Job No. 1709 13 Westmoreland Place June 2021

Structural Methodology Statement (SMS) at 13 Westmoreland Place, London SW1V 4AA



Project Name. 13 Westmoreland Place, London SW1V 4AA

Origin Date: June 2021

Prepared By:

Engineering Force (UK) Ltd

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Table of Contents:

- 1. PREFACE & APPOINTMENTS
- 2. DESIGN INFORMATION
 - a. Description of Proposals / Scope of Works / Drawings
 - b. Structural defects of Existing Building
- 3. SUB-SOIL CONDITIONS
 - a. Desk Study
 - b. Geology and Hydrology Conditions
 - c. Topography
 - d. Trees
- 4. HIGHWAYS, RAIL and UNDERGROUND
- 5. LISTED BUILDINGS
- 6. FLOOD RISK
- 7. BASEMENT DESIGN
- 8. POTENTIAL IMPACT ON ADJOINING OWNER'S PROPERTIES
 a. Potential Impact on Existing and Surrounding Utilities and Infrastructure
 b. Potential Impact on Drainage, Sewage, Surface and Ground Water.
- 9. METHOD STATEMENT
- 10. GROUND CONDITIONS
- 11. BASEMENTS PLANNING POLICY (SPD 24 October 2014)
- 12. CONTROL OF NOISE, VIBRATION AND DUST

Location street Map



Location Map Birdseye showing proximity of neighbouring properties.



Preface

This Structural Methodology Statement (SMS) has been reviewed in accordance with The Westminster's 'Supplementary Planning Document' for Basements dated 24 October 2014, Document ID Number: 6740.

Basement & underground developments should not:

- Cause harm to the built and natural environment and local amenity
- Harm the Amenity of Neighbours
- Loss of Open Space or Trees
- Result in flooding
- Lead to ground instability.

This basement impact assessment is a systematic check through these points to allow the Town Planners to make an informed decision of the basement proposals.

This report is for planning purposes only and is not for construction. The information, drawings, method statement and other information in this report are for planning purposes. Any design warrantee or insurances from Engineering Force (UK) Ltd. may be provided in the final design. Further information and design considerations must be undertaken before building regulations submission. The information provided in this document is not for construction.

The architect has been informed that the report is solely for the purpose of the planning stage. During design stage it is required to carry out further investigation such as trial holes and other exposure works and site investigation report to be able to justify the final design.

Appointments

Engineers:

The Applicant's Architect has appointed Engineering Force (UK) Ltd who have successfully carried out over 50 successful basement designs and constructions.

Engineers Retention:

The Engineers have received an appointment to retain their services for the duration of the planning stage.

Builder:

The Applicant will appoint a contractor for this project who is experienced in basement construction as well as being a member of the 'Considerate Constructors Scheme' and the ASUC Association of Specialist Underpinning Contractors.

Design Information

Description of Proposals / Structural Summary / Scope of Works

This Methodology Statement has been produced to accompany the Planning Application for 13 Westmoreland Place, London SW1V 4AA. The existing building is late 18th Century and consists of a 5-storey terraced building being used as residential. The building sits on South of Westmoreland Place leading to Lupus Street being the closest main Road. Westmoreland Place is a level road. The property sits on the border line of the public footpath to Westmoreland Place with underground vaults to the front beneath the public footpath.

The existing building comprises of a traditional built solid wall construction with facing bricks and internal timber suspended upper floors and ground bearing concrete slab at basement floor. We have contacted Westminster's Building Control Department to seek previous design drawing showing the nature of existing foundation, but nothing could be found in the archive. We will therefore assume, bearing in mind the age of the building, that the existing building is supported on conventional concrete trip foundations.



Sketch showing assumed existing section.



Sketch showing proposed section where the level of the vault have been lowered.

The current use of the building is residential over ground, 1^{st,} 2nd and 3rd floor being a mansard roof together with basement.

