

Basement Development

Supplementary Planning Document

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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 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 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*, planning guidance and regulations that apply in reference to basement development in Merton. It draws upon relevant national, regional and local authority requirements and expectations for sustainable development and good practice.

- 3.2 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.

- 3.3 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 at primarily residential properties, this guidance is also relevant to other

forms of basement development in Merton for example commercial, retail, leisure uses, servicing and storage.

- 3.4 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 Practise 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

- 4.2 **The National Standards for SuDS design (2015)** the Government, working closely with the Environment Agency, Local Authorities and house builders; published the National **Standards and Specific Criteria for Sustainable Drainage**. 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

- 4.3 **The Mayor's London Plan 2015** 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.

- 4.4 Further guidance on the London Plan flooding and surface water polices can also be found in the Mayor's Sustainable design and construction SPG (2014) which include the 'preferred and essential' standards for runoff rates for development in London.

Merton Local Plan

- 4.5 **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 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.
- 4.6 **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 means to deliver that vision.

- 4.7 **Merton's Policies Map (2014)** consists of policies and proposals from other local plan documents, namely the Core Planning Strategy, the Sites and Policy plan, South London Waste Plan and the London Plan.
- 4.8 **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:

<http://www.merton.gov.uk/environment/planning/planningpolicy/localplan.htm>

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 For more information on Tree Preservation Orders please visit Merton's website
- 5.6 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
<http://www.legislation.gov.uk/uksi/2015/596/contents/made>

The council's Permitted Development Rights webpage:

<http://www.merton.gov.uk/environment/planning/prior-approval.htm>

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 Assessing the impact of basement and subterranean developments

- 7.1 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 permission.

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.

7.2 When submitting applications for basement and subterranean developments, the level of technical information required will vary according to the type of the development however it should include:

- Desktop study of existing geological and hydrological conditions of the site and the wider area in order to identify areas susceptible to instability (ground and water movement) and localised flooding – this needs to be site specific
- Detailed engineering study undertaken by a chartered engineer/geologist (*please see figure 1 for the council's approved list*) to assess local ground conditions, water movement, subsidence and drainage including through the use of boreholes, potential impacts on adjoining/nearby properties
- Identify suitable construction management methods and mitigation measures for developments which may affect the stability of the site and neighbouring buildings and/or nearby structures, and hydrology (at the site and within the area), without placing additional pressure on other areas or on the local combined sewer network
- Monitoring local ground conditions, water movement, subsidence and drainage

7.3 Additional information required:

- **The details of the development:**
 - Brief description of the proposed development
 - Site location map(s) and photographs showing development location, surrounding buildings (including temporary land required during construction), topography, natural and man made features.
 - The physical form of the development (layout, dimensions, construction materials etc
 - Construction method statement giving details on construction method, operation and commissioning phases, restoration and after use where appropriate (Appendix C)
 - Mitigation measures being used
 - Details of any other permits required for project
- **Potential impacts**

- Impacts on soils, land use, biodiversity, water quality and hydrology
- Impact on noise and biodiversity
- Nature and scale of impacts showing low medium and long-term impacts
- Extent of impacted area
- Mitigation incorporating into the project design to reduce, avoid or offset significant adverse impacts

8 Cumulative impact of basement development

- 8.1 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 and biodiversity. Therefore the council requires the developer to identify neighbouring basements and subterranean; and make an assessment of the underground development in consideration with all nearby basements and subterranean together. Both existing and planned (with planning permission) underground developments must be included in the assessment.

INSERT PICTURE HERE

9 Submitting a planning application

9.1 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. There is also a perception that basement work will affect the structural integrity of adjoining properties or roads.

9.2 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.

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

9.3 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. It is strongly recommend that a suitably qualified engineer¹ 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.

Surface flow and flooding

- A Hydrologist or a Civil Engineer specialising in flood risk management and surface water 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).

