

BHC-P-13.1 Work at Height

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Revision register		
Date	Version	Description - reason for change
01/05/2015	1	New procedure
21/03/2016	2	Update to include Mansard Roofing requirements to Appendix 1
11/04/2018	3	Review and update following issue of v5 of BG Standards
09/12/2020	4	General review in line with Group Standards and current legislation. Key changes include: 5.2 Additional detail confirming requirements for fixed edge protection in 5.2 + 5.10, Clarification of controls for working in voids/ shafts in 5.8+5.9.

Item	Details	Reference	Responsibility
1.0	Purpose		
1.1	To detail arrangements and control measures for working at height to ensure it is properly planned in line with the hierarchy of control, appropriately supervised and carried out in a manner that is, so far as reasonably practicable, safe.		
2.0	Scope		
2.1	Applies to the planning, implementation and management of all work at height activities. The specific control requirements relating to fixed access systems, portable access equipment and fall arrest equipment are detailed within specific individual procedures.	BHC-P-13.2-13.4	
3.0	Definitions		
3.1	Work at height Work in any place, including below ground level where, if there were no precautions in place, a person could fall enough to cause personal injury. Fall prevention Measure put in place to prevent persons or materials from falling. Fall mitigation Measure put in place to reduce the consequences of falling. Work restraint A system that allows a person access to do their work but prevents them from reaching a point where they could fall. Fall arrest Fall arrest is the form of fall protection which safely stops a person already falling.		
4.0	Main requirements		
4.1	Land purchase assessment When completing the Land Purchase Risk Assessment, the Land/ Planning department, in liaison with the Health and Safety department, must consider removing or reducing hazards associated with working at height. The Project Risk Register submitted with the Black Book must identify significant work at height risks and a Land Management Plan must be established before Contracts are exchanged that clearly demonstrates that the existing work at height risks on land/ buildings acquired have been mitigated.	BHC-F-05e	Land Manager(s) Land Manager(s)
4.2	Planning development From the commencement of the design process, the Development/ Planning team/ Principal Designer must: - Ensure that working at height is considered in the pre-planning permission design stage and the Design Risk Register maintained; - Identify hazards and eliminate them if possible or reduce the risk.	BHC-F-10c	Development/ Planning Manager(s)/ Principal Designer
4.3	Technical department The Technical Manager/ Principal Designer must ensure that:		

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	- Working at height is considered throughout the design period by identifying any hazards and reducing the risk where possible; - Design risk reviews include the requirement to reduce the work at height risks and the Design Risk Register is maintained; - Fixed access/ scaffold details are entered in the Projects Risk Register; - All scaffold structures are designed and design checked in accordance with the Temporary Works procedure and TG20/ engineered design. - Work at height risks associated with the access and maintenance of the completed building(s) are fully considered during the development of the design and this is reflected within the Design Risk Register.	BHC-F-10c BHC-F-05e BHC-P-11.1 BHC-F-05e	Technical Manager/ Principal Designer
4.4	Commercial department The Project Manager will include site specific work at height requirements within the scope of works that the commercial department sends out to the contractors on the tender list. This will be agreed with the health and safety department (and Temporary Works Co-ordinator where appropriate). As part of the tender process, contractors will be required to demonstrate that they will comply with the requirements of the Work at Height procedures. Within each Stage 2 CAQ submission, the contractor must identify the significant work at height risks and outline the control measures. Where the scope of works has identified working at height that will be controlled by work restraint or fall arrest, the contractor must ensure that suitable equipment is procured and provided before works on site commence. Where this falls under the control of the Berkeley project team, the Buying department must fulfil this requirement.	BHC-P-13.1-4 BHC-F-6a Stage 2 CAQ	Project Manager Contractor Contractor
4.5	Working at height activities Before starting work on site, contractors must assess their operations to determine any working at height risk. The findings must be included within the risk assessment and method statement (RAMS) submitted to the Berkeley project management team, and will be discussed at the Pre-Start Meeting. The planning of any working at height activity must be assessed and undertaken in line with the hierarchy of control as below: - Avoid working at height if possible; - Use an existing safe place of work; - Provide work equipment to prevent falls; - Mitigate distance and consequences of a fall; - Instruction and training and/or other means. The RAMS must include: - Assessment of all work at height and fall hazards; - Fall prevention systems provided (ahead of fall arrest systems) to protect anyone who could fall; - Work at height equipment of sufficient strength and stability for the works; - Rescue requirements and the procedures and time limitations these impose; - Training and competency requirements for the workers using plant or equipment to carry out any work at height; - Inspection and maintenance regime to keep equipment in good condition, or take it out of service.	BHC-F-05b BHC-F-06i WAHR 2005	Contractor/ Project Manager Project Manager
4.6	Inspections and records Competent, trained people must be appointed to conduct statutory inspections of work at height equipment including temporary works items. The Project Manager must ensure the following for all work at height equipment: - A weekly visual inspection regime is in place; - Uniquely identifiable and/or a valid inspection tag displayed; - Records are maintained.		Project Manager/ Contractor
5.0	Work at Height equipment: Minimum requirements		
5.1	Excavation edge protection Fall prevention in the form of fixed/ anchored rigid edge protection or proprietary rigid edge protection systems should be used. Where this is not reasonably practicable, work restraint systems must be used.		Contractor

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	Access into any excavation shall be avoided where possible. If persons are required to enter any excavation/ trench, suitable and sufficient access shall be provided. Wherever possible, stepped access with appropriate handrails should be provided. Where this is not reasonably practicable, a fixed ladder must be used.		
5.2	Working at fixed edges Fall prevention in the form of a traditional birdcage scaffold/ system scaffold should be prioritised. Where this is not reasonable practicable, MEWPs / cradles / mast climbers (in addition to edge protection as detailed above) or proprietary rigid edge protection systems should be considered. - Where using proprietary edge protection such as K Guard or Combisafe, the system must be installed in line with the manufacturer's instruction and inspected and signed off before being taken into use, in line with P-11.1 Temporary Works procedure. - Product specific training will be required, either by the manufacturer or a specialist training provider to ensure those installing and inspecting the system are suitably competent. - A drawing must be maintained of edge protection which is installed. A permit to strike must be issued before removal. Where these systems are not reasonably practicable, work restraint systems must be considered. Only where there is no suitable alternative should fall arrest systems, fixed to a suitable anchor point, be used (i.e. a full body harness).	BHC-P-11.1	Site Manager/ PCTWC
5.3	Working at leading edges Where working from below from a MEWP/ tower scaffold/ podium step is not possible, fall prevention in the form of a traditional birdcage scaffold/ system scaffold/ safety decking system (where rated as a working platform) should be prioritised. Where this is not reasonably practicable, work restraint systems should be prioritised over the use of fall arrest systems such as non-working platform safety deck systems/ safety nets/ air bags/ bean bags which reduce the fall distance as far as reasonably practicable. Only where there is no suitable alternative must a full body harness and arrest lanyard be used.	BHC-P-11.1	Contractor/ Project Manager
5.4	Joist and floor installation Fall prevention in the form of a traditional birdcage scaffold/ system scaffold/ safety decking system (where rated as a working platform) set at a height that reduces the distance below the joist as far as reasonably practicable must be prioritised. - Joisted floors: Where this is not reasonably practicable, a fall arrest non-working platform safety deck system that reduces the distance below the joist as far as reasonably practicable must be utilised. - Note: Safety nets/ air bags/ bean bags are not deemed to be suitable fall arrest systems as they do not reduce the distance below the truss as far as reasonably practicable and do not provide a suitable access platform. - Pre-cast concrete floors: Where this is not reasonably practicable, a fall arrest system such as a non-working platform safety deck system/ safety net/ air bags/ bean bags must be utilised in line with the contractors safe system of work.	BHC-P-11.1	Project Manager
5.5	Roof truss installation Fall prevention in the form of a traditional birdcage scaffold/ system scaffold/ safety decking system (where rated as a working platform) set at a height that reduces the distance below the truss as far as reasonably practicable must be prioritised. Where this is not reasonably practicable, a fall arrest non-working platform safety deck system that reduces the distance below the truss as far as reasonably practicable must be utilised. Safety nets/ air bags/ bean bags are not deemed to be suitable fall arrest systems as they do not reduced the distance below the truss as far as reasonably practicable and do not provide a suitable access platform.	BHC-P-11.1	Project Manager
5.6	Roof felt, battening and tiling The internal fall protection established for truss installation must not be removed until felt and batten is complete where:		Project Manager

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	19 x 38mm battens are used at rafter centres of 450 mm or less 19 x 38mm battens are used in conjuncture with reinforced felt (e.g. Tyvek), Where the above conditions cannot be met, the internal fall protection must not be removed until roof tiling is complete. Where voids have been left (e.g. for chimney installation), internal fall protection must remain in place.		
5.7	Mansard Roofs The use of battens as the work at height access is prohibited. Access provision should be made through the combined use of any flat roof sections, sequenced scaffold platform lifts, hop ups or suitably fixed ladders. Mansard roofs access requirements to be agreed prior to construction and detailed within Contractor's scope of works/ RAMS.		Project Manager
5.8	All holes in floors large enough for a person to fall through (including service risers / smoke vents / voids) During the design stage, consideration should be taken to eliminate/ minimise the risk of fall through service risers and voids by minimising the number and dimensions of these voids as far as reasonably practicable. Where holes cannot be designed out, the early installation of the permanent void protection and the use of construction methods that reduce the service opening to a minimum (i.e. cast-in firestop devices, sacrificial stairwell platforms) or eliminate the fall risk (i.e. cast in safety decking systems, slab reinforcement retained within riser opening) should be prioritised. Where this is not reasonably practicable, fall prevention in one of the following forms must be used: - Traditional birdcage scaffold/ system scaffold/ safety decking system (where rated as a working platform) providing protection at every floor height; or - Proprietary rigid edge protection systems of sufficient height to protect persons working on low level access equipment (i.e. stepladders, podiums, hop-ups, etc); or - Where the hole or void is large enough for someone to fall through, it must be protected and a temporary works design solution installation - Where a hole or void is created during the construction process that is not large enough for a person to fall through, it must be covered with a suitable material in line with the temporary works design solution installation such as plywood, and the void signed or painted red to identify it.	BHC-P-11.1	Technical Manager Project Manager Project Manager/ PCTW Co-ordinator
5.9	Lift and stair shafts During construction Where a working platform 'IS' required within a void to facilitate construction (e.g. stair cores, lift shafts and other voids with vertical walls) the following steps must be taken. - Ensure a proprietary support system is used and installed to the manufacturers' instructions, and the decking components are specifically designed and constructed for use with the support system. - Ensure that the working platform is supported from below as the preferred option rather than a suspended system, e.g. a design scaffold structure, proprietary formwork system etc. - Ensure where the requirements of the above cannot be implemented, that a secondary means of protection, in case of failure. e.g. crash deck, safety nets, fall restraint / arrest is provided. This should be determined by risk assessment and potential distance of fall. Where holes and voids are large enough for persons, materials or equipment to fall through but where access 'IS NOT' required to facilitate construction (e.g. any floor openings required for any process) - Ensure the hole and/or void must either be: - Secured against access by robust physical barriers (e.g. tube and fitting scaffold and toe board, or other proprietary method) and warning signage introduced or, - Secured by a proprietary infill solution which is subject to Temporary Works arrangements.	BHC-P-11.1	Project Manager/ TW Co-ordinator

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	When walls constructed Only a birdcage scaffold, providing protection at every floor, shall be used to provide fall protection within a shaft until a full height screen or rigid edge protection system (such as a proprietary metal lift screen with integral locking door) is fitted to the opening. The rigid edge protection solution should be fitted as early as possible, must be high enough to protect persons working on adjacent low level access equipment such as stepladders, etc. and will be inspected at time of installation and then every 7 days. Records are to be kept.		
5.10	Stairwell void and landing protection Fall prevention in the form of a traditional birdcage scaffold/ system scaffold/ safety decking system (where rated as a working platform) set at landing height must be prioritised. Where this is not reasonable practicable, proprietary rigid edge protection systems (i.e. Airtek) must be utilised until the permanent balustrade is installed. - These proprietary systems can be fitted by any contractor who can demonstrate that they have read and understood the manufactures guidance and who has provided the site team with a risk assessment and method statement covering the installation process. When working around stairwells in houses, the proprietary hand rail system (i.e. Airtek): - Should be installed as early as possible and always before the scaffold laydowns or sacrificial joists are removed; - Must be set out in line with the staircase configuration and to allow the Carpenter to install the stairs; - Must be set far enough back to allow the Drylining contractor to fit sole plates and metal track to the edge of the stairwell where necessary; - Shall be fitted by a competent contractor who follows the temporary works procedure and provides a Permit to Load before the system is taken into use; - Can only be removed if: - A proprietary Stair Platform has been installed by a competent person and it remains in place until the rigid edge protection system has been re-erected or the permanent balustrade installed; - A Permit to Work is in place to authorise the temporary removal of a half-landing handrail and enable materials to be loaded safely up a winding staircase within a suitably segregated exclusion zone.	BHC-P-11.1 BHC-P-11.1 BHC-P-11.1	Project Manager/ TW Co-ordinator Contractor Supervisor/ PCTWC Site Manager
5.11	Unloading vehicles (falls from vehicles) On arrival to site each delivery driver will be issued with a copy of the site rules/ permit to unload which must be read before entering site. Where access is required to the load bed of a vehicle, access arrangements and measures to prevent falls from height must be specified. The following hierarchy of controls must be applied to prevent falls from vehicle load beds: - Avoid working at height by using pre-slung loads that allow the load to be attached from ground level; - Use mechanical or remote means of loading or unloading e.g. tele-handler, FLT or lorry mounted crane; - Attach vehicle-based fall protection systems (e.g. proprietary guard rails, ratchet strap guard rails, running line systems, safety net system). The use of systems incorporating an intermediate rail are to be encouraged; - Use site-based collective fall protection systems such as soft landing systems and scaffold gantries. Designated loading bays should be considered on larger sites; - Use site-based fall arrest systems such as an Alsipercha system with full body harness and lanyard, air bags or bean bags. Access to the load bed shall only be permitted via a fixed, secured or footed ladder access. Fall prevention measures will not be required for low risk, short duration deliveries by small enclosed vehicles (e.g. Luton van) but safe access to the vehicle bed must be provided.	BHC-F-03f BHC-P-09.2	Gateman/ Logistics Manager Project Manager/ Contractor
5.12	Balcony installation Where doors and windows leading to balconies have been installed, the following measures must be in place until the balcony has been installed and fully completed, including the decking and handrails:		Project Manager

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	- All balcony doors must be locked shut, with door handles removed where it is possible and safe to do so, (not if removal requires access to the outside and introduces additional risk). - Keys to all balcony doors and windows must be securely stored in a site office. Keys must be controlled by a permit system to ensure that only authorised persons who have an adequate RAMS in place for the work they intend to carry out are given them. - All doors opening onto balconies will be protected by a physical barrier (minimum single guard rail until the balcony is installed). Full height windows which are not of a specification which prevents a person falling through them (e.g. safety glass) must also be protected by a suitable barrier. - Clear warning signs must be displayed on the inside of balcony doors to warn of the risk of falling. Balconies must not be used for storage of tools, materials or equipment. Balcony works must be fully considered as part of the Risk Review Meeting process. This is to identify any site specific risks that may need additional control measures such as working adjacent to occupied units, or working above site access routes. Balconies must be constructed as far as possible on the ground. The permanent handrails and permanent deck / floor should be in place as far as can be achieved before installation. Balconies must be designed to be lifted. - Some parts of the decking / platform may need to be left out in order to use the lifting slings, but no gaps should be left that are large enough for a person to fall through. - The permanent decking should be installed immediately after installation. Temporary in-fills may be necessary, and must be temporary works controlled if used. The installation of balconies must be controlled using the lift plan and/ or the balcony lifting permit.	BHC-F-12p	Project Manager Project Manager/ Contractor Lifting Supervisor/ LOM
5.13	Fragile surfaces (roof lights, cement sheeting, slates and tiles, glass etc) Where fragile surfaces have been identified, the following hierarchy should be adopted: - Carry out works from underneath from a suitable working platform wherever possible. - If the work cannot be carried out from underneath and access is needed to the topside of the roof, consider the use of a mobile elevating work platform (MEWP) that allows people to work from within the basket without standing on the roof itself. - If access onto the fragile roof cannot be avoided install perimeter edge protection and use platforms with guard rails on the roof surface to spread loads; establish that the roof will withstand the loads to be introduced onto it before access is attempted. - If not possible, birdcage scaffolding or safety nets should be installed by appropriate competent persons underneath. - Proprietary covers may be available to prevent someone who is passing or working near fragile material from falling through.		
6.0	Reference to other documents		
6.1	Legislation and Guidance Work at Height Regulations 2005 INDG401 Working at Height a Brief Guide		
6.2	Berkeley Group Standards BGCS07 Deliveries and Collections BGCS11 Excavations BGCS36 Scaffolding BGCS42 Temporary Works BGCS46 Work at Height BGCS Appendix 2 Working at Height		
7.0	Appendices		
7.1	N/A		

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