There is no change of use proposed. The use of residential will continue, therefore the imposed floor loading of 1.5kN/m² as set out on table 1 of BS6399 will remain.

The proposal involves lowering of the slab level in the vault area in order to gain headroom and also the removal of the two internal walls. The area in vault have been proposed to be used as gym, therefore in the designing the new basement slab in this areas, we will consider a higher imposed load of 2.5kN/m².

The location of the vaults is in front of the property beneath the public footpath. Therefore, the highway surcharge load from fire engine, road traffic and general surcharge from public footpath as well as hydrostatic lateral pressure and uplift pressure from any ground water is a key factor and needs to be considered in any structural changes.

The proposed works does have an impact on the adjoining structure. Our investigation shown that the adjoining properties also benefits from similar vault structure. Any level changes in the vault that will be below the existing foundations will undermine the vault structure and therefore an engineering design solution would be required.

The proposed engineering design at this stage is to carry out underpinning to the vault structure. Furthermore, installation of steel frame structure would be requiring maintaining the structural stability of the vault structure when removing the internal two walls which is acting as buttressing.

Type of	Examples of specific use		Uniformly distributed	Concentrated load
activity/occupancy for			load	
structure			kN/m ²	kN
A Domestic and residential	All usages within self-contained	A1) single	15	14
(Also see category C)	family (a) dwelling units Communal areas (including kitchens) in blocks of flats with limited use (See note 1) (For communal areas in other blocks of flats, see C3 and below)		1.0	
	Bedrooms and dormitories except those in A) single family dwelling units and in (A) hotels and motels		1.5	1.8
	Bedrooms in hotels and motels Hospital wards		2.0	1.8
	Toilet areas			
	Billiard rooms		2.0	2.7
	Communal kitchens except in flats covered by note 1		3.0	4.5
	Balconies	Single (A) family (A) dwelling units and communal areas in blocks of flats with limited use (See note 1)	1.5	1.4
		Guest houses, residential clubs and communal areas in blocks of flats except as covered by note 1	Same as rooms to which they give access but with a minimum of 3.0	1.5/m run concentrated at the outer edge
	-	IIotels and motels	Same as rooms to which they give access but with a minimum of 4.0	1.5/m run concentrated at the outer edge
B Offices and work areas not covered elsewhere	Operating theatres, X-ray rooms, utility rooms		2.0	4.5
	Work rooms (light industrial) without storage		2.5	1.8
	Offices for general use		2.5	2.7
	Banking halls		3.0	2.7
	Kitchens, laundries, laboratories		3.0	4.5
	Rooms with mainframe computers or similar equipment		3.5	4.5
	Machinery halls, circulation spaces therein		4.0	4.5
	Projection rooms		5.0	To be determined for specific use
	Factories, workshops and similar buildings (general industrial)		5.0	4.5
	Foundries		20.0	To be determined for specific use
	Catwalks		—	1.0 at 1 m centres
	Balconies		Same as rooms to which they give access but with a minimum of 4.0	1.5/m run concentrated at the outer edge
	Fly galleries		4.5 kN/m run distributed uniformly over width	
	Ladders		5-52	1.5 rung load

Table 1 — Minimum imposed floor loads

Extract if Table 1 from BS6399-1



Sketch showing existing basement / vault plan.





Method of construction for lowering the basement/vault slab, underpinning and installation of stability steel frame is summarised as:

