HEALTH AND SAFETY REPORT

Re-roofing and Installation of External Wall Insulation

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UWTSD Construction | Heol-y-Maes, Pontarddulais, Swansea

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GLOSSARY OF TERMS

Term	Meaning
ACM	*Asbestos Containing Material*
CAR 2012	The Control of Asbestos Regulations 2012
CDM 2015	Construction and Design Management Regulations 2015
CIOB	Chartered Institute of Builders
CONAW 2005	The Control of Noise at Work Regulations 2005
COLAW 2002	The Control of Lead at Work Regulations 2012
COSHH 2002	Control of Substances Hazardous to Health 2002
CSCS	Construction Skills Certificate Scheme
CTS	Carpal Tunnel Syndrome
CVW 2015	Control of Vibration at Work Regulations 2005
HASAWA 1974	Health and Safety at Work Act 1974
HAVS	Hand-arm Vibration Syndrome
HSE	Health and Safety Executive
H&S	Health and Safety
LOLER 1998	Lifting Operations and Lifting Equipment Regulations 1998
MHO 2002	Manual Handling Operations 2002
NASC	National Access and Scaffolding Confederation
PPE	Personal Protection Equipment
PPER 2022	Personal Protection Equipment Regulations (2022 amended)
PUWER 1998	Provision and use of Work Equipment Regulations 1998
RICS	Royal Institute of Chartered Surveyors
RIDDOR	Reporting of Injuries, Diseases, and Dangerous Occurrences 2013
SHSE	Scaffolding HSE
SSARW 2013	Safety at Streets and Road Works 2013
WAHR 2005	Working at Height Regulations 2005
WWII	World War Two

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1. HEALTH & SAFETY REGULATIONS

Table 1.1: The relevant health and safety regulations that are applicable to this operation.

Reference	Full Title
CAR 2012	The Control of Asbestos Regulations 2012
CDM 2015	Construction and Design Management Regulations 2015
CONAW 2005	The Control of Noise at Work Regulations 2005
COLAW 2002	The Control of Lead at Work Regulations 2012
COSHH 2002	Control of Substances Hazardous to Health 2002
CVW 2005	Control of Vibration at Work Regulations 2005
HASAWA 1974	Health and Safety at Work Act 1974
LOLER 1998	Lifting Operations and Lifting Equipment Regulations 1998
MHO 2002	Manual Handling Operations 2002
PPER 2022	Personal Protection Equipment Regulations (2022 amended)
PUWER 1998	Provision and use of Work Equipment Regulations 1998
RIDDOR	Reporting of Injuries, Diseases, and Dangerous Occurrences 2013
SHSE	Scaffolding HSE
SSARW 2013	Safety at Streets and Road Works 2013
WAHR 2005	Working at Height Regulations 2005

This section outlines the relevant regulations that this report deems applicable to the re-roofing and installing of external wall insulation on 12 houses (*Table 1.1)*

Whilst this list has attempted to catalogue all applicable regulations, this report acknowledges that not all these regulations can be discussed in depth due to the limited word count. Nevertheless, this report will summarise the influence of these regulations on the scope of works.

2. INFLUENCE AND MANAGEMENT

2.1 Scope and Location

The main scope of works involved re-roofing and installing external wall insulation on 12 concrete frame households in a singular street, built just after WWII. Naturally this will involve the following methods of work:

- ⇒ Working at height.
- ⇒ Using lifting equipment.
- ⇒ Possible encounters with hazardous materials.
- ⇒ Usage of vibrating omitting machinery.
- ⇒ Manual handling.
- ⇒ PPE

HASAWA 1974 places duties on employers, employees, and others to protect the welfare of everybody, and due to the environment of the works caution must be taken where pedestrians, residents and moving vehicles are concerned. Please see *figures 2.1-2.3* for site location information.

Figure 2.1: Google Earth image of Heol-y-Maes, Pontarddulais

Figure 2.2: Google Earth image of the house type on Heol-y-Maes

Figure 2. 3: Google Earth street view of Heo- y-Maes

2.2 Scaffold Arrengement

To gain access to the roof, scaffold will be erected in accordance with *SHSE*. This requires all scaffold to be designed, erected, altered, and dismantled by a NASC individual. The system will include collective fall protection, guard rails, and toe boards to reduce risk of personal and debris fall. Furthermore, the scaffolding will bear the load of individuals and materials, whilst fitted with loading bays and safe access onto scaffolding. Frequent waste disposal, and calculation of loads will ensure scaffolding does not exceed its bearing capacity. All scaffolding to be inspected≤7 days, before and after installation, and follwoing incidents that could compromise stability.

See *figures 2.4-2.5* for proposed scaffolding arrangment. Waste shoutes (purple) enable safe disposal of waste, a hacky stairs (orange) provides safe access and egress, and loading bays (blue) are placed at the wings of the house to allow delivery vehicles to utilise the drives as stable ground. Note that the back-house scaffold arrnagement replicates *figure 2.4,* apart fron the waste shoutes.