Subterranean (groundwater)

- A Hydrogeologist with the "CGeol" (Chartered Geologist) qualification from the Geological Society of London.

Land stability

- 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.

Figure 1: Merton’s approved qualified experts

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

- 9.4 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.
- 9.5 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.

10 Advice for neighbours

- 10.1 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.
- 10.2 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?

- 10.3 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
- 10.4 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.
- 10.5 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

- 10.6 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.

10.7 The council is not involved in Party Wall agreements, which are governed by separate legislation: the Party Wall etc 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

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

10.9 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

10.10 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.

10.11 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.

10.12 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.

10.13 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.

10.14 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.

11 Guidance on planning for a basement and subterranean

- 11.1 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 to contact if you require further information (Appendix D).

Neighbourhood amenity

- 11.2 Concerns about impacts on neighbour amenity are by far the main objection received on planning applications for new basements and subterranean. Once the details are known, the effects on neighbouring buildings from excavation work, noise, dust and construction traffic can all be mitigated on a correctly designed and built basement proposal but the fear that local amenity will be harmed is very real and present in every basement proposal. In line with policy, the council must address this.
- 11.3 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 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

- 11.4 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.
- 11.5 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.
- 11.6 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 impact to any trees on or adjoining the site, or to the water environment or land stability.

Demolishment and construction/Managing the impacts of construction

- 11.7 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.

- 11.8 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).

<https://www.london.gov.uk/priorities/planning/publications/the-control-of-dust-and-emissions-during-construction-and>

11.9

to properly consider geology and hydrology; it has the potential to damage both the existing and neighbouring structures and infrastructure.

- 11.10 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

<http://www.hse.gov.uk/pubns/books/hsg150.htm>

- 11.11 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.
- 11.12 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.
- 11.13 Therefore the engineer should form part of the initial design team and should undertake an assessment of local ground conditions, water movement and drainage of the site at the design stage of proposals.
- 11.14 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 trial pits and opening up works to investigate the existing structure.

- 11.15 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.
- 11.16 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.
- 11.17 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 it is progressing generally in accordance with the proposals.
- 11.18 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.
- 11.19 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.
- 11.20 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.
- 11.21 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 are set out in Appendix x.
- 11.22 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.
- 11.23 For listed building and heritage assets the council recommends that a structural engineer with expertise in historic buildings (CARE accredited) is appointed especially for works to or adjacent to any listed building.
- 11.24 In areas where basement development may impact on the groundwater regime, the building owner should consider appointing a specialist geotechnical engineer and/or a geo-hydrologist.

Noise and vibration

- 11.25 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.
- 11.26 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.
- 11.27 To avoid noise and vibration transference via connections to adjacent buildings they can be separated by cutting structural breaks/ discontinuities with adjoining premises.
- 11.28 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.
- 11.29 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

- 11.30 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.
- 11.31 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
<http://www.merton.gov.uk/environment/pollution/air/localairquality.ht>

- 11.32 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.

- 11.33 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.
- 11.34 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.
- 11.35 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.
- 11.36 Merton's Environment Health guidance can be viewed via:
https://www.merton.gov.uk/building_sites_code_of_conduct.pdf
- good order. Hoardings, fencing, barriers and scaffolding should be regularly cleaned regularly using wet methods, where practicable, to prevent re-suspension of particulates.
- 11.37 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.

Construction Management Plan

- 11.38 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
- 11.39 Further information on the main issues applicant need to consider in regards to Construction Management Statements can be found in Appendix C.

Heritage assets

- 11.40 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

- 11.41 The council also has a duty to pay special attention to the desirability of preserving or enhancing the character and appearance of conservation areas when considering development proposals. Alterations associated with basement and subterranean development may affect the character and appearance of a conservation area.

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

<http://www.merton.gov.uk/environment/designandconservation/conservationareas.htm>

Listed buildings

- 11.42 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.
- 11.43 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 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.
- 11.44 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.
- 11.45 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:

http://www.merton.gov.uk/environment/designandconservation/statutory_listed_buildings.htm

Locally Listed Buildings

http://www.merton.gov.uk/environment/designandconservation/listed_buildings.htm

- 11.46 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. Both Streams run from south to north to empty into the Thames.

- 11.47 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.
- 11.48 The construction of a major Roman Road crossing the borough from northeast to south west produced an additional communication route from the first Century AD onwards. The road (later known as “Stane Street”) ran from London (Londinium) to Chichester on the Sussex coast: its route is broadly followed by the modern A24 (London Road, Morden and Colliers Wood High Street) and exerted a significant influence on contemporary and subsequent patterns, of development until the nineteenth and early twentieth centuries when, the expansion of rail communications produced a major growth in suburban housing development across the entire borough.
- 11.49 Past human activity in the borough is characterised (at least from later prehistoric times onwards) by rural settlement with an agricultural base. However other themes in the archaeology of the borough are provided by the medieval Merton Priory, the ‘gentrification’ of parts of the borough through the establishment of substantial out-of-town houses from the sixteenth century onwards, and the industrialisation of areas along the Wandle (focused especially around Merton and Mitcham) from medieval times at least.
- 11.50 Important archaeological remains, including Palaeolithic (relating to or denoting the early phase of the Stone Age) flint axes and the fossil remains of a mammoth, rhinoceros and giant ox, have already been found in Merton. In many cases this would not have occurred had the developer not taken a thoughtful and sympathetic approach in relation to the matter of archaeology. Other finds dating as far back as 10,000 BC and remains of early settlements have also been found along the course of the river Wandle and Roman coins and pottery have been found in the vicinity of the Roman Road, and Roman burials have also been discovered in Mitcham.
- 11.51 The extensive gardens of Merton houses may also contain garden features of interest. 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.
- 11.52 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.

- 11.53 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.
- 11.54 Even where no archaeological investigation is required by condition, developers are advised to be vigilant for archaeological deposits and to alert GLAAS if such remains are discovered during the course of construction works
- 11.55 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.
- 11.56 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

- 11.57 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. Subterranean development can affect these functions and result in the loss of important trees and landscaping.
- 11.58 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.
- 11.59 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.
- 11.60 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.
- 11.61 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.

- 11.62 It is expected that a minimum of 1 metre of soil to be provided above the basement 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.
- 11.63 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.
- 11.64 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):

<http://www.merton.gov.uk/environment/planning/trees-2/tpo/tpolist.htm>

Protection of trees during construction

- 11.65 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.
- 11.66 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.
- 11.67 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

- 11.68 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.
- 11.69 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

- 11.70 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.
- 11.71 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.
- 11.72 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.
- 11.73 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

- 11.74 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

11.75 The council will expect that the width of any visible basement wall should not dominate the original building.

11.76 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.

11.77 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

11.78 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.

11.79 The presence or absence of lightwells helps define and reinforce the prevailing character of a neighbourhood. Where basements and subterranean; 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.

11.80 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.

11.81 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.

11.82 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

11.83 Approximately 91% of the borough is defined as Flood Zone 1 Low Probability of flooding from rivers. 5% 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). When considering a basement and subterranean development flooding from not only rivers should be considered but, also flooding from all sources including surface water flooding, groundwater and flooding from the sewer in accordance with planning polices.

11.84 Applicants are required to have consideration to Merton's flooding documents namely, the Strategic Flood Risk Assessment (SFRA), Local Flood Risk Management Strategy (LFRMS), Surface Water Management Plan (SWMP) in accordance with planning polices.

Merton's flood risk management documents can be found here:
<http://www.merton.gov.uk/environment/flooding/flooding-how.htm>

11.85 Basement developments can be vulnerable to flooding due to a number of reasons for example overflowing of drains and nearby watercourses, groundwater flooding and surface water flooding.

