:

- Basements extend through the gravels below the perched water table into the...

---

1 https://www.westminster.gov.uk/strategic-planning-research
underlying London Clay or which have their lower levels close to the level of Upper Aquifer (within 300mm of it).

- Basements are in the vicinity of the historic routes of the Westbourne and Tyburn.
- New basements are proposed to existing houses with basements or lower ground floors, where the existing perched water level is close to the lowest occupied area of the existing buildings.

The SMS should provide details of monitoring. If groundwater is present, the levels should be monitored for a period of time. An analysis of the Upper Aquifer (when it exists) and how the basement may impact on any groundwater flow should also be carried out.

Potential cumulative impacts should be considered. If an assessment of the cumulative effect of basements in a terrace shows this to be a possible problem, the design of a basement should provide drainage or engineered flow arrangements below or around it.

Any basement proposal which is to be constructed below the Upper Aquifer must demonstrate that it will not increase the flood risk to adjoining properties.

**Appropriate Construction Techniques**

Different construction techniques: underpinning, piled walls (contiguous or secant) and king post are described in the report along with detail of different considerations for each. Choice of construction technique will depend on:

- The ground conditions, ground water conditions and flood risk
- Whether the basement is under the existing house, under the garden outside the footprint of the main house or a combination of the two conditions.
- The depth of the proposed basement.
- The structure of the existing building and of its neighbours.

Site investigation should be undertaken which is relevant to the site, together with trial pits to show the existing foundations and the material they are founded on, for all walls which may be impacted by the proposals.

An appraisal of the existing structure including drawings to show the arrangement of the existing structures should identify previous alterations and any obvious defects. It should also assess the condition and location of the building with adjoining buildings. This should include opening up works to investigate the existing structure, which should be summarised on a set of drawings.

**Depth and location of basements**

Type of construction will depend on location and depth of basements.

Deeper basements formed by underpinning are more likely to result in significant ground movements, which may result in structural damage to the building being underpinned and to the adjoining construction. The report suggests basements formed by underpinning should be limited to one storey. Deeper basements should be confined to gardens of larger properties or where the majority of the site is being redeveloped.

Basements below rear gardens should generally be formed within a piled wall, sheet piled wall or King Post Wall. The use of reinforced concrete walls formed sequentially using underpinning techniques should not be used where they are within 6m of a site boundary or adjacent building. A contiguous piled wall is most suitable for larger residential properties. It is beneficial for the existing adjoining buildings if these basements are designed and built so that they are structurally independent of the structures of the adjoining houses.

Basements under semi-detached or terraced properties which are founded on shallow foundations and where there is a history of structural movement need particular consideration. Basements in these locations can be formed without underpinning and in cases where there are ground movements of adjoining properties founded on clay, other techniques such as piled walls may be more appropriate and preferable.

Underpinning that extends into the Upper Aquifer in gravels and sands should be avoided and alternative techniques for forming basements in these ground conditions considered.

The SMS should demonstrate details of the engineering design have been advanced to detailed proposals stage. Relevant drawings should be provided to show how the designers have addressed the following: ground conditions and groundwater, existing trees and infrastructure, drainage, flooding, vertical and horizontal loading, structural engineering general arrangement and details; drawing showing underpinning, piled wall etc.
Ground Movements

The SMS should include an assessment of movements expected and how these will affect adjoining or adjacent properties. This needs to include both short term and long term effects. The design and construction should aim to limit damage to all buildings to a maximum of Category 2 as set out in CIRIA Report 580.

The SMS should provide details of sequences of construction and temporary propping to demonstrate how the basement can be built to prevent movements exceeding those predicted. It should show how the horizontal and vertical loads are supported and balanced at all stages of construction and consider the interaction between permanent works and temporary works.

The report identifies that for single storey basements which are properly designed and constructed the movements are small. They may not be noticeable or result in just minor superficial damage to finishes of the building over or adjacent to the basement.

By adopting methods of construction which provide continuous or near continuous support to the ground, with propping (both temporary and permanent) designed to control movements, the effects of subterranean development can be mitigated and controlled. Movements, when major works are carried out, occur both in the short term as well as over a longer period (of a year or more) as the structures settle down.