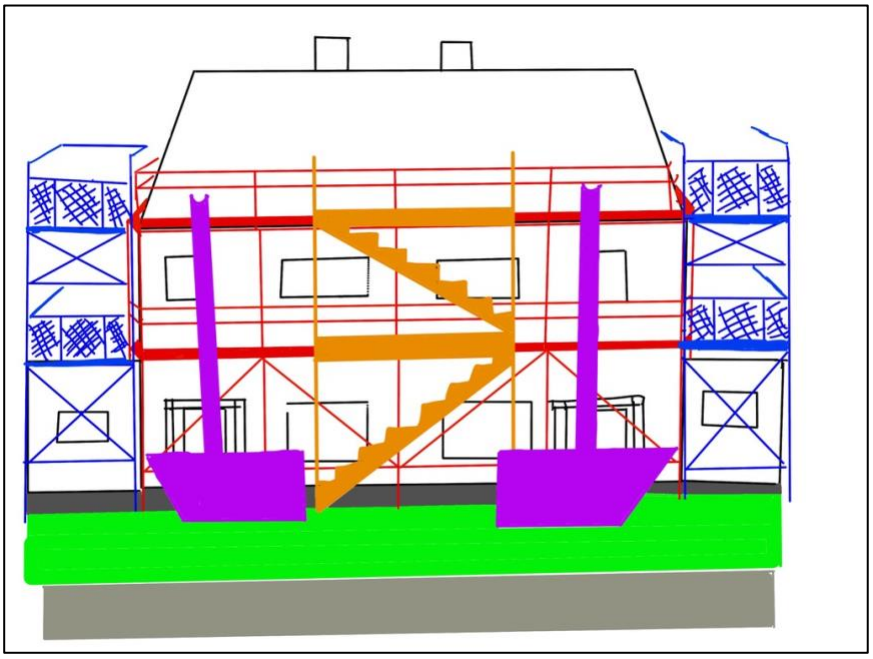

Figure 2.4: Front-house arrangement

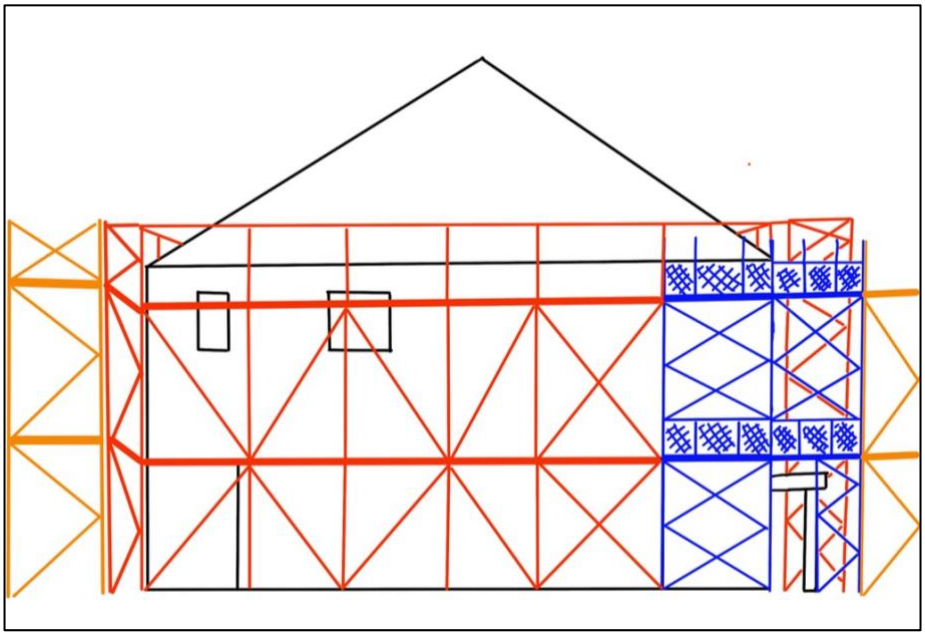

Figure 2.5: Side-house arrangement

2.3 Working at Height

The scaffolding is designed in coordination with WAHR 2005. The nature of works severely restricts avoidance as a mitigation measure, however this system minimises the height and risk of a fall by providing safe working platforms. The hacky stairs enables safe access and egress, plus the waste chutes reduces the frequency of exiting the scaffold to dispose of the waste.

Likewise, loading bays enables material to be lifted to height mitigating the need to carry heavy materials. Appropriate guard rails and kickboards are placed to protect workers below from any falling debris, and all workers must tether their tools. Working directly beneath a scaffold is limited where possible to avoid injury. See *Appendix C* for risk assessment on falling objects.

2.4 Lifting Equipment

LOLER 1998 applies to lifting equipment. Forklifts will load and unload material to and from loading bays as this reduces the risk of physical injury. A forklift will be selected based on its ability to enter and exit the driveway, bear the material load, and extend materials to the desired platform height. The forklifts bearing capacity will be clearly displayed to comply with safe working loads.

Lifts will be thoroughly planned and supervised by a banksman. All lifts will avoid peak traffic times (07:30-09:00 and 17:00-18:00), to avoid collision with residents and their vehicles.

All lifting equipment will be inspected before use, and any defects to be reported immediately after postponement of operation.

2.5 Manual Handling

Manual handling is avoided by utilising lifting equipment to place materials on loading bays; however, workers will be unloading the tiles from the loading bays. Workers will be given a manual handling guide, and information of the load such as the weight and centre of gravity. Additionally, a risk assessment is required to ensure that the individuals performing the task are suitable.

Where offloading is concerned, materials can either be placed back on loading bays to be lowered to ground level or suitable waste can be disposed down the waste chute to reduce the carrying time and distance of materials.

2.6 Hazardous Materials

COSHH 2002 requires an assessment for potential hazardous materials, especially due to the age of the properties. The most likely hazardous substance is asbestos, therefore under *CAR 2012* a demolition survey is required to identify the location, type, and condition of asbestos.

If present, a licensed contractor will remove the material. The contractor is obliged to follow the site's H&S measures. For example, any ACM cannot be disposed of through the waste chutes, therefore detailