



Design Supplementary Planning document (SPD) 9

Basement and Subterranean Planning Guidance

March 2017

Merton Council useful contacts

Council	Area	Contact
<i>Building Control</i>	Queries related to: <ul style="list-style-type: none"> • Building regulations • Building Regulations certification 	020 8545 3145 BuildingControl@merton.gov.uk www.merton.gov.uk/environment/buildingcontrol
<i>Planning Enforcement</i>	Queries relating to: <ul style="list-style-type: none"> • Reporting unauthorised development or breach of planning permission or conditions • Building notices • Regularisation applications • Reversion applications 	020 8545 3111 planning.enf@merton.gov.uk
<i>Development Management (formerly Development control)</i>	Queries relating to: <ul style="list-style-type: none"> • Planning applications /appeals • Planning advice and guidance • Building notices 	020 8545 3777 planning@merton.gov.uk www.merton.gov.uk/environment/planning
<i>Planning policy (Future Merton team)</i>	Queries related to <ul style="list-style-type: none"> • Planning policy • Regeneration • Section 106 (s106) Agreement negotiation and disbursement • Structural Methodology Statement 	020 8545 3837 Future.merton@merton.gov.uk www.merton.gov.uk/environment/planningpolicy
<i>Traffic and Highways (for red routes please refer to Transport for London)</i>	Queries relating to: <ul style="list-style-type: none"> • Works to highways • Obstructions on the Highway 	020 8545 3837 trafficanhighways@merton.gov.uk www.merton.gov.uk/transport-streets.htm
	Get your: <ul style="list-style-type: none"> • Skip license and temporary • Structures license (hoarding, scaffolding etc.) 	
<i>Lead Local Flood Authority</i>	Queries relating to: <ul style="list-style-type: none"> • Flood risk management • Flood Risk Assessments • Sustainable Drainage Strategies • Flood warnings • Historic flood incidents 	020 8545 3837 trafficanhighway@merton.gov http://www.merton.gov.uk/environment/flooding.htm
<i>Environmental Health</i>	Queries relating to: <ul style="list-style-type: none"> • Enforcement and Complaints related to noise, vibration and dust from construction works • Contaminated land • Advice on enforcement of housing standards and public health issues 	020 8545 3025 ehealth@merton.gov.uk www.merton.gov.uk/environment/environmentalhhealth

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1 Merton's current position

1.1 Applications for basement and subterranean developments (hereby referred as basement development) have, in the past, been a trend associated with inner London boroughs. However as with other outer London boroughs, Merton has seen this trend increase over the last five years due to a significant increase in land and property prices in the capital, often making it cheaper to extend downwards than to move house.



1.2 Whilst basement developments can help to make efficient use of the borough's limited developable land, in some cases they may have the potential to cause harm to the amenity of neighbours, affect the stability of buildings, cause drainage or flooding problems or damage the character of areas and the natural environment.

1.3 Therefore the council has produced this Basement and subterranean development Supplementary Planning Document (SPD) to give further guidance on Merton Local Plan policies relating to basement development. Thus seeking to ensure basement developments in Merton are safe and do not cause harm to the built and natural environment and local amenity, including the water environment, ground conditions, land stability and biodiversity.

2 What is a basement development?

2.1 A basement is part of a building that is either partially or completely below ground level. Approved document B of the UK building regulations, Fire Safety, Volume 1 Dwelling houses, defines a 'basement storey' as 'a storey with a floor which at some point is more than 1200mm below the highest level of ground adjacent to the outside walls.'

2.2 Most basement developments will require planning permission but there are certain circumstances where it may be 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 The purpose of this SPD

3.1 This SPD provides guidance on the planning policies, namely the Sites and Policies Plan DM D2 *Design considerations in all developments* part (b) *Basement and subterranean development* and part (c); planning guidance and regulations that apply in reference to basement development in Merton.

3.2 The SPD draws upon relevant national, regional and local authority requirements and expectations for sustainable development and good practice. Appendix A provides table of key policies that are a consideration in planning decisions in regard to basement developments in the borough.

3.3 It should be noted that this table is not exhaustive and must be read in conjunction with the National Planning Policy Framework (NPPF), National Planning Policy Guidance

(NPPG), the London Plan and Merton's Local Plan and their supporting documents for example Supplementary Development Guidance/Documents (SPG/SPD) .

- 3.4 DM D2 Design consideration in all developments part (b) in regard to basement development(s) – *the full policy can be found in the Sites and Policies Plan.*

DM D2 Design considerations in all developments Basements and subterranean developments

b) In addition, proposals for basement and subterranean developments will be expected to meet all the following criteria:

- i. Be wholly confined within the curtilage of the application property and be designed to maintain and safeguard the structural stability of the application building and nearby buildings;
- ii. Not harm heritage assets;
- iii. Not involve excavation under a listed building or any garden of a listed building or any nearby excavation that could affect the integrity of the listed building, except on sites where the basement would be substantially separate from the listed building and would not involve modification to the foundation of the listed building such as may result in any destabilisation of the listed structure;
- iv. Not exceed 50% of either the front, rear or side garden of the property and result in the unaffected garden being a usable single area;
- v. Include a sustainable urban drainage scheme, including 1.0 metre of permeable soil depth above any part of the basement beneath a garden;
- vi. Not cause loss, damage or long term threat to trees of townscape or amenity value;
- vii. Accord with the recommendations of BS 5837:2012 'Trees in relation to design, demolition and construction recommendations';
- viii. Ensure that any externally visible elements such as light wells, roof lights and fire escapes are sensitively designed and sited to avoid any harmful visual impact on neighbour or visual amenity;
- ix. Make the fullest contribution to mitigating the impact of climate change by meeting the carbon reduction requirements of the London Plan.

c) The council will require an assessment of basement and subterranean scheme impacts on drainage, flooding from all sources, groundwater conditions and structural stability where appropriate. The Council will only permit developments that do not cause harm to the built and natural environment and local amenity and do not result in flooding or ground instability. The council will require that the Design and Access statement accompanying planning applications involving basement developments demonstrate that the development proposal meets the carbon reduction requirements of the London Plan.

Please note the full policy can be found in the Sites and Policies Plan.

- 3.5 This SPD applies to all properties within the London Borough of Merton that propose a new basement development or an extension to an existing basement development where planning permission is required. Although this guidance is aimed primarily at residential properties, this guidance is also relevant to other forms of basement development in Merton for example commercial, retail, leisure uses, servicing and storage.

- 3.6 This SPD also outlines other relevant statutory requirements related to basement developments including building control, licensing requirements, party wall agreements, environmental legislation and provides contact details for different council services involved from pre-application to the post construction of a basement.

4 Planning policy context

National Planning policy

- 4.1 **The National Planning Policy Framework (NPPF) and Planning Practice Guidance** promote sustainable development. There is no specific paragraph within the National Planning Policy Framework although paragraphs relating to managing flood risk and high quality design are relevant. Merton's Local Plan has been developed in line with the NPPF requirement for Local Plans.



- 4.2 The national PPG adds further context to the NPPF and it is intended that the two documents should be read together.
- 4.3 DeFRA's Sustainable Drainage Systems: Non-statutory technical standards for sustainable drainage systems (March 2015). These standards should be used in conjunction with the NPPF and Planning Practice Guidance.
- 4.4 The standards reflect the need to reduce flood risk from surface water, improve water quality, improve the environment and also ensure that the SuDS systems are robust, safe, and affordable. The National Standards set out the requirements for the design, construction, operation and maintenance of SuDS in England.

Regional Planning Policy

- 4.5 **The Mayor's London Plan 2016** sets out the regional planning policies for all London boroughs and forms part of Merton's Local Plan. Therefore all development proposals need to meet the London Plan policies requirements.
- 4.6 Further guidance on the London Plan flooding and surface water policies can also be found in the Mayor's Sustainable Design and Construction SPG (2014) which states that developers should 'aim for a greenfield runoff rate from their developments, even on brownfield land'. The maximum post development runoff rate should not be greater than three times the greenfield runoff rate. Most developments referred to the Mayor have been able to achieve at least a 50% attenuation of the site's (prior to re-development) surface water runoff at peak times. The SPG states that this is the minimum expectation from development proposals.

The Mayor of London produces a number SPGs to provide further guidance on policies in the London Plan that can't be addressed in sufficient detail in the plan itself. The Mayor's SPGs should be read in conjunction with the London Plan.

Merton Local Plan

- 4.7 **South London Waste Plan (2012)** - sets out the issues and objectives to be met in waste management for the next ten years. It is a joint Plan and covers the geographical area comprising the London Boroughs of Croydon, Sutton and Merton and the Royal Borough of Kingston upon Thames. The Plan also contains policies to guide the determination of planning applications for waste facilities and identifies existing waste sites to be safeguarded and areas where waste facility development may be suitable.
- 4.8 **Merton's Core Planning Strategy (2011)** – sets out the Merton's strategic objectives of the planning framework for the borough. Core Planning Strategy brings together strategies relating to land use in an integrated manner to provide a long term spatial vision and a means to deliver that vision.
- 4.9 **Merton's Policies Map (2014)** consists of policies and proposals from other local plan documents, namely the Core Planning Strategy, the Sites and Policies plan, South London Waste Plan and the London Plan.
- 4.10 **Merton's Sites and Policies Plan (2014)** - contains policies to help the council to implement its Core Planning Strategy polices to ensure all proposed development reflects the spatial vision for the borough and provides detailed policy to guide decisions for development proposals.

Merton's Local Plan can be viewed via: www.merton.gov.uk/localplan

5 Permitted development

- 5.1 Some development can take place without the need for planning permission. The extent of this is set by Schedule 2 Part 1 Class A of the General Permitted Development Order 1995 (as amended) (GPDO) which gives '*permitted development rights*' for basements extensions which meet specific criteria.
- 5.2 Specifically for basements, in some cases a basement to be built that is:
- Single storey
 - Under the footprint of the original dwelling
 - No greater than 3m in depth
- 5.3 However 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 works affect the significance of a Listed Building or the legal requirements to preserve trees located within a conservation area or subject to a Tree Preservation Orders (TPO).
- 5.4 As the General Permitted Development Order is updated regularly, it is advised that specialist advice is taken. For further detailed advice and information on Permitted Development Rights please refer to Planning Portal or contact Development Management team at the council.
- 5.5 You should also check for any relevant Article 4 Directions which may remove Permitted Development rights. For guidance on permitted development rights, please visit Merton's website.

For further detailed advice and information on Permitted Development Rights
www.legislation.gov.uk/ukxi/2015/permitteddevelopmentrights

The council's Permitted Development Rights webpage:
www.merton.gov.uk/prior-approval

6 Building Regulations

6.1 Building Regulations deal with the structural integrity of a building but do not cover the impact on neighbourhood amenity of the construction process or the finished development; this is covered by the planning system.

6.2 An application for Building Regulations is required when converting an existing basement to habitable use, excavating a new basement or extending an existing basement.

6.3 Building Regulations are set out by various technical parts (A-P) and the principal requirements include the following:

- Part A Structure safety
- Part B Fire Safety
- Part C Resistance to contaminants and moisture
- Part E Resistance to sound
- Part F Ventilation
- Part H Drainage and waste disposal
- Part J Heat producing appliances
- Part K Protection from falling
- Part L Conservation of fuel and power
- Part M Access and use of land
- Part P Electrical safety



The above are available to be viewed on the Department for Communities and Local Government website www.communities.gov.uk

6.4 Due to the nature of the work, in which different problems can arise, it is advised that the “deposit of plans route” is adopted to obtain building regulation approval. This is the most widely known procedure and involves you submitting plans which show full details of the work. These plans are then checked for compliance with the Building Regulations and, if satisfactory, an Approval Notice is issued.

6.5 The council recommends that that developer follows the full plans procedure unless the work is of a very minor nature. The Full Plans procedure gives greater protection to the building owner.

7 Advice for neighbours

7.1 Although the council will formally consult neighbours on receipt of a planning application, we advise anyone who is intending to submit a planning application to the council for a basement development to inform their neighbours beforehand to explain the proposed development timetable for construction.

7.2 If your neighbour is planning a basement development you should ask them for a timetable to show what works will be happening when and ask them to notify you when particularly noisy works may occur.

Can I comment on a planning application?

- 7.3 The council welcomes comments on 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, available on the council's website 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 such as those set out in Policy DM D2 including:
- The design and 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 means the development is not a suitable use of the site
- 7.4 Government legislation states that local authorities can not 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.
- 7.5 Whilst the council cannot refuse planning permission because construction works may cause noise and disturbance, it can apply planning 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.

Party Wall Agreement between neighbours

- 7.6 If planning permission is granted and the landowner decides to build, for many basement developments the developer will need a Party Wall Agreement with their neighbour (s). This includes when excavation is
- within 3 metres of a neighbouring structure
 - would extend deeper than that structure's foundations or
 - within 6 metres of the neighbouring structure and which also lies within a zone defined by a 45 degree line from that structure
- 7.7 The council is not involved in Party Wall agreements, which are governed by separate legislation: the Party Wall Act 1996 and usually conducted by a chartered surveyor. A Party Wall agreement sets out brief details of the proposed works and related matters such as
- The current condition (and photographs) of the adjoining owners property) which will be used to assess against any claim
 - Working hours for construction to take place
 - A date for starting and finishing the works
 - The details of the contractor's public liability insurance
 - Access arrangements for surveyors
 - Indemnities by the building owner in favour of the adjoining owner

A guidance note explaining the procedures can be found on the Planning Portal website: www.planningportal.gov.uk

What if I have problems during the construction of my neighbour's basement?

- 7.8 Once work starts, contact the site manager in the first instance if any problems arise and keep a photographic record and log of events.
- 7.9 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.

Hours of work

- 7.10 The hours that are normally permitted for operations, which cause noise audible at the site boundary, are 8am - 6pm on Monday to Friday, and 8am - 1pm on Saturday. There can sometimes be exceptions to these hours when special circumstances demand that work is done at other times. For example, work on railway tracks or stations can only be done when there are no trains.
- 7.11 If heavy plant needs to be brought on site the police sometimes insist on it being done on a Sunday to reduce interference with traffic. In such cases, we encourage contractors to notify local residents in advance.
- 7.12 Occasionally noisy building works needs to be completed outside the adopted hours. Should you wish to undertake noisy activity outside the adopted hours you can apply for prior consent from the Environmental Health team.
- 7.13 New accommodation must meet the requirements of the Housing Act 2004 and the Building Regulations and although not enforced through planning; this may affect your design.
- 7.14 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.

8 Submitting a planning application

- 8.1 Basement development is often viewed as contentious in part due to the length of construction (compared to rear extensions or loft extensions) and the disruption this can cause to adjoining occupiers.
- 8.2 There is also a perception that basement work may have the potential to affect the structural integrity of adjoining properties, structures or roads.
- 8.3 Applicants are therefore advised to consult with the council at the earliest opportunity through its pre-application advice service to gain advice on proposals and to ensure such work can be achieved in a way that does not harm neighbours' amenity both during and after construction.



Book for Merton's Pre-application advice service:
www.merton.gov.uk/dcpreappadvice

- 8.4 Given the complexity of underground construction process 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.
- 8.5 It is strongly recommend that a suitably qualified engineer¹ (see figure 1 below) 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.

Figure 1: Merton's approved qualified experts

**Please note: A combination of these may be required to address a variety of site combination*

<p>Surface flow and flooding</p>	<ul style="list-style-type: none"> • A Hydrologist or a Civil Engineer specialising in flood risk management and surface water/foul drainage, with either: • The “CEng” (Chartered Engineer) qualification from the Engineering Council; or a Member of the Institution of Civil Engineers (“MICE”); or • T h e “C.WEM” (Chartered Water and Environmental Manager) qualification from the Chartered Institution of Water and Environmental Management (CIWEM).
<p>Subterranean (groundwater) flow</p>	<ul style="list-style-type: none"> • A Hydrogeologist with the “CGeol” (Chartered Geologist) qualification from the Geological Society of London.
<p>Land stability</p>	<ul style="list-style-type: none"> • A Civil Engineer with the “CEng” (Chartered Engineer) qualification from the Engineering Council and specialising in ground engineering; • A Member of the Institution of Civil Engineers (“MICE”) and a Geotechnical Specialist as defined by the Site Investigation Steering Group; or • A Chartered Member of the Institute of Structural Engineers (MIStructE) with some proof of expertise in engineering geology. • With demonstrable evidence that the assessments have been made by them in conjunction with an Engineering Geologist with the “cGeol” (Chartered Geologist) qualification from the Geological Society of London.

- 8.6 The council will consult neighbouring occupiers and publish your planning application online for people or groups to have their say as part of the application process. However 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 residents group or civic society if there is one prior to submitting an application.

- 8.7 You should also consult with anyone with a freehold interest in your property and ensure you have complied with their requirements before submitting an application.

9 Assessing the impact of basement and subterranean developments

- 9.1 The council will only permit basements and other underground/subterranean development where it can be demonstrated it will not cause harm to the built and natural environment and local amenity including the local water environment, ground conditions and biodiversity. Addressing these issues may require the submission of additional information by way of a basement impact assessment in accordance with policy DM D2 part (c) to provide the council with a basis for determining applications. The assessment should be submitted with the planning application.

DM D2 Design considerations in all developments Basements and subterranean developments

- c) The council will require an assessment of basement and subterranean scheme impacts on drainage, flooding from all sources, groundwater conditions and structural stability where appropriate. The Council will only permit developments that do not cause harm to the built and natural environment and local amenity and do not result in flooding or ground instability. The council will require that the Design and Access statement accompanying planning applications involving basement developments demonstrate that the development proposal meets the carbon reduction requirements of the London Plan.

- 9.2 The level of technical information required by the council for basement and subterranean developments will vary according to the type, the complexity of the development and the proximity to adjacent structures; however a planning application should include the following documents.

Recommended Actions by the Applicant

- Appoint a design team who have experience in the design of residential basements including a Chartered Structural or Civil Engineer experienced in the design and construction of basements in residential buildings, to design the new basement structure and monitor its construction. The engineers' brief should include reviewing the contractors' construction proposals, method statements and temporary works. Evidence of this appointment should be provided in the CMS.
- Retain the services of the Chartered Engineer or if, for some reason, the Engineers' appointment is terminated, appoint a replacement Engineer with relevant expertise to continue with the project both as designer and for construction monitoring.
- Engage in consultation with adjoining owners and nearby residents to explain what is proposed, what the implications for adjoining owners and other residents will be and what mitigation measures are to be put into place to manage risks.

Where neighbours refuse to engage in consultation, provide evidence in the CMS that the relevant information has been provided to them.

- Undertake to engage or provide evidence of engagement of a builder or contractor experienced in the construction of basements similar to that being proposed on the site.

When submitting applications

9.3 The council will expect the following to be undertaken and details submitted to support a planning application:

Outline Construction Method Statement (CMS) should cover the following subsections:

9.4 This statement has to discuss and cumulatively analyse all the information obtained from the desk study, site investigation and the engineering design work to assess any potential impact of the proposed scheme works on land stability, structural stability of adjoining buildings and highway if any, groundwater flow in order to identify suitable construction management methods and mitigation measures.

- A. **Desk Study:** A detailed desk study and technical appraisal of the site should be carried out and the results should be presented in the outline Construction Method Statement (CMS). The desk study should address the following the following as a minimum requirement:
- i) The site history
 - ii) The age of the property
 - iii) Brief description of the proposed development
 - iv) The topography of the site to metres Above Ordnance Datum Newlyn. (mAOD)
 - v) The sites geology and ground conditions – overall sections should be drawn using information obtained from the site investigation (see below) and British Geological Society borehole scanner logs, where available.
 - vi) Historic land uses from old maps
 - vii) Details in respect of Land Contamination
 - viii) Impacts on Biodiversity
 - ix) Noise and air quality
 - x) The presence of any watercourses (both current or historic features)
 - xi) The localised surface water and ground water regimes
 - xii) An appraisal of flood risk from all sources including:
 - Fluvial flooding
 - Surface water flooding
 - Sewer flooding
 - Groundwater flooding
 - xiii) The presence of any underground infrastructure, particularly London Underground Limited assets, utilities including sewers and water supply, drains, gas, telecoms and electrical supply (STATS).

B. **Site Specific Ground Investigation:** The following site specific ground investigations should be carried out prior to submission of any planning application. The results of the ground investigations must be clearly presented with accompanying engineering drawings and borehole scan results. Ground investigation should include sketched structural details and specify the depth and arrangement of existing foundations. These details should be included in the outline CMS.

- i) Visual assessment of the existing building and neighbouring or adjoining properties - A visual assessment of the existing building and adjoining properties should be undertaken to establish whether there are any signs of historic or on-going movements and to establish the likely overall condition of the buildings. Past alterations to the host structure and the structure of adjoining buildings should also be considered. This assessment should inform the feasibility of the basement proposal and be used to determine appropriate engineering design solutions.
- ii) Borehole Investigation - A site specific intrusive investigation entailing a ground investigation undertaken by a chartered engineer/geologist to establish the ground conditions, groundwater levels, surface and groundwater flow, infiltration/soakage tests to BRE365, subsidence potential through the use of site specific boreholes and/or trial pits. A groundwater monitoring standpipe should be installed for readings showing the groundwater level following return visits over an extended period of time. This may form recommendations for the foundation design, the dewatering process including silt removal/management and discharge location.

Variations in ground conditions can occur within relative close proximity therefore the borehole investigation should be undertaken at various locations spread across the site.

Where underpinning is proposed in areas where the near surface subsoil is gravel, the depth of the borehole should be up to the London Clay. Where piling is proposed, the depth should be up to the depth of piling and 4 to 5 metres more.

- iii) Trial Pits - Trial pits must be dug on all walls to be underpinned or if you are proposing to pile close to existing foundations, in order to establish the details of the existing foundations and their condition. The Engineer should decide on how extensive these trial pits need to be.
- iv) Opening up of the existing structure may be required to establish its details and condition.

C. **Engineering Design Work** – An outline of the engineering design which should be advanced to detailed stage should be submitted within the outline CMS. Appropriate drawings should be provided to describe the detail of the engineering designs and to illustrate how the construction process addresses the following issues and complexities, including any mitigation measures:

- i. Groundwater impacts. Consideration must also be given to the possible cumulative effect of the basement with other basements nearby, on the groundwater regime.

- ii. Details of the indicative drainage layout including details of SUDS measures to be included. The drainage design should include calculation of the existing and proposed runoff rates, the required volume of attenuation for the events up to and including the 1 in 100 year climate change event, details of sump/pump arrangement and non-return valves for basement drainage. Passive drainage measures such as gravel blankets may be required around the basement structure to help reduce the risk of a backwater effect/rise in groundwater levels post development.
- iii. Flooding mitigation measures
- iv. Vertical loads
- v. Lateral loads
- vi. Movements
- vii. Ground Conditions
- viii. Trees and planting
- ix. Infrastructure
- x. Existing Structures
- xi. Adjoining buildings and structures
- xii. Overall stability (permanent and temporary works)
- xiii. Underpinning (if proposed)
- xiv. Piling (if proposed)
- xv. Special considerations e.g. cantilevered stone stairs and landings, balconies or other important functions or features in an existing building which need special consideration.

9.5 All design works shall be undertaken using Eurocodes. In accordance with Eurocode 7 either the applicant should assume that the ground water table is at ground surface level (full height hydrostatic pressure) or be able to demonstrate the adequacy of the drainage system to manage water levels for the entire life of the retaining wall structure, in order to use the groundwater level shown by ground investigation. A conservative approach should be applied as seasonal variation can occur, resulting in higher groundwater levels subject to when the ground investigation was undertaken.

9.6 If the proposed retaining wall is affected by the highway loads, then we would require detailed structural calculations of the retaining wall, temporary works calculations and drawings, sequencing of underpinning/piling etc. with supporting drawings at the time of discharging conditions.

9.7 **Methodology of proposed construction works is required.** Consideration by the designer as to how the basement structure is likely to be built. This should include the envisaged sequence of construction, temporary propping and the relationship between the permanent and temporary works. In particular, attention must be paid to how the vertical and lateral loads are to be supported and balanced at all stages especially when there is to be load transfer and what must be done to limit movements of the existing structure and adjoining buildings. This should be presented in either written or drawn form.

- 9.8 The cumulative effect of incremental development of basements and other underground developments in close proximity can create a significant impact to land stability, existing structures, the environment, hydrogeology and biodiversity. Therefore the council requires the developer to identify neighbouring basements and subterranean development and make an assessment of the underground developments have regard to all nearby basements and subterranean development. Both existing and planned (with planning permission) underground developments must be included in the CMS.

When the council is discharging conditions

- a) **Detailed Demolition Method Statement** – If the proposal consists of demolition of the existing structure, the Contractor undertaking the demolition shall produce a method statement demonstrating how the structure will be safely removed with supporting drawings if necessary. A survey has to be undertaken to identify any hazardous materials such as materials containing asbestos, lead etc. The method statement should incorporate any recommendations from the survey report and include the subsequent management, handling and safe disposal of such materials.
- b) **Detailed Construction Method Statement (CMS)** produced by the respective Contractor/s responsible for the temporary works supporting the excavation, excavation, and construction of the basement. This should address all of the issues identified above for the outline CMS and the following additional points:
- c) **Construction Method Plan**

- 9.9 The council requires a Construction Management Plan for basement developments to identify manage and mitigate the greater construction impacts of these types of developments. Provisions for site management safety and supervision must include:

- Key site contacts, 24-hour emergency contacts
- Traffic management – e.g. construction traffic, parking and access
- Management of noise, dust, vibration and waste
- Provision to ensure stability of buildings and land
- Provisions for monitoring movement
- Where appropriate provisions for a construction working group
- Loading/storage of materials
- Temporary loading

- 9.10 Further information on the main issues applicant need to consider in regards to Construction Management Statements can be found in Appendix B.

- d) **Monitoring survey report.** A monitoring regime of the ground movements during construction of the basement works is required, if there is any concern of ground movement or subsidence due to the slope of the land or proximity to a neighbouring building or the highway.
- e) The extent of root protection areas and tree protection proposals.
- f) Final agreed drainage design and layout, including calculation for attenuation and surface water runoff.

- g) The CMS related to a listed building should address all the issues set out above that apply to any basement proposal. In addition it should address the following points in detail.
- History of on-going movement.
 - Provide details of any historic fabric which is to be removed – this will include providing record details of the existing structure following site investigations.
 - An assessment of the structural impact of the proposals on the listed building.
- h) If the proposed retaining wall is affected by the highway loads, then we would require detailed structural calculations of the retaining wall, temporary works calculations, sequencing of underpinning/piling etc. with supporting drawings.
- i) Cumulative impact of basement development

10 Guidance on planning for a basement and subterranean

- 10.1 This section looks at some of the issues that need to be considered when developing a basement development, the requirements of the council, the action need to be taken by the applicant and the relevant council teams or department.



Neighbourhood amenity

- 10.2 Concerns about impacts on neighbourhood amenity are by far the main objection received on planning applications for new basements and subterranean developments. The council will use appropriately worded planning conditions to ensure that the temporary amenity impacts from excavation work, noise, dust and construction traffic are kept to reasonable levels. Specific details and mitigation on these matters should also be covered by the applicant within the Construction Method Statement (CMS).
- 10.3 Although other regulations (e.g. Building Regulations and the Party Wall Act) control the structural integrity of the basement and associated development itself, these regulations do not concern themselves with the impact on neighbourhood amenity of the construction process or the finished development.
- To ensure that neighbourhood amenity is not significantly harmed at any stage from the development proposal, planning applications for basement developments must demonstrate how all construction work will be carried out.

Size of basement and subterranean development

- 10.4 Often with a basement development the only visual features from the street are light wells and skylights. Just as overly large extensions above ground level can dominate a building, which may lead to an over development and/or inappropriate scale, an extension below ground can also be of an inappropriate scale.

- 10.5 Issues related to over development or inappropriate development can include harm caused to trees on or adjoining the site, where development could restrict future planting and mature development of trees typical to the area and any impact to the water environment. Therefore the permissible size of the basement development will be guided by the characteristics of the site.
- 10.6 Basement developments that are modest in size such as those which do not extend beyond the footprint of the original building and are no deeper than one full storey below ground level (approximately 3 metres in depth) are often the most appropriate way to extend a building below ground; providing that the internal environment is fit for the intended purpose and there is no unacceptable impact to any trees on or adjoining the site, or to the water environment or land stability.

Demolition and Construction/Managing the impacts of construction

- 10.7 Some of the worst problems affecting amenity are experienced during the demolition and construction phase of a development and this is particularly so for underground developments. Although a temporary part of any development it tends to create noise, light and air pollution, dust, vibrations and can last for a lengthy period of time. Full care and consideration should be given to neighbouring properties as the works can be particularly intrusive to neighbours.
- 10.8 Merton Council expects all construction and demolition processes to be in accordance with the Considerate Constructors Scheme Standards, the Institute of Civil Engineers and have regard to the GLA Supplementary Planning Guidance (SPG) *The control of dust and emissions from construction and demolition* (2014).

Further details and information on:

The Considerate Constructors Scheme Standards (www.ccscheme.org.uk)

The Institution of Civil Engineers (ICE) Demolition Protocol <http://www.ice.org.uk>

GLA: (SPG) *The control of dust and emissions from construction and demolition* (2014).

www.london.gov.uk/the-control-of-dust-and-emissions-during-construction-and-demolition

Excavation and land stability

- 10.9 Excavation can be a significant engineering challenge more so in a densely developed urban environment. If it is not planned well, poorly constructed or fails to properly consider geology and hydrology; it has the potential to damage both the existing and neighbouring structures and infrastructure.
- 10.10 The risks of working in unsupported excavations are well known throughout the industry, as are the precautions required to ensure work is carried out safely. The Health and Safety Executive (HSE) publication HSG150 'Health and safety in construction' contains advice and guidance on what measures to take in order to ensure excavation works are carried out safely. This document is free to download from the HSE website.

The Health and Safety Executive: www.hse.gov.uk

- 10.11 Underground excavation work is more complex than many standard residential extensions 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.
- 10.12 To comply with the NPPF the council 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 establish, to the council, whether the basement development is suitable for the site and site location.
- 10.13 Therefore the appropriate qualified engineer should form part of the initial design team and should undertake an assessment of local ground conditions, sub-surface and surface flows and drainage of the site at the design stage of proposals.
- 10.14 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 bore holes/trial pits and opening up works to investigate the existing structure.
- 10.15 Merton Council cannot 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.
- 10.16 Many difficulties can arise during the construction phases. 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.
- 10.17 Again 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 that its is progressing generally in accordance with the proposals.
- 10.18 In exceptional circumstances the council may, apply conditions to require works to be monitored by a suitably qualified engineer. 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.
- 10.19 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 team.
- 10.20 In addition to the above, applicants seeking planning permission for subterranean development(s) above or near to London Underground infrastructure, for example

tunnels and stations must 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 will also need to be contacted where their railway tunnels and infrastructure are affected.

- 10.21 In accordance with the NPPF, the council requires a Structural Methodology Statement with all applications for subterranean development. Guidance on contents for a Structural Methodology Statement is set out in Appendix b.
- 10.22 The 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.
- 10.23 For listed building and heritage assets the council requires that a structural engineer with expertise in historic buildings (CARE accredited) is appointed especially for works to or adjacent to any listed building. It should be noted that Archaeological assets may extend to include the ground elements of a Listed Building and should be considered.
- 10.24 In areas where basement development may impact on the groundwater regime, the building owner should consider appointing a specialist geotechnical engineer and/or a Hydrogeologist.

Noise and vibration

- 10.25 The council expects contractors carrying out demolition works to utilise non-percussive breaking techniques where practicable. Equipment that demolishes structures by crushing, bending, shearing, cutting or hydraulic splitting should be used where this is possible as it generally produces less noise (particularly structure-borne noise), vibration and has a lower impact on neighbour occupiers. Examples of equipment that should be used include hydraulic and mechanical concrete pulverisers, hand-held concrete crunchers, diamond saw-cutters and drills and hydraulic bursting equipment.
- 10.26 Reinforced concrete superstructures should be demolished using equipment fitted with pulveriser/munching attachments. Where practicable building elements should be detached from a structure and lowered to ground level.
- 10.27 To avoid noise and vibration transference via connections to adjacent buildings they can be separated by cutting structural breaks/ discontinuities with adjoining premises. Where houses are close together the use of least vibration pilling is recommended
- 10.28 The breaking-up of concrete and the removal of floor slabs should also be carried out using non-percussive techniques where practicable. Where practicable ground bearing slabs should be levered from their position and broken up off-site. Where this is not practicable and where the structural transmission of noise and vibration generated by unavoidable percussive breaking into adjoining premises is likely concrete slabs should first be cut around their perimeter to isolate them from the rest of the structure. Where the use of percussive breakers is necessary multiple breakers should be employed in order to minimise the time taken to break concrete and floor slabs.
- 10.29 The use of two breakers (rather than one) can halve the time taken to carry out the works while leading to a very small (+3 dB) increase in noise levels. This is

unlikely to be perceptible by affected residents. Communication with neighbouring residents prior to concrete breaking is essential so that works can be planned and minimise the disturbance to residents as far as practicable.

Dust

- 10.30 The management of Merton's air quality is through the Local Air Quality Management (LAQM) Plan which regularly reviews and assesses air quality in the borough and determines whether the air quality objectives are met.
- 10.31 In accordance with the LAQM the council has designated the entire borough as an Air Quality Management Area (AQMA) for both nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀). Merton's Air Quality Action Plan aim is to improve air quality and the council is continuing further work on air quality.

Merton's AQMA and LAQM can be viewed via: www.merton.gov.uk/localairquality

- 10.32 To minimise the amount of dust, cutting, grinding and sawing should not be conducted on-site and pre-fabricated material and modules should be brought in where practicable. Equipment fitted with dust suppression (water spray) or a dust collection facility should be used.
- 10.33 Dust suppression equipment (water sprays, 'Dust Boss', pressure washers, etc.) should be used during demolition and other activities that could generate substantial levels of dust.
- 10.34 Stockpiles of sand or similar dust-generating materials should be covered. Buildings should be enclosed with suitable scaffold sheeting. Skips, chutes and conveyors should be completely covered and, if necessary, completely enclosed to ensure that dust does not escape. Similarly, drop heights should be minimised to control the fall of materials and the impact that results.
- 10.35 Contact details for the person responsible for dust and emissions generated from the site should be displayed clearly on the site boundary so that local residents and businesses are able to contact the developer and/or contractor to raise any issues that they may have and report complaints.

Merton's Environment Health guidance can be viewed via:
www.merton.gov.uk/buildingsitescodeofconduct

- 10.36 Good housekeeping measures (i.e. regular sweeping, cleaning, etc.) should be adopted and implanted by the contractor to ensure that construction sites are in good order. Hoardings, fencing, barriers and scaffolding should be regularly cleaned regularly using wet methods, where practicable, to prevent re-suspension of particulates.
- 10.37 Cement, sand, fine aggregates and other fine powders should be sealed after use and if necessary stored in enclosed or banded containers or silos. Some materials should be kept damp to reduce the risk of drying out. Machinery and dust generating activities should be located away from receptors.

Heritage assets

- 10.38 The quality of the historic environment is a defining characteristic of Merton and its conservation is a key objective of the council, this includes archaeology priority zones and conservation areas. All basement and subterranean development must protect heritage assets and their settings. For further guidance and advice on Merton heritage assets it is recommend that the applicant contact the council's conservation officer(s).

Conservation areas

- 10.39 Conservation Areas are identified (and designated by the Local Planning Authority) as an area of special architectural or historic interest, which deserve careful management to protect that character. Merton currently has 28 designated conservation areas. Application for basement development within a Conservation Area must have regard to Local Plan policies.

Further details on Merton's Conservation Area's and Character assessment for each of Merton's 28 Conservation Area's:

www.merton.gov.uk/onservationareas

- 10.40 Furthermore the applicant must have regard to Merton's Borough Character Study, Merton's Conservation Area Appraisals and Management Plans. These documents provide detailed guidance on each individual conservation areas. This guidance will be referred to when assessing the suitability of a design fro the local area.
- 10.41 In addition to the design consideration applicable to all basement development outlined in above sections, basement within Conservation Area should be designed to:
- Not add visual clutter, such as additional railings, rooflights, lightwells, and staircases
 - Protect and enhance gardens, open space and open aspect
 - Maintain and repair prevailing garden level of an area and avoid undue cut and fill outside of the building footprint
 - Protect trees and other established planting
- 10.42 Residential gardens within a Conservation Area make a positive contribution to the significant, setting, character and appearance of the heritage assets. Disruption of these spaces should be minimised as far as possible, such as careful location of rooflights and lightwells so as to minimise the impact on those setting of the heritage asset.

Listed buildings

10.43 Merton 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.



10.44 Where a building is listed, new basement developments or extensions to existing basement accommodation will require Listed Building Consent even if planning permission is not required. Basements and subterranean development beneath the garden of a listed building are not permitted except on large sites where no harm will be caused to the building's structure or setting and the building is substantially separate from the listed building.

10.45 The acceptability of a basement extension to a listed building will be assessed on a case by case basis, taking into account the individual features of the building and its special interest. Applicants should contact the council's conservation officers at the earliest opportunity to discuss such proposals.

10.46 The council will seek the submission of a construction management plan for demolition and /or construction where underground works are proposed in conservation areas or adjacent to a listed building.

Further details on Merton's Listed Buildings:

Statutory Listed Buildings: www.merton.gov.uk/statutorylistedbuildings

Locally Listed Buildings: www.merton.gov.uk/listed_buildings.htm

Archaeological assets

10.47 Merton lies on deposits of gravel and clay to the south of the Thames. The underlying geology comprises deposits of London Clay (overlying solid chalk at a depth of several metres). In places the London Clay has been overlain by terrace gravels, which in turn have been partly removed or overlain in places by alluvial deposits laid down by the two watercourses running through the borough, the River Wandle and the Beverley Brook and Graveney. Both Streams run from south to north to empty into the Thames.

10.48 Although relatively insignificant today, these rivers were in the past important both as sources of water and as a means of transport; the alluvial fills of their valleys produced lighter soils which were amenable to early agriculture and settlement. Current archaeological knowledge suggests that prehistoric activity in the borough was restricted to areas of easily-worked soils overlying gravel and alluvial deposits principally around Wimbledon Common and Mitcham. However there may be materials still to be found in other soils.

10.49 Most of the borough is situated on London Clay geology but over large areas this is covered by riverine gravels laid down by ancient courses of the Thames River and more recent alluvial deposits spread along the Wandle and Beverley Brook

Rivers. London Clay is regarded as heavy, difficult to cultivate and more suitable for woodland or pasture. In contrast, the lighter permeable soils on the gravels would have provided more favourable conditions.

- 10.50 The Wandle River flows north towards the Thames and has attracted both settlement and industry along its banks.
- 10.51 Historically the focal point of Merton was at Merton Priory which was built where the main road from London to Chichester (Roman Stane Street) crossed the Wandle. The villages of Merton and Morden occupied a central agricultural belt either side of the road. In contrast, Mitcham and Wimbledon grew up on and alongside the two open commons in the south-east and north-west of the borough respectively.
- 10.52 The central agricultural belt became increasingly built up during the late 19th and early 20th centuries but the two commons and industrial heritage along the Wandle help the modern area to retain a degree of historic character. The archaeological interest in Merton therefore contrasts between the more intensive and sustained exploitation found along the Wandle and Stane Street corridors and the less intensive and sporadic uses of the commons to either side.



Land at St. Anne's Convent, West Wimbledon: An archaeological evaluation

- 10.53 The extensive gardens of Merton houses may also contain garden features of interest. Historic England (formally English Heritage), through the Greater London Historic Environment Record (GLHER) can provide more detailed information on these areas, as well as other sites and areas within Merton of archaeological potential and significance.

For further information on Archaeological assets:
www.historicengland.org.uk/greater-london-archaeology-advisory-service

Merton: www.merton.gov.uk/archaeology

- 10.54 Where an archaeological assessment is required, the applicant's archaeologist will need to consult the GLHER, the Sites and Policies Plan, Policies Map 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.
- 10.55 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. Where significant remains are identified a method statement will need to be submitted to preferably preserving the remains in situ. If this can be argued to be impractical an alternative approach should be proposed
- 10.56 The potential for unforeseen archaeology to be present should be considered. If potential human remains are encountered then the police should be notified immediately and the bone left in situ. GLAAS, Historic England can also advise in respect of what action should be taken.
- 10.57 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.
- 10.58 The Structural Methodology Statement and Construction Management Plan 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.

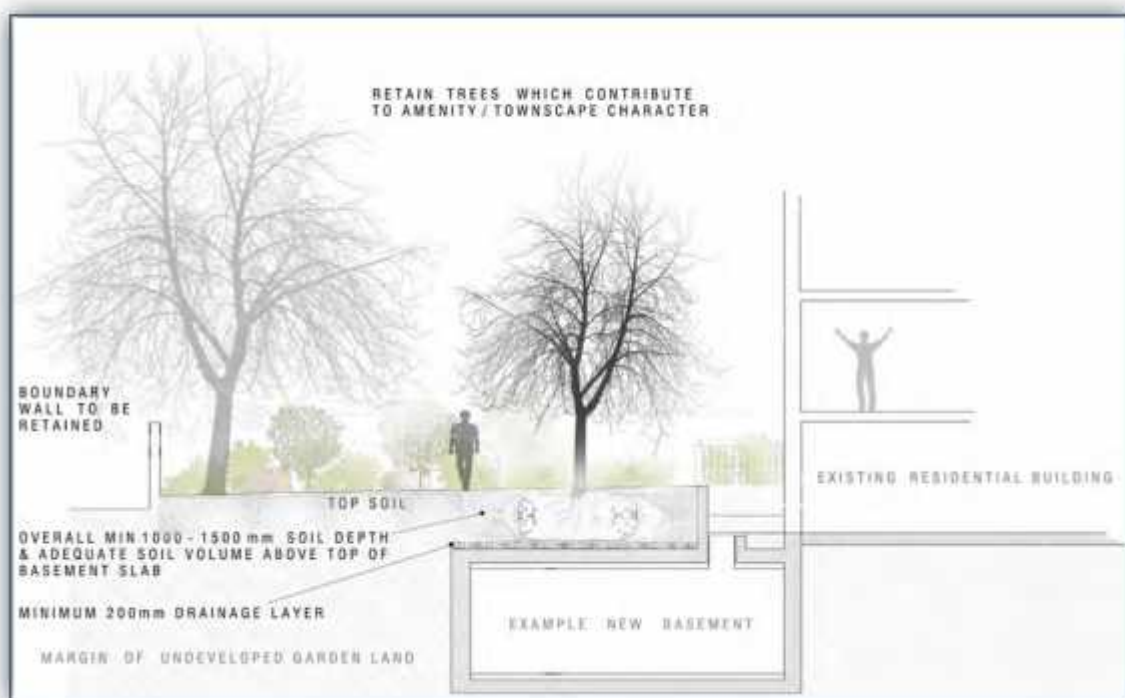
Gardens, trees and landscaping

- 10.59 Private garden land contributes significantly to the local context and character of Merton. It is important visually and supports biodiversity, trees, green corridors and green 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.



- 10.60 Subterranean development can affect these functions and result in the loss of important trees and landscaping.

- 10.61 Applicants will need to demonstrate that basement development will protect important trees, the garden setting and ensure surface water drainage is maintained in accordance with planning policies.
- 10.62 Proposals for basement developments that take up the whole front and /or rear garden of a property will not be permitted in accordance with Merton's *Sites and Policies Plan policy DM D2*. Basement developments are required to ensure there is sufficient margin left between the site boundary and any basement construction to enable natural processes to occur and for vegetation to grow naturally.
- 10.63 These margins should be wide enough to sustain the growth and mature development of the characteristic tree species and vegetation of the area. The council will seek to ensure that gardens maintain their biodiversity function for flora (plant life), fauna (animal life) and those they are capable of continuing to contribute to the landscape character of the area, and ensure that this can be preserved and enhanced.
- 10.64 All basement developments should provide SuDS and/or an appropriate proportion of permeable area such as green space to allow rainwater to be absorbed, infiltrated into the ground and/or to compensate for loss of biodiversity caused by the development. This may consist of a green roof on top of the underground structure or a retrofit green roof on top of an existing structure.



An example of Soil depth above basement development allowing for tree growth, landscaping and surface water drainage

- 10.65 It is expected that a minimum of 1 metre of soil should be provided above a basement and subterranean development that extends beyond the footprint of the building, to enable garden planting, to mitigate the effect i.e. loss of infiltration capacity. Therefore, the use of SuDS is sought in all basement developments that extend beyond the profile of the original building. Consideration should be given to the existence of trees on or adjacent to the site, including street trees and the required Root Protection Zone of these trees.

- 10.66 The developer is required to submit a Tree Survey clearly setting out the condition of trees and hedgerows in the area (immediately and adjacent to the development), an Arboriculture Impact Assessment with regard to the proposal, recommending measures that will suitably protect retained trees during the development process and recommending an appropriate level of mitigation and/or suitable alternative planting where necessary.
- 10.67 Trees with Tree Preservation Orders (TPOs) and those within conservation areas are protected. Basement developments 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.

Further details on Merton's Tree Preservation Orders (TPO's):

www.merton.gov.uk/trees

Protection of trees during construction

- 10.68 Applicants should also consider how they will protect trees during building works including those trees at the boundary and in adjoining gardens/properties. 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.
- 10.69 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 destabilise nearby trees. Altered soil drainage patterns may also affect tree health and longevity.
- 10.70 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.
- 10.71 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.
- 10.72 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.

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.

Structural Issues and Construction Methodology and Management

- 10.73 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.
- 10.74 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.
- 10.75 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.
- 10.76 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 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.

Basement walls, new windows and new doors

- 10.77 The development of a basement and the introduction of light wells will result in an area of exposed basement wall and will usually mean new window or doors. Any exposed area of basement development to the side or rear of a building will be assessed against Sites and Policies Plan policy DM D3: *Alterations and extensions to existing buildings* and DM D2. In general this expects that any exposed area of basement to be:
- Subordinate to the building being extended
 - Respect the original design and proportion of the building, including its architectural period and style and;
 - Retain a reasonable sized garden
- 10.78 The council will expect that the width of any visible basement wall should not dominate the original building.
- 10.79 Basement windows in number, form, scale and pane size should relate to the façade above. They should normally be aligned to the openings above and be of a size that is clearly subordinate to the higher level openings so as not to compete with the character and balance of the original building.
- 10.80 On street elevations and on certain rear elevations where there is a distinguishable pattern to the arrangement of windows in the building (known as

fenestration), the width and height of windows should be no greater than those above.

Lightwells

- 10.81 Whilst some basement extensions will not require planning permission due to permitted development rights, light wells are classed as engineering operations rather than an enlargement of a dwelling house and will therefore require planning permission from the council.
- 10.82 The presence or absence of lightwells helps define and reinforce the prevailing character of a neighbourhood. Where basements and subterranean development; and visible lightwells are not part of the prevailing character of a street, new lightwells should be discreet and not harm the architectural character of the building, or the character and appearance of the surrounding area, or the relationship between the building and the street. In situations where lightwells are not part of the established street character the characteristics of the front garden or forecourt will help to determine the suitability of lightwells.
- 10.83 In plots where the depth of a front garden is quite long, basement lightwells are more easily concealed by landscaping and boundary treatments and a substantial garden area can be retained providing a visual buffer from the street. In these situations new lightwells that are sensitively designed to maintain the integrity of the existing building may be acceptable, subject to other design requirements and environmental considerations.
- 10.84 In plots where the front garden is quite shallow a lightwell is likely to consume much or all of the garden area. This will be unacceptable in streets where lightwells are not part of the established character and where the front gardens have an important role in the local townscape. Excessively large lightwells will not be permitted in any garden space.
- 10.85 A light well to the side or rear of a property is often the most appropriate way to provide a means of providing light to a new or extended basement development and can often provide a link to the rear garden. Lightwells to the side or rear of a property should be set away from the boundary to a neighbouring property.

Flood risk management

- 10.86 Approximately 91% of the borough is defined as Flood Zone 1 Low Probability of flooding from rivers. 5% of the borough is defined as Flood Zone 2 (Medium Probability), 1.9% as Flood Zone 3a (High Probability) and 1.7% as Flood Zone 3b (Functional Floodplain).
- 10.87 When considering a basement development flooding must be a consideration. Not only from rivers but also from other sources including surface water flooding, groundwater, reservoir or artificial sources and flooding from sewers in accordance with planning policies.



- 10.88 In accordance with Merton's Local Plan policies applicants are required to have consideration to Merton's flooding documents and strategies namely, the Strategic Flood Risk Assessment (SFRA), the Local Flood Risk Management Strategy (LFRMS), the Surface Water Management Plan (SWMP) and Merton's Local Plan polices for flood risk and water management. .

Merton's flood risk management documents can be found here:

merton.gov.uk/flooding

- 10.89 Basement developments can be vulnerable to flooding due to a number of reasons, for example due to overflowing drains and nearby watercourses, the back flow from sewers when over capacity, groundwater flooding and surface water flooding. Groundwater flooding susceptibility maps are contained within Merton's LFRMS along with other maps showing classifying flood risk.
- 10.90 It is important to establish whether there is a significant flood risk before deciding to go ahead with an application for a basement development or conversion and you should first determine whether the application property is located in a Flood Zone or within an area at risk of flooding from other sources, such as surface water risk. The Environment Agency publish maps online to determine whether you are at risk of flooding and they can be found here: <https://flood-warning-information.service.gov.uk/long-term-flood-risk>
- 10.91 The 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 for the lifetime of the development, taking the impacts of climate change into account.
- 10.92 Furthermore the PPG states that self-contained dwellings or bedrooms at basement level in Flood Zone 3 should not be permitted due the safety of occupants, should internal flooding occur. Basements, basement extensions, conversion or basements of a higher vulnerability classification as defined in the PPG or self-contained units are not acceptable in Flood Zone 3b.
- 10.93 Basements for other uses in Flood Zone 3a and Flood Zone 2 may be permitted, provided there is a safe means to escape via internal access to higher floors 300mm above the 1% annual probability (1 in 100 year event) flood level including an allowance for climate change. It is strongly advised to propose non-habitable room uses in basements (i.e. not sleeping accommodation) which may be at risk of flooding other sources.
- 10.94 In accordance with national policy and guidance, Merton's Local Plan (DM F1 *Support for flood risk management*) also states that the council will not permit planning proposals for developments for habitable rooms and other sensitive use for self- contained units in areas of high risk of flooding.
- 10.95 In all basement developments, applicants are encouraged to implement flood resistance and resilience measures as part of the overall basement and wider development design. This includes measures to prevent water ingress and to reduce flood damage should flooding occur.

- 10.96 These may include, for example, setting all thresholds to basements to be above the flood level and incorporation of non-return (one way) valves or self contained pump units to the satisfaction of Thames Water, incorporation of internal staircases and means of escape and placement of high level electrical circuits to minimise potential for damage.

Further guidance on pumps can be found here: Thames Water: www.thameswater.co.uk

Surface water

- 10.97 Merton's Surface Water Management Plan (SWMP) assessed the surface water flood risk across the borough using both historical information and undertaking modelling to determine the future flood risk for a range of rainfall events.
- 10.98 The study identified areas at higher risk of surface water and groundwater flooding and delineated these into Critical Drainage Areas (CDA). The Environment Agency has also published the surface water flood map.
- 10.99 Wherever possible self-contained basement dwellings should, be located outside identified Surface Water Flood Risk areas within SWMP or at risk of surface water flooding on the Environment Agency's maps. If you are considering building a basement or subterranean extension in any area prone to surface water flooding, you should take appropriate steps to avoid increasing (and where possible reduce) surface water flood risk to and from the site and surrounding area.
- 10.100 The Environment Agency online flood maps identifies which parts of the borough are susceptible to flooding by rivers, reservoirs and also from localised surface water flooding. Surface water flooding occurs during rainfall events where overland flow results in ponding due to depressions in topography or when the sewer network exceeds capacity and is unable to deal with the volume and rate of flow.

Environment Agency Surface Water Maps: www.EA/surfacewater

Sustainable Drainage Systems (SuDS)

- 10.101 There is a growing acceptance that we need a more sustainable approach to managing SuDS mimic natural drainage processes at source in order to help reduce any adverse effect on the quality and quantity of rainfall runoff from developments and to provide wider amenity and biodiversity benefits.
- 10.102 There are a number of SuDS features which can be incorporated within development including basement developments. SuDS should be an early consideration when developing design and layout plans at the conceptual stage. The type of SuDS selected should be based on Merton's local context, the local ground conditions and how the feature would fit within the development for example, how it will be managed and maintained in perpetuity.

The council expects the use of SuDS to be in accordance with the National Standards for SuDS, the CIRIA Suds Manual and the London Plan and Merton

Policies. The application of SuDS is not limited to a single technique per site and a management train for SuDS should be implemented, using a variety of measures. Where possible, the focus should be on above ground storage techniques rather than the sole use of attenuation tanks, as tanks do not provide the wider benefits list above.

- 10.103 Merton Council recognises that SuDS offer a number of benefits such as:
- Reduces the risk of surface water flooding and to sewer surcharging
 - Improves water quality management
 - Manages the quality of surface water runoff to reduce pollution
 - Provide clean water reuse (grey water) by residents and businesses
 - Cost effective - SuDS are able to reduce development costs and help to deliver housing and workplaces
 - Enable sustainable development - Reduces the need for additional and expensive and high maintenance underground sewerage infrastructure
 - Water quality management Manages local flood risk and protects the natural water cycle
 - Improves water quality
 - Amenity -creates better places for people
 - Enhance and/or create better places for biodiversity
- 10.104 A number of SuDS measures can be used to reduce the surface water runoff from a site including rainwater attenuation and rainwater harvesting tanks, permeable paving and living or green roofs, swales, rain gardens and filter trips. Retrofitting of SuDS will be encouraged where appropriate.

Further guidance on SuDS document can be viewed here:

Merton's Strategic Flood Risk Assessment (2017)

merton.gov.uk/strategic-flood-risk-assessment

The National Standards for SuDS

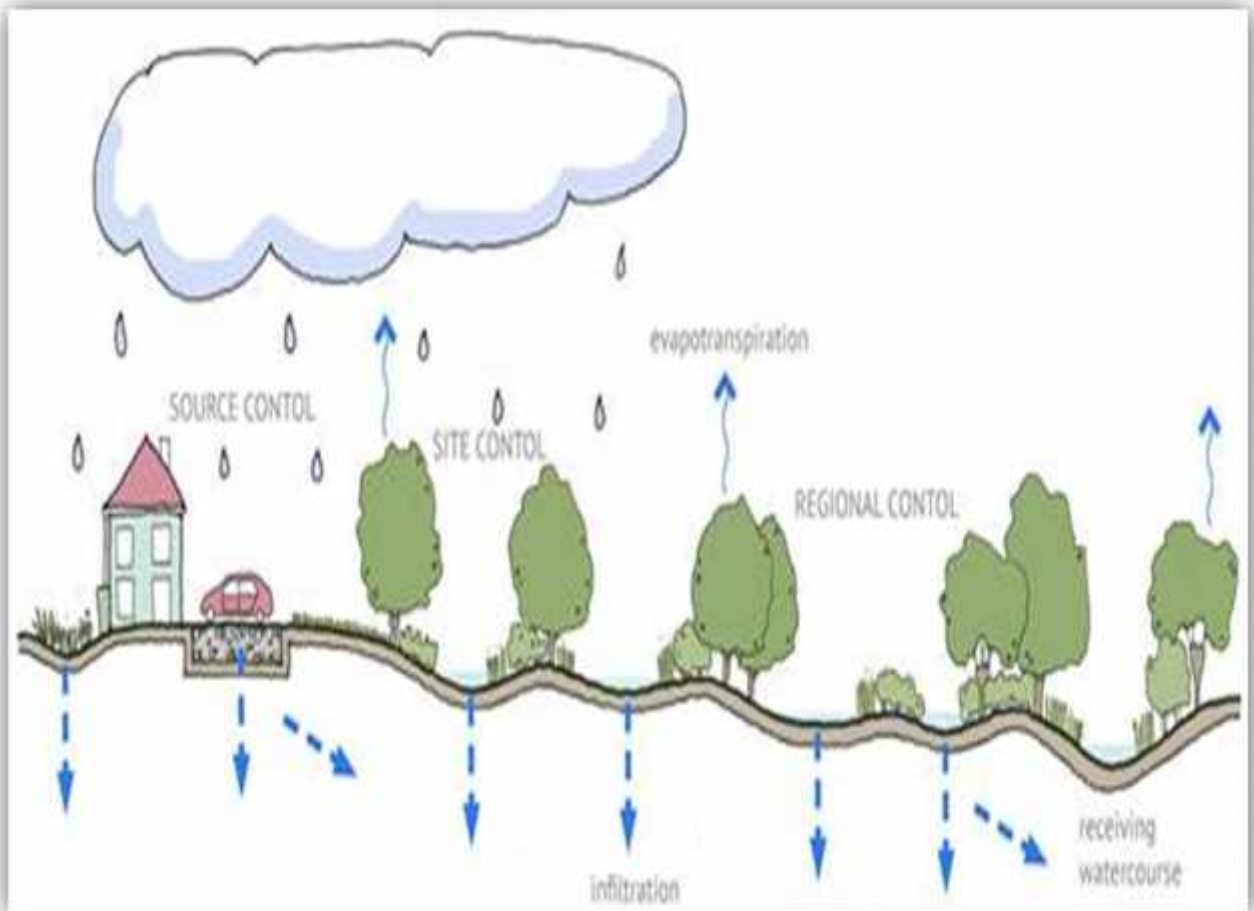
www.gov.uk/sustainable-drainage-technical-standards

SuDS Manual (CIRA C753): www.ciria.org/The_SuDs_Manual_C753_Chapters

- 10.105 Applicants should also show they have had regard to the drainage hierarchy in the London Plan and justification provided where this is not practical or appropriate by way of a Sustainable Drainage Strategy with your submitted planning application. This can be a stand alone document or be part of a site specific FRA.
- 10.106 As part of any SuDS scheme, consideration should be given to the long term maintenance and adoption of the SuDS and wider drainage onsite, to ensure that it will remain functional for the lifetime of the development.
- 10.107 In flood risk areas, where permeable surfacing and SuDS are recommended in the flood risk assessment or structural statement, the council may secure their installation and retention in perpetuity by planning conditions.

What should a Sustainable Drainage Strategy include?

- 10.108 A Sustainable Drainage Strategy should include the following information:
- A plan of the existing site.
 - A topographical level survey of the area to metres Above Ordnance Datum (mAOD).
 - Demonstration of a clear understanding of how surface water flows across the site and surrounding area.
 - Plans and drawings of the proposed site layout identifying the footprint of the area being drained (including all buildings, access roads and car parks).
 - Calculations of changes in permeable and impermeable coverage across the site
 - Calculation of the existing and proposed controlled discharge rate for a 1 in 1 year event and a 1 in 100 year event (with an allowance for climate change), this should be based on the estimated greenfield runoff rate.
 - Calculation of the proposed storage volume (attenuation).
 - Information on proposed SuDS measures with a design statement describing how the proposed measures manage surface water as close to its source as possible and follow the drainage hierarchy in the London Plan.
 - Geological information including borehole logs, depth to water table and/or infiltration test results.
 - Details of overland flow routes for exceedance events.
 - A management plan for future maintenance and adoption of drainage system for the lifetime of the development.



SUDS Management systems www.susdrain.org

Sewer flooding

- 10.109 Basements and subterranean developments may be more susceptible to sewer flooding and this should also be considered by the structural or civil engineer or hydrologist. As a minimum, it is recommended that all drainage connections from basements and subterranean development to sewers should be fitted with a non-return or one way valves in addition to a self contained pumping unit to prevent the drains and sewers flooding the basement if they surcharge or backflow. 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 these particularly in areas where there is an increased sewer flood risk or if Thames Water indicates that there is a sewerage capacity problem in a specific location.

A site-specific Flood Risk Assessment (FRA)

- 10.110 A FRA must be submitted with your planning application if your proposed development is located in a designated flood risk area in accordance with the Environment Agency's flood risk maps and/or Merton's Local Plan. The FRA should demonstrate that the development will avoid increasing flood risk to and from the site (and where possible will reduce flood risk, taking climate change into account). This may be through appropriate layout, design and incorporation of suitable mitigation measures, such as the use of flood resistance and resilience measures to help reduce the impact of any flooding.

- 10.111 The FRA must provide details of appropriate SuDS for the site and investigation to determine whether a perimeter drainage system or other suitable measure is necessary to ensure the sub-surface water flow regimes is not interrupted or diverted resulting in adverse effects.
- 10.112 Furthermore the FRA must also address the impact of the proposed extension on the ability of the floodplain to store floodwater up to and including the 1% annual probability (1 in 100 year) event including allowance for climate change.
- 10.113 The PPG (Para 68) has a FRA checklist to guide the applicant on the contents of a site specific FRA, although it should be noted that the council can ask for further information to inform a planning decision in accordance with planning policies (national, regional and Local).

Groundwater flow

- 10.114 Subject to existing constraints, including ground conditions present, the proposed basement may have the ability to adversely affect groundwater levels and flows. For example, where significant changes in topography exist or where groundwater flows are present, basements can cause a backwater effect which may locally increase groundwater levels. It is often the case that the displaced water may be likely to find a new course around the area of obstruction caused by the basement, this may have other consequences for nearby properties or structures, or the environment such flows to existing tree/s or water features such as ponds or streams, etc.
- 10.115 Given the nature of the ground and the hydrogeological conditions in many higher parts of the borough or those areas where historic streams once flowed, basement development may have the potential to divert or displace groundwater which may cause a rise in groundwater and cause flooding upstream of the development. Subject to ground conditions, passive drainage measures such as perforated pipes and gravel drainage blankets can be installed to reduce the risk of the basement resulting in a rise in groundwater levels surrounding the basement structure.

Geology

- 10.116 The British Geological Survey (BGS) has produced a national 'Susceptibility to Groundwater Flooding' dataset. The dataset is based on geological and hydrogeological information and identifies areas where geological conditions could enable groundwater flooding to occur or where groundwater may come close to the ground surface. The Susceptibility to Groundwater Flooding Map is included within Merton's Local Flood Risk Management Strategy (LFRMS).

Merton's Local Flood Risk Management Strategy
www.merton.gov.uk/environment/flooding

10.117 The areas which are shown to be most susceptible to groundwater flooding across the borough i.e. where there is the potential for groundwater flooding to occur at the surface, are located in areas with permeable superficial deposits (which usually consist of sediments such as gravel, sand, silt and clay) These are typically associated with river valleys or active or historic floodplains.

10.118 It should be noted however that the Susceptibility to Groundwater Flooding Dataset provides a high level assessment of potential wider risk across the borough. Incidents may occur outside these areas depending on the local geological conditions. The BGS mapping should not be used solely to make planning decisions at the site scale and appropriate site specific ground investigations should be undertaken to inform design decisions.

For preliminary stages the surface geology data and nearby bore-hole surveys can be obtained from BGS website: www.bgs.ac.uk

Development under a highway

10.119 Merton Council is the highways authority for most streets in the borough, however a number of major streets in the borough are the responsibility of Transport for London (TfL) such as on red routes and they are the highways authority for these streets. Appropriate perimeter drainage measures will be required as part of any proposals to avoid runoff flowing onto the public highway.

For further information on Merton's Highway Authority:
www.merton.gov.uk/mertonhighwaysauthority

10.120 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.

10.121 If there is a need for a skip or building material to be located on the public highway or erect a scaffold, hoarding or gantry you will need to apply for a licence under the Highways Act. You are required to obtain the consent from the highways authority if your proposal involves any work under any part of the highway or footway. Applicants should undertake appropriate utility or buried asset searches prior to construction.

11 Other controls and legislation



11.1 The assessment and enforcement of applications for basement 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.

11.2 Although this does not form part of consideration of your planning application, it is important to note the different consents and licenses are required and must be applied before any works can start.

UK Environmental legislation: www.legislation.gov.uk/environment

Building Control

11.3 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.

11.4 Owing 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 detail on Merton's Building Control services:
www.merton.gov.uk/buildingcontrol

Highways

11.5 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 scaffolding and hoardings.

11.6 Any excavation close to the highway may also require a licence if the proposed excavation face will intersect with a 45 degree line drawn from the highway boundary from carriageway/footway level. In any case, the applicant should contact the Highways department and seek advice.

11.7 Before any structure can be erected a site meeting must be arranged with the council's highways officer and a licence must be approved. It is a serious offence to place anything on the highway without permission of the local Highways

Authority (Highways Act 1980, section 169). Any scaffold/hoarding erected without a licence is illegal and may result in legal action.

- 11.8 If you are considering storing building materials such as bricks, or bags of sand on the carriageway, a materials licence application must be submitted before such storage is required. It is an offence to place anything on the highway without permission from the local Highways Authority (Highways Act 1980, section 169).
- 11.9 Any materials stored without a licence is illegal and may be removed and result in legal action taken. If you wish to store materials on your private driveway you will not require a licence.
- 11.10 If you wish to place a skip(s) on the road you will need to have a valid skip licence first. It is an offence to place anything on the highway without the permission of the local Highway Authority (Highways Act 1980, section 169) apart from Red Routes; which are the responsibility of Transport for London and a few privately managed roads.

Further details on scaffold licences can be viewed via:

www.merton.gov.uk/scaffold-licences

Further details on skip licences can be viewed via:

www.merton.gov.uk/skip-licensing

- 11.11 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.
- 11.12 Permission is also required for suspension of parking bays or road(s) or footway closures. For most roads/streets in the borough you should contact the council as the highway authority. For strategic roads forming part of the Transport for London Network you may need to obtain relevant permissions from Transport for London (TfL). To find out who is responsible for a particular road in the borough please contact the council's Traffic and Highways team.
- 11.13 The council's Traffic and Highways team may hold a deposit where there is an application for a structure on the highway associated with basement works. Should, damage be identified that the council can attribute to the development the council will always undertake to make full repairs and then pass the costs on to the developer.

Environmental Health

- *Noise, Vibration and Dust complaints*

- 11.14 Merton's 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.

- 11.15 Guidance is given on the council's website and in British Standard BS 5228: Parts 1 and 2 (1984) and Part 4 (1986) entitled 'Noise control on constructions and open sites'.

Further information on Merton's Environmental Health:

www.merton.gov.uk/environmentalhealth

- *Contaminated Land*

- 11.16 Merton's Environmental Health team is also responsible for issues related to contamination. Where a 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 the council's Environmental Health team.

- 11.17 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.

Further information on Merton's Environmental Health:

www.merton.gov.uk/environmentalhealth

Freeholder permission and other Codes and Guidance

- 11.18 If you are not the freeholder of the property, then landlord permission is likely to be required in Merton. You should always contact the freeholder prior to submitting an application and ensure you have complied with their requirements before submitting an application.

Utilities

- 11.19 You are required to obtain Thames Water'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.
- 11.20 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.



Appendices

12 Appendix A: Key Policy Requirements**(Please note this is not an exhaustive list)*

The table below gives some key policy requirements in regard to basement developments; this list is not exhaustive and must be read in conjunction with the National Planning Policy Framework (NPPF), National Planning Policy Guidance (NPPG), the London Plan (2015) and Merton's Local Plan.

Topic	**London Plan (2016)	**Merton's Local Plan
Design	Policy 5.3: Sustainable design and construction	Core Planning Strategy policy CS 14: Design
	Policy 7.2 Inclusive environment	Sites and Policies Plan policies: <ul style="list-style-type: none"> DM D2 Design consideration in all developments
	Policy 7.3 Designing out crime	<ul style="list-style-type: none"> DM D1 Urban design and the public realm DM D3 Alterations and extensions to existing buildings
Climate change	Policy 5.1 Climate change mitigation	Core Planning Strategy CS: 15 Climate change
Flood Risk management	Policy 5.11 Flood risk management	Core Planning Strategy CS: 16 Flood risk management
	Policy 5.13 Sustainable drainage	Sites and Policies Plan policies: <ul style="list-style-type: none"> DM F1 Support for flood risk management DM F2 Sustainable urban drainage systems (SuDS), and wastewater and water infrastructure
Water infrastructure	Policy 5.14 Water quality and wastewater infrastructure	Sites and Policies Plan policies <ul style="list-style-type: none"> DM EP4 Pollutants
	Policy 5.15 Water use and supplies	<ul style="list-style-type: none"> DM F2 Sustainable urban drainage systems (SuDS), and wastewater and water infrastructure
Green infrastructure	Policy 5.10 Urban greening	Core Strategy policy CS 13: Open space, nature conservation, leisure and culture
	Policy 5.11 Green roofs and development site environs	Sites and Policies Plan policy <ul style="list-style-type: none"> DM O2: Nature conservation, trees, hedges and landscape features
	Policy 7.19 Biodiversity and access to nature	
	Policy 7.21 Trees and woodlands	
Character and heritage assets	Policy 7.4 Local character	Core Planning Strategy policy CS 14: Design
	Policy 7.6 Architecture	Sites and Policies Plan policy
	Policy 7.8 Heritage assets and archaeology	<ul style="list-style-type: none"> DM D4 Managing heritage assets

**(Please note this is not an exhaustive list)*

13 Appendix B: Guidance on Construction Management Plan

13.1 The following is a list of questions that have 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. It should be noted that this is not an exhaustive and should to be used for guidance purposes only.

13.2 Although planning led, any construction management plan is usually a document managing a range of construction impacts. Therefore it will be helpful if you identify other relevant legislation and standards you will need to comply with.

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

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 person 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?

- Confirmation this will comply with the council's normal permitted hours for operations which cause noise audible at the site boundary – Monday Friday 8am - 6pm and 8am - 1pm on Saturday.
- 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 securely and safely stored noting 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 they will wait to load/unload.
- Identify whether there 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?

- Which ever method is chosen the delivery and/or 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. If houses are close together the council would expect the
- Confirm you will inform neighbours when particularly noisy works will take place and outline steps to be taken to minimise impacts on neighbour's amenity for example where houses are close together the use of least vibration pilling should be used.
- 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 and 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.

Further guidance and information

British Association of Landscape Industries

<http://www.bali.co.uk/>

Building regulations:

<https://www.gov.uk/building-regulations-approval/when-you-need-approval>

CIRIA

<http://www.ciria.org/>

Department of environment and rural affairs (Defra) – Non technical standards for sustainable drainage systems

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/415773/sustainable-drainage-technical-standards.pdf

Guidance on the permeable surfacing of front gardens (Environment Agency and DCLG)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7728/pavingfrontgardens.pdf

Planning Portal

<http://www.planningportal.gov.uk/permission/>

Royal Horticultural Society

<https://www.rhs.org.uk/>

Thames Water (planning and development)

<http://www.thameswater.co.uk/home/11425.htm>

Susdrains

<http://www.susdrain.org/>

Sutton and East Surry Water

<http://www.waterplc.com/index.asp#>

The Control of Dust and Emissions during Construction and Demolition (SPG)

https://www.london.gov.uk/sites/default/files/Dust%20and%20Emissions%20SPG%208%20July%202014_0.pdf

UK Rainwater Harvesting Association

<http://www.ukrma.org/>