- 1. Removal of all internal non-structural elements.
- 2. Carry out exposure works as specified on the structural engineering drawings to establish the depth and shape of existing foundations of the vaults and the main house.
- 3. One the exposure works is completed, structural engineer to visit the site to finalise design and issue construction drawings.
- 4. Carry out underpinning as per the sequence of the operations such as hit and miss as specified on structural engineers plans and specification. Excavate in 1.0m wide section including braking out the existing slab. Please note that the whole slab area should not be removed.
- 5. Provide necessary proposing and any other temporary supports as specified.
- 6. Fix reinforcement bars and continuity bars of for the base and stem for the excavated 1.0m section and C35 DS1 mass concrete the pins to within 75mm of the underside of the existing foundations.
- 7. After 24hours curing, dry pack between the new concrete and existing foundations with 1:2 sharp sand and cement, well rammed in to place without any voids.
- 8. Keep maintaining proposing as works proceed and repeat the process allowing for 48 hours curing between adjacent underpins.
- 9. Allow for inspection of every pin by Building Control Inspector and periodic inspection by Structural Engineer.
- 10. Cut down the manhole walls to suit the new levels.
- 11. Install stability steel frame, one at the time.
- 12. After completion of the pins and the installation of the stability frame prepare the reinforcement mesh for the slab and pour the new 200mm thick reinforced concrete slab.
- 13. Water proofing in the basement by specialist.



Plan showing extend of underpinning. More details to be provide at design and construction stage.



Structural Defects to Existing Building

No significant structural defects noted. No sign of movement or subsidence.



Figure 1: Basements in the Planning process, roles and responsibilities

HIGHWAYS, RAIL, UTILITIES and UNDERGROUND

The property is right along the highway and pedestrian footway. The vaults are located beneath the public footpath.

Highways loading allow: 20kN/m2 if within 45° of road 100kN point loads if under road or within 1.5m 5kN/m2 if within 45° of Pavement Public footpath Surcharge 10.0kN/m2 Surcharge for adjacent property to be confirmed.

The site is NOT over (or within the exclusion zone) of any tunnels, e.g. railway lines. For further information please refer to S.I. Report and Utilities Search.

There are NO trees near to or adjacent to the site.

Special precautions for foundations near to trees is therefore NOT required.

SUB SOIL CONDITIONS



The British Geological Survey indicates that the Bedrock Geology superficial deposit: Alluvium – Clay, Silt, sand peat. Sedimentary superficial deposit formed between 11.8 thousand years ago and the present during the Quaternary period.

Bedrock Geology: London Clay Formation – Clay and silt. Sedimentary bedrock formed between 56 and 47.8million years ago during the Palaeogene period.

Flood Map shows the property is in Flood Zone 1.



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FLOOD RISK

A Flood Risk Location Map is attached to this report which shows the site with the yellow marker indicating the subject property is located in Flood zone 3 which is areas benefiting from flood defence. The property is therefore NOT considered to be exposed to any hazard from flooding. However, it is very much possible that during excavation ground water may be present.

A separate 'Flood Risk Assessment' can be provided if required.

As part of the proposed site drainage, the surface water flows (e.g. volume of rainfall and peak run-off) will NOT be materially changed from the existing route.

The proposed basement development will NOT result in a change to the hard surfaced/paved external areas.



Job No. 1709 13 Westmoreland Place June 2021



Job No. 1709 13 Westmoreland Place June 2021

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The proposed basement will NOT result in changes to the inflows (instantaneous and long term) of surface water being received by adjacent properties or downstream watercourses.

The proposed basement will NOT result in changes to the quality of surface water being received by adjacent properties or downstream watercourses.

The proposed development will enter the current drainage system.

As Clays soils are encountered at depth, then a 150mm layer of compacted type 1 should be provided to prevent damming.



Extract from Figure 23, Arup (2008). Camden geological, hydrogeological and hydrological study, Guidance for Subterranean development. Dated 18 November 2010.

Ground Water Design

The groundwater has been assumed to be at 2/3rd full height of the retaining walls in accordance with BS 8102 which have been designed for localised failure for burst mains and the like.

BASEMENT / FOUNDATION DESIGN

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Loadings

Intended use as residential building.

Loading Requirements for Residential use: UDL = 1.5Kn/m² Concentrated Load = 1.4Kn Exposure / Wind = 0.6Kn/m²

Loading Requirements for ROOF without access use: UDL = 0.75Kn/m² Concentrated Load = 2.7Kn Exposure / Wind = 0.6Kn/m²

No reduction for live load reduction has been assumed.

Progressive Collapse

Proposed number of storey is 5 (basement, ground, first, second and third) EN 1991-1-7:1996 Table A1



The application site falls under Use Class 1 of Table 11 of Approved Document 2004.

Lateral Stability

The existing structure above ground has not been proposed to be changed. The stability of the building is achieved via the external load bearing wall being held together via the floor and roof structure acting as diaphragm.

Construction Drawings

A full set of design and detailed construction drawings will be prepared with method statement prior to construction.

Drainage & Damp Proofing

Drainage and damp proofing is by specialist sub-contractor under warrantee.

This will be by a Newton or Delta membrane system with Titan or Bulldog sump pumps, back up pumps, alarm and telemetry warning systems.

Temporary Works

There is no requirement for temporary support apart from the excavation for underpinning.

The underpinning steam and base structure will be designed and detailed as cantilever walls.

Foundation Design

The Foundations and Basement design will be carried out by Engineering Force (UK) Ltd., Structural Engineers. The design will be in accordance with the following documents and approved by the London Borough of Westminster Transportation and Highways Department.

- BS 8110 Part 1 1997 Structural Use of Concrete
- BS 8002 2015 COP for Earth Retaining Structures
- BS 8102 1990 Protection of Structures against water from the ground
- General Requirements for the Design and Approval of Structures Supporting the Public Highway.

Prior to construction further investigations require to be carried out. Trial holes and exposure works is required in order to establish the depth and shape of the existing foundations and also to establish the existing water table levels.

POTENTIAL IMPACT ON ADJOINING OWNER'S PROPERTIES

The application site is terraced house and therefore there is an immediate impact on the adjoining owner's property and structure. As the proposed works involves excavation within 3m of the neighbouring property, a Three Meter Excavation Notice is required to be issued under the Party Wall Atc. Etc. 1996.

The proposed method of construction if followed carefully will not affect the neighbouring structure and there is very minor chance of any movement as the underpinning and not directly under the adjoining properties.

The new basement foundations are expected to have a relatively limited effect on the hydrological flows and hydrogeology below this site and the adjacent properties.

In conclusion, the geology at the depth of the proposed foundations will be capable of supporting the existing imposed loads and should have NO effect on the neighbouring properties.

Dust and noise impacts to neighbours will be monitored throughout the building process ensuring that the property is hoarded at the front. All operations will be strictly in accordance with the Council's requirements of 8.00am to 6.00pm weekdays. No Saturday or Sundays or Bank holidays working will be allowed. All mechanical tools will be muffled and plant fitted with silencers and the use of hand tools are encouraged.

Monitoring and Predicted Category of Damage

In order to safeguard the existing structures during underpinning and new basement construction movement monitoring is to be undertaken. Surveying studs are to be attached to the existing structures at ground and first floor levels at front and rear. The surveying points on the existing structures are to be set up using a Total Station reference point prior to the commencement of works and to be read weekly and reported against the following control values.

The Limits on ground and existing structures movement during underpinning and throughout the construction works shall be:

Movement of survey points must not exceed: Settlement: Action values: 5mm (stop work) Trigger values: 65% of action values (submit proposals for ensuring action values are not exceeded)

Lateral displacement: Action values: 6mm (stop work) Trigger values: 65% of action values (submit proposals for ensuring action values are not exceeded)

Movement approaching critical values: Trigger: Submit proposals for ensuring action values are not exceeded Job No. 1709 13 Westmoreland Place June 2021

Action: Stop work The reporting format will be in the form of a table as attached.