Other Issues

The report provides advice for owners in relation to the Party Wall Act.

The report does not identify any structural engineering reasons for limiting the extent of gardens left undeveloped where basement excavation is undertaken. It identifies the importance of considering trees, having regard to guidance in BS5857, 2012. Any basement which is close to, or within the Root Protection Area must be accompanied by an arboricultural report to justify the proposals.

The report does not provide any evidence that basement development is less sustainable.
Sources of Further Information

APPENDIX 4: SOURCES OF FURTHER INFORMATION¹

Alan Baxter Associates  WCC Residential Basement Report (July 2013)
Eyre Estate and John Lyons Charity Guidelines for Basement Development in St John’s Wood
Grosvenor Estate A Guide to the Grosvenor Belgravia Estate Management Scheme (Section on Basements and Subteraneean Development)
Code of Practice for Works Affecting the Canal & River Trust  www.canalrivertrust.org.uk/about-us/for-businesses/undertaking-works-on-our-property

Structural and Construction Issues
BRE Digest 250 Assessment of Damage in Low-Rise Buildings
CIRIA C580 Embedded Retaining Walls: Guidance for Economic Design
Considerate Contractors’ Scheme www.ccscheme.org.uk
ASUC Guidelines on Safe and Efficient Basement Construction directly below or near to existing structures
Mayor of London (2014) Guidance on Control of Dust and Emissions during Construction and Demolition

Trees and landscape
BS5837 2012 Trees in Relation to Design, Demolition and Construction - Recommendations
Dobson, M (1995) Tree Root Systems Arboriculture Research and Information Note 130/95/ARB. Arboricultural Advisory and Information Service

Flooding and Sustainable Design
Halcrow (2010) Flood Risk Assessment for City of Westminster
Sustainable Drainage ‘Susdrain’ website  http://www.susdrain.org/

¹ Sources of Information are also referred to throughout the document, where relevant.
# Westminster City Council Contacts

<table>
<thead>
<tr>
<th>Council unit</th>
<th>Issues considered</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planning</strong></td>
<td>Queries related to planning policy and process and planning applications, including queries on trees and heritage assets.</td>
<td>Tel 020 7641 6500/ 2503 Email: <a href="mailto:planningpolicy@westminster.gov.uk">planningpolicy@westminster.gov.uk</a> <a href="mailto:planninginformation@westminster.gov.uk">planninginformation@westminster.gov.uk</a> <a href="http://www.westminster.gov.uk/basement-extensions">www.westminster.gov.uk/basement-extensions</a></td>
</tr>
<tr>
<td><strong>Planning Enforcement</strong></td>
<td>Reports of unauthorised development or breach of planning permission or conditions</td>
<td>Tel 020 7641 6500 Email: <a href="mailto:planning.enforcement@westminster.gov.uk">planning.enforcement@westminster.gov.uk</a> <a href="http://www.westminster.gov.uk/planning-enforcement">www.westminster.gov.uk/planning-enforcement</a></td>
</tr>
<tr>
<td><strong>Building Control/ or Approved inspector</strong></td>
<td>Queries relating to current Building Regulations applications</td>
<td>Tel 020 7641 6500 Email: <a href="mailto:districtsurveyors@westminster.gov.uk">districtsurveyors@westminster.gov.uk</a></td>
</tr>
<tr>
<td><strong>Building Control</strong></td>
<td>Queries related to building control process Reports of dangerous structures Non-compliance with building regulations</td>
<td>Tel 020 7641 6500 Email: <a href="mailto:districtsurveyors@westminster.gov.uk">districtsurveyors@westminster.gov.uk</a> <a href="http://www.westminster.gov.uk/building-control">www.westminster.gov.uk/building-control</a></td>
</tr>
<tr>
<td><strong>Environmental Health</strong></td>
<td>Enforcement and Complaints related to noise, vibration and dust from construction works Contaminated land Advice on enforcement of housing standards and public health issues</td>
<td><a href="http://www.westminster.gov.uk/pollution">www.westminster.gov.uk/pollution</a> 24 Hour Noise Team (complaints of noise, dust and smoke from building sites): 020 7641 2000 Contaminated land enquiries Tel. 020 7641 3161 Email: <a href="mailto:res@westminster.gov.uk">res@westminster.gov.uk</a></td>
</tr>
<tr>
<td>Organisation</td>
<td>Issues considered</td>
<td>Contact</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Structural/ Civil Engineers: Professional Bodies.</td>
<td>Advice on finding an engineer and party wall surveyor</td>
<td>Institution of Structural Engineers (IstrucE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.findanengineer.com/index.asp">www.findanengineer.com/index.asp</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Institution of Civil Engineers (ICE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.ice.org.uk/">www.ice.org.uk/</a></td>
</tr>
<tr>
<td>Conservation Accreditation Register for Engineers</td>
<td>A list of engineers accredited in building conservation</td>
<td>Conservation Accreditation Register of Engineers - CARE</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.careregister.org.uk/">www.careregister.org.uk/</a></td>
</tr>
<tr>
<td>Association of Structural Underpinning Contractors (ASUC)</td>
<td>For lists of contractors with specialist expertise in underpinning and subsidence repair techniques, engineered foundation solutions and retrofit basement construction.</td>
<td><a href="http://www.asuc.org.uk/">www.asuc.org.uk/</a></td>
</tr>
<tr>
<td>Association of Geotechnical Specialists (AGS)</td>
<td>For specialist advice on geotechnical and geoenvironmental engineering and geology.</td>
<td><a href="http://www.ags.org.uk">www.ags.org.uk</a></td>
</tr>
<tr>
<td>Considerate Constructors Scheme</td>
<td>Information on the nationally recognised Considerate Constructors Scheme</td>
<td>Tel 0800 783 1423</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Email <a href="mailto:siteenquiries@ccscheme.org.uk">siteenquiries@ccscheme.org.uk</a> <a href="http://www.ccscheme.org.uk">www.ccscheme.org.uk</a></td>
</tr>
<tr>
<td>Health and Safety Executive</td>
<td>Information and advice on managing sites safely including developer’s responsibilities and duties in relation to health and safety</td>
<td>Guidance on Construction</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.hse.gov.uk/construction/">www.hse.gov.uk/construction/</a></td>
</tr>
<tr>
<td>Transport for London</td>
<td>Advice on works affecting roads managed by TfL</td>
<td>Highways license for Red Routes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.tfl.gov.uk/info-for/urban-planning-and-construction/highway-licences">www.tfl.gov.uk/info-for/urban-planning-and-construction/highway-licences</a></td>
</tr>
<tr>
<td>English Heritage (GLHER)</td>
<td>Advice on archaeological potential of sites</td>
<td><a href="mailto:glher@english-heritage.org.uk">glher@english-heritage.org.uk</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.english-heritage.org.uk/professional/advice/our-planning-role/london-archaeology-consultancy/">www.english-heritage.org.uk/professional/advice/our-planning-role/london-archaeology-consultancy/</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thames Water</td>
<td>Advice on sewers and drainage</td>
<td>020 7973 3731 or 020 7973 3779</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.thameswater.co.uk/developers/592.htm">www.thameswater.co.uk/developers/592.htm</a></td>
</tr>
<tr>
<td>London Underground/ Network Rail/ Crossrail</td>
<td>Advice on development above or near to London Underground infrastructure/ Railway or Crossrail infrastructure</td>
<td>London Underground Infrastructure Protection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Network Rail National Helpline 08457 114141</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crossrail safeguarding: <a href="mailto:rogertuffley@crossrail.co.uk">rogertuffley@crossrail.co.uk</a>, Tel: 0203 229 9194</td>
</tr>
</tbody>
</table>
APPENDIX 6: LIST OF MAIN ESTATES IN WESTMINSTER

Capco Covent Garden London
Church Commissioners
Crown Estate
Eyre Estate
Great Portland Estate
Grosvenor Estate
Howard de Walden Estate
John Lyons Estate
Langham Estate
Lowndes Estate
Pollen Estate
Portman Estate
Shaftesbury
Soho Estates
The City Council

The City Council can also make available many documents in Braille, on tape and in large print. If you require any of the information contained in these documents in one of these alternative formats please contact: (020) 7641 8019.

Conservation Area Audit

Built Environment

Westminster City Council

64 Victoria Street

London SW1E 6QP