11.86 It is important to establish whether there is a significant flood risk before deciding to go ahead with an application for basement excavation or conversion and you should first determine whether the application property is located in a Flood Zone or areas at risk of flooding from other sources.

11.87 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.

11.88 Furthermore the PPG states that self-contained dwellings or bedrooms at basement level in Flood Zone 3 should not be permitted due the vulnerability of users. Basements, basement extensions, conversion or basements to higher vulnerability classification or self-contained units are not acceptable in Flood Zone 3b. Basements for other uses in Flood Zone 3a and 2 may be granted provided there is a safe means to escape via internal access to higher floors 300mm above the 1% annual probability (1 in 100 year) flood level including an allowance for climate change.

11.89 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.

- 11.90 In all basement development applicants are encouraged to incorporate flood resistance and resilience measures as part of the design. This includes measures to prevent water ingress and to reduce flood damage should flooding occur. These may include, for example, setting all thresholds to basements to be above the flood level and incorporation of one way valves, incorporation of internal staircases and means of escape and placement of electrical circuits to minimise potential for damage.

Surface water

- 11.91 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. The study identified areas at higher risk of surface water and groundwater flooding and delineated these into Critical Drainage Areas (CDA).
- 11.92 Wherever possible self-contained basement dwellings should, be located outside identified Surface Water Flood Risk areas within SWMP. If 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 for the site and surround area.
- 11.93 The Environment Agency online flood maps identifies which parts of the borough are susceptible to flooding by rivers, reservoirs and 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:

<http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=e>

Sustainable Drainage Systems (SuDS)

- 11.94 There is a growing acceptance that we need a more sustainable approach to managing surface water. SuDS simulate natural drainage processes to reduce the effect on the quality and quantity of runoff from developments and provide amenity and biodiversity benefits.
- 11.95 There are a number of SuDS features which can be incorporated within any development including basement developments. SuDS should be an early consideration when developing design and layout plans. The type of SuDS selected should be based on Merton's local context and how the feature would fit within the development for example, how it will be managed and maintained. The council expects the use of SuDS to be in accordance with the National Standards for SuDS. The application of SuDS is not limited to a single technique per site.
- 11.96 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 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

11.97 A number of SuDS measures can be used to reduce the surface water runoff from a site including rainwater tanks, permeable paving and living roofs. Retrofitting of sustainable urban drainage systems will be encouraged where appropriate. **Matrix??**

Further guidance on SuDS document can be viewed here:

Merton's Strategic Flood Risk Assessment (2015) level one

<http://www.merton.gov.uk/environment/planning/planningpolicy/localplan/planningresearch.htm>

The National Standards for SuDS

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

SuDS Manual (CIRA C753):

http://www.ciria.org/Memberships/The_SuDs_Manual_C753_Chapters.aspx

11.98 Applicants should also show they have had regard to the drainage hierarchy in the London Plan (policy 5.13 *Sustainable drainage*) 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.

11.99 As part of any SuDS scheme, consideration should be given to the long term maintenance of the SuDS to ensure that it will remain functional for the lifetime of the development.

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

What should a Sustainable Drainage Strategy include?

- 11.101 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.

Sewer flooding

- 11.102 Basements developments may be more susceptible to sewer flooding and this should also be considered by the structural or civil engineer. As a minimum it is recommended that all drainage connections from basements and subterranean to sewers should be fitted with a one way valve to prevent the drains flooding the basement if they surcharge. During periods when the drains are surcharged, the drainage system may not work. Basement designers should consider installing a pumped sewage system to protect against these particularly in areas where there is an increased sewer flood risk.

A site-specific FRA

- 11.103 A FRA 's must be submitted with you planning application if your proposed development is located in a flood risk area in accordance with Merton's Local Plan. The FRA should demonstrate that the development will avoid increasing flood risk for the site and beyond (and where possible will reduce flood risk, taking climate change into account). This may be through appropriate layout and design, and use of flood resistance and resilience measures to reduce the impact of any flooding.
- 11.104 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 any existing sub-surface water flow regime are not interrupted.

- 11.105 Furthermore the FRA must also address the impact of the proposed extension on the ability of the floodplain to store floodwater during the 1% annual probability (1 in 100 year) event including allowance for climate change and where necessary to ensure any existing sub-surface water flow regimes are not interrupted.
- 11.106 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 to planning policies (national, regional and Local).

Groundwater flow

- 11.107 Subject to existing constraints, geology and the proposed design and development may affect groundwater levels and flows and even though the displaced water may be likely to find a new course around the area of obstruction, this may have other consequences for nearby properties or structures, or the environment such as existing tree, etc.
- 11.108 Given the nature of the ground and the hydrogeological conditions in many higher parts of the borough or those areas where streams once flowed, basement development may have the potential to divert or displace groundwater which may cause a rise in groundwater (back-water effect) and cause flooding upstream of the development.

Geology

- 11.109 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) which can be viewed here
- 11.110 The areas most susceptible to groundwater flooding across the borough, 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) which are typically associated with river valleys.
- 11.111 It should be noted however that the Susceptibility to Groundwater Flooding Dataset provides a high level assessment of potential wider risk across the borough and 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.

For preliminary stages the surface geology data and nearby bore-hole surveys can be obtained from BGS website

<http://www.bgs.ac.uk/>

Development under a highway

- 11.112 Merton Council is the highways authority for most streets in the borough, a number of major streets in the borough are the responsibility of Transport for London (TfL) 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:

<http://www.merton.gov.uk/transport-streets/roads-highways-pavements.htm>

- 11.113 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.
- 11.114 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.

12 Other controls and legislation

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

UK Environmental legislation:

<http://www.legislation.gov.uk/all?theme=environment>

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

Further detail on Merton's Building Control services:

http://www.merton.gov.uk/environment/buildingcontrol/application_forms.htm

Highways

- 12.4 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.
- 12.5 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.
- 12.6 If you are considering storing building materials such as bricks, or bags of sand on the carriageway, a materials licence application must be submitted prior to when it is required. It is an offence to place anything on the highway without permission from the local Highways Authority (Highways Act 1980, section 169). 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.
- 12.7 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:
<http://www.merton.gov.uk/transport-streets/scaffold-licences.htm>

Further details on skip licences can be viewed via:
<http://www.merton.gov.uk/transport-streets/skip-licensing.htm>
- 12.8 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.
- 12.9 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.
- 12.10 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*

12.11 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.

12.12 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:

<http://www.merton.gov.uk/environment/environmentalhealth.htm>

12.13 Environmental Health team is also responsible for issues related to contamination. Where development involves excavation the applicant should consider if there could be any source of contamination e.g. oil storage tanks associated with the heating system or any previous land use. If you have questions or find any unexpected contamination during the works you must contact the council's Environmental Health team.

12.14 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:

<http://www.merton.gov.uk/environment/environmentalhealth.htm>

Freeholder permission and other Codes and Guidance

12.15 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

12.16 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.

- 12.17 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.

DRAFT

13 Appendices

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 and Merton’s Local Plan.

Topic	London Plan	Merton’s Local Plan
Design	Policy 5.3: Sustainable design and construction	Core Planning Strategy policy CS 14: Design Sites and Policies Plan policies: <ul style="list-style-type: none"> • DM D2 Design consideration in all developments • DM D1 Urban design and the public realm • DM D3 Alterations and extensions to existing buildings
	Policy 7.2 Inclusive environment	
	Policy 7.3 Designing out crime	
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 • DM F2 Sustainable urban drainage systems (SuDS), and wastewater and water infrastructure
	Policy 5.15 Water use and supplies	
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 Polices Plan policy <ul style="list-style-type: none"> DM D4 Managing heritage assets
	Policy 7.8 Heritage assets and archaeology	

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

Appendix B: Guidance on contents of Structural Methodology Statement (SMS)