Extract from The Institution of Structural Engineers "Subsidence of Low-Rise Buildings"

Category of Damage	Approximate crack width (mm)	Description of typical damage Ease of repair in italic type		
0	Up to 0.1*	Hairline cracks of less than about 0.1mm width are classed as negligible		
1	Up to 1*	Fine cracks which can easily be treated during normal decoration. Perhaps isolated slight fracturing in building. Cracks rarely visible in external brickwork.		
2	Up to 5*	Cracks easily filled. Re-decoration probably required. Recurrent cracks can be masked by suitable linings. Cracks not necessarily visible externally, some external repointing may be required to ensure weathertightness. Doors and windows may stick slightly.		
3	5 to 15 (or a number of cracks up to 3)	The cracks require some opening up and can be patched by a mason. Repointing of external brickwork and possibly a small amount of brickwork to be replaced. Doors and windows sticking. Weathertightness often impaired.		
4	15 to 25* but also depends on number of cracks	 25* but Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Imber of Window and door frames distorted, floors sloping noticeably (1). Walls leaning (1) or bulging noticeably some loss of bearing in bearns. Service pipes disrupted. 		
5	Usually greater than 25* but depends on number of cracks	This requires a major repair job involving partial or complete re- building. Beams lose bearing, walls lean badly and require shoring. Windows broken with distortion. Danger of instability.		

Classification of visible damage to walls with reference to ease of repair

Predicted Category of Damage

The predicted category of damage is likely to be within BRE Category Slight, with possible localised crack widths 2mm to 5mm Classification Aesthetic.

Potential Impact on Existing and Surrounding Utilities and Infrastructure

All services, electrical mains, gas and water are to be maintained during construction. A survey will be undertaken before construction starts on site at which time the routes of the various services will be determined and mapped out. A temporary electrical power board and water point will be established. Any necessary diversions will be agreed between the contractor and the design team and will be by prior agreement with the Utility Authority concerned.

Potential Impact on Drainage, Sewage, Surface and Ground Water.

All existing drainage and sewerage connections will be maintained throughout the construction process. By design and method of working, there will be no impact on these systems. Albeit the property is being extended by the use of the extension area at the rear, the household occupancy will be unchanged and therefore there should be no significant increase on the existing drainage and sewerage systems. Surface water run off will be similar to as before and the trial results should indicate that the basement, being above the water table, there should not be any impact on the underground water flows and levels.

The proposed works does not affect the existing drainage system and therefore does not required to be diverted in temporary condition. In its final condition the existing and new drainage will be taken below the ground slab level and run at a gradient of 1 : 40 for a 110mm diameter underground pipe to the new chamber.

The property will also be lined with a 'Delta / Newton Membrane' proprietary waterproofing system and floor membrane.

A sustainable, environmentally friendly and responsible approach will be taken in the design of the surface water and cavity drainage systems for the development, which will also be in accordance with the SuDS and Water Framework Directive.

METHOD STATEMENT

Sequence of Works

- 1. Identify and mark existing services. Provide temporary electrical power and water. Access will be from the front light well of the property, with excavations progressing towards the front. A hoarding will be erected at the front of the property for health and safety measures and dust control.
- 2. All none structural elements will be removed.
- 3. Excavation and spoil removal will all be done by hand, loading arising in to bags and then removed from site.
- 4. The lowering of the vault slab will be underpinned in sequence shown on the structural engineers drawing.
- 5. The new concrete foundations and slabs will be constructed, where specified on the structural drawings.

- 6. The underpinning will be carried out in a sequence of underpinning operations in maximum 1000mm widths, subject to inspection of the existing foundations and ground conditions. Using these underpinning widths safeguards the existing foundations from damage due to the local arching effects of the mass brickwork and also provides a safe working environment for the operative and is a tried and tested method of construction. When all the underpinning to form the new basement have been completed, bulk excavation to be carried out to formation level.
- 7. Place any necessary below ground services as specified by the mechanical engineer and architect. Place reinforcing mesh and concrete Slab.
- 8. Install the two stability frame to maintain the stability of the vault at all times.
- 9. After the new basement slab has cured, a cavity drainage system, such as Newton or Delta will be laid to the slab and walls.

BASEMENTS PLANNING POLICY AND SUPPLEMENTARY PLANNING GUIDE October 2014

Guidance on Contents of Structural Methodology Statement (SMS)

APPENDIX 1: CONTENTS OF STRUCTURAL METHODOLOGY STATEMENT (SMS)

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

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

- · ground conditions and groundwater
- · existing trees and infrastructure
- drainage
- flooding
- · vertical and horizontal loading
- structural engineering general arrangement and details; drawing showing underpinning, piled wall etc.
- E. An analysis of the Upper Aquifer (when it exists) and how the basement may impact on any groundwater flow.
- F. Details of flood risk, surface water flooding, critical drainage areas explaining how these are addressed in the design. A full flood risk assessment should be carried out in those areas identified as requiring one at Figure 4 of the guidance.
- G. An assessment of movements expected and how these will affect adjoining or adjacent properties. This needs to include both short term and long term effects. The design and construction should aim to limit damage to all buildings to a maximum of Category 2 as set out in CIRIA Report 580.
- H. Details of sequences of construction and temporary propping to demonstrate how the basement can be built to prevent movements exceeding those predicted. It should show how the horizontal and vertical loads are supported and balanced at all stages of construction and consider the interaction between permanent works and temporary works.

CONTROL OF NOISE, VIBRATION AND DUST

Site Evaluation Guidelines

Low risk sites

- Development of up to 1,000 square metres of land and;
- Development of one property and up to a maximum of ten and;
- Potential for emissions and dust to have an infrequent impact on sensitive receptors

4.2 Mitigation Measures for Low Risk sites

These sites will be small developments on land with an area of up to 1,000 square metres with the potential for an infrequent impact on sensitive receptors. The following Best Practice Measures should be used:

Low Risk

Site Planning

- Erect effective barriers around dusty activities or the site boundary (Section 6.1).
- No bonfires (Section 6.11).
- Plan site layout—machinery and dust causing activities should be located away from sensitive receptors (Sections 6.1 and 7.3).

Construction traffic

- · All vehicles should switch off engines no idling vehicles (Section 7.3).
- Wash or clean all vehicles effectively before leaving the site if close to sensitive receptors (Section 6.3).
- All loads entering and leaving site to be covered (Section 6.2.3).
- No site runoff of water or mud.
- All non road mobile machinery (NRMM) to use ultra
- low sulphur tax-exempt diesel (ULSD) where available (Section 7.2).
- On-road vehicles to comply with the requirements of a possible future Low Emission Zone (LEZ) as a minimum (Section 7.1).

Demolition Works

- · Use water as dust suppressant (Sections 6.10 and 6.13).
- Cutting equipment to use water as suppressant or suitable local exhaust ventilation systems (Section 6.8).
- Securely cover skips and minimise drop heights (Section 6.9).

Site Activities

- Minimise dust generating activities (Sections 6.8, 6.9, 6.10 and 6.15).
- Use water as dust suppressant where applicable (Section 6.6).
- Keep stockpiles for the shortest possible time (Section 6.7).

From the Mayor's Best Practice Guidance, this site is 'Low Risk'

Noise and vibration

1.Noise will be kept within the legal limits as defined in the Environmental Protection Act 1990.

2.Noisy operations will only take place during the following site working hours:

• Monday to Friday - 8am to 6pm

3. All work will be carried out in accordance with BS 5228-1:2009 and BS 5228-2:2009. All works will employ Best Practicable Means as defined by Section 72 of the Control of Pollution Act 1972 to minimise the effects of noise and vibration. All means of managing and reducing noise and vibration which can be practicably applied at reasonable cost will be implemented.

4. The following measures will be taken:

a. Consultation / communication with neighbours / affected others prior to the start of the works.

b. Use only of modern, quiet and well maintained equipment, all of which will comply with the EC Directives and UK regulations set out in BS 5228-1:2009.

c. Use of electrically powered hand tools rather than air powered tools that require a compressor unless particularly hard concrete or other ground obstructions are encountered. If used air powered tools and a compressor will be used for to the minimum extent practicable.

- d. Operating the site as a closed site, that is:
 - i. Leaving the building facade and roof in place during the work.
 - ii. Having all windows and door closed during noisy operations within the building (the basement is being built only within the footprint of the existing building).
 - iii. Installing insulation in the windows and other openings at ground floor to reduce noise escaping the site.
 - iv. Closing openings in the building / hoarding with timber and lining insulation.

e. Avoidance of unnecessary noise (such as engines idling between operations or excessive engine revving, no radios no shouting)

f. Use of screws and drills rather than nails for fixing the hoarding.

g. Careful handling of materials, so no dropping of materials from height into skip etc. Spoil will be deposited into the skip from approximately two metres height but this does not cause unreasonable noise.

h. Ensuring that the conveyor is well maintained with rollers in good working order and well oiled.

i. Isolating the neighbouring properties from vibration / breaking out work where practicable. In particular the edges of the existing concrete slab at ground floor will be broken out first (this isolating the remaining slab at ground floor) before the main part of the existing ground slab is removed.

j. Collection / delivery times will be as given in the CTMP.

k. Collection / delivery vehicles will not loiter / wait in the area before the allowed times.

5. Vibration will be kept well below the levels that may damage buildings, given in BS 7385-2:1993.

Dust

1. The site has been assessed using the Mayor of London's Best Practice Guidance on The control of dust and emissions from construction and demolition, July 2014, section 4 as a Low risk site as it is:

- Under 2,500 square metres of land.
- Development is only one property
- Has potential for emissions and dust to have an infrequent impact on sensitive receptors. This is based on the site being within the enclosure of the existing building.
- Take in to account the impact of air quality and dust on occupational exposure standards to minimise worker exposure and breaches or air quality objectives that may occur outside the site boundary, such as by visual assessment.
- Keep an accurate log of any complaints from the public and take measures to address these complaints.
- 2. In accordance with the guidance the following actions will be taken:

a. Barriers will be erected / maintained around dusty activities and the site boundary.

b. Hoardings, fences, barriers and scaffolding will be regularly cleaned with wet cloths. Used water will be collected to maximise the use of recycled and non-potable water.

c. Regular checks will be performed within 100m. Of the site to check for soiling due to dust and cleaning shall be carried out where necessary.

d. Visitors and Staff shall be encouraged to change clothes and shoes before going off site otherwise cleaning facilities, boot cleaners and the like will be in place to prevent dust being transported off site.

e. The site will be planned so that dusty activities are kept within the protected site boundaries where practicable.

f. Delivery / collection vehicles will switch off engines where possible.

g. The onsite mini-digger will be thoroughly cleaned before being moved from site.

h. All materials will be supplied covered including all cement and ballast that will be supplied in closed bags and covered in shrink wrapped plastic sheeting. No materials will be supplied in loose form.

i. No site run off of water or mud until the water has been left to settle and is free from particles (as explained in the CTMP).

j. During demolition:

- i. Special care to ensure that the site is closed.
- ii. Water to be used as a dust suppressant if appropriate / needed.
- iii.Cutting equipment to use water as a suppressant or to have a local extraction ventilation system.

k. Skips are to be discouraged, but any skip will be fully covered during normal operations.

I. The skip will be damped down before the grab removes the spoil if appropriate / needed.

If measures to control dust are unsuccessful work will stop and alternative methods will be devised.



Flood map for planning

Your reference **SW1V 4AA**

Location (easting/northing) **528901/178144**

Created **23 Jun 2021 13:47**

Your selected location is in flood zone 3 – an area with a high probability of flooding that benefits from flood defences.

This means:

- you may need to complete a flood risk assessment for development in this area
- you should ask the Environment Agency about the level of flood protection at your location and request a Flood Defence Breach Hazard Map (You can email the Environment Agency at: enquiries@environment-agency.gov.uk)
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (find out more at www.gov.uk/guidance/flood-risk-assessmentstanding-advice)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

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