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

- a) A thorough **desk study** to include the site history, age of the property, site survey, geology, historic river courses and underground infrastructure, including utilities services, drains and tunnels. This should also identify other basement developments in the area, so that cumulative effects can be considered.
- b) An appraisal of the existing structure including drawings to show the arrangement of the existing structures. The appraisal should identify previous alterations and any obvious defects. It should also assess the condition and location of the building with adjoining buildings. This should include opening up works to investigate the existing structure, which should be summarised on a set of drawings.
- c) A **site investigation** which can be demonstrated to be relevant to the site together with trial pits to show the existing foundations and the material they are founded on, for all walls which may be impacted by the proposals. If groundwater is present, the levels should be monitored for a period of time.
- d) Details of the engineering design which should be advanced to detailed proposals stage. Relevant drawings should be provided to show how the designers have addressed the following:
 - o ground conditions and groundwater
 - o existing trees and infrastructure
 - o drainage
 - o flooding
 - o vertical and horizontal loading
 - o structural engineering general arrangement and details; drawing showing underpinning, piled wall for example

- e) An analysis of the Upper Aquifer (when it exists) and how the basement may impact on any groundwater flow.
- f) Details of flood risk, surface water flooding, critical drainage areas explaining how these are addressed in the design. A full flood risk assessment should be carried out in those areas identified as requiring one at Figure 4 of the guidance.
- g) An assessment of movements expected and how these will affect adjoining or adjacent properties. This needs to include both short term and long term effects. The design and construction should aim to limit damage to all buildings to a maximum of Category 2 as set out in CIRIA Report C753.
- h) Details of sequences of construction and temporary propping to demonstrate how the basement can be built to prevent movements exceeding those predicted. It should show how the horizontal and vertical loads are supported and balanced at all stages of construction and consider the interaction between permanent works and temporary works.

Appendix C: Guidance on Construction Management Plan

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.

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 they will be any impact on waiting/loading restrictions; parking facilities; emergency services access; public transport; refuse collection; deliveries; adjacent land uses – for example schools, railway lines or busy roads, local businesses etc.
- Confirm the adjoining public highway will be kept clean and free from obstructions and that you are aware of Highways

requirements to make good any damage to the highway once works are complete and will undertake repairs to WCC requirements in the event of any damage.

- Confirm you have contacted the council's Highways team and you are aware of timescales and requirements in relation to any temporary Traffic Management Orders. Road closures are likely to need public consultation.

G. Handling Materials and Waste

What arrangements have you made for recycling and transportation of construction waste?

- 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.
- 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.
- 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.

Appendix D: London Borough of Merton useful contacts

Council team	Area	Contact
<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 http://www.merton.gov.uk/environment/planning/planningpolicy.htm
<i>Lead Local Flood Risk Authority</i>	Queries relating to: <ul style="list-style-type: none"> • flooding risk management • Flood Risk Assessments • Sustainable Drainage Strategies 	020 8545 3899 trafficanhighway@merton.gov http://www.merton.gov.uk/environment/flooding.htm
<i>Development Management (formally 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 http://www.merton.gov.uk/environment/planning.htm
<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 3145 BuildingControl@merton.gov.uk http://www.merton.gov.uk/environment/buildingcontrol.htm
<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 http://www.merton.gov.uk/environment/buildingcontrol.htm

<p><i>Traffic and Highways</i> (for red routes please refer to Transport for London)</p>	<p>Queries relating to:</p> <ul style="list-style-type: none"> • Works to highways • Licensing of skips/temporary structures license (hoarding, scaffolding etc.) • Parking suspensions • Obstructions on the Highway 	<p>020 8545 trafficandhighways@merton.gov.uk ov.uk</p>
<p><i>Environmental Health</i></p>	<p>Queries relating to:</p> <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 	<p>020 8545 3025 ehealth@merton.gov.uk http://www.merton.gov.uk/environment/environmentalhealth.htm</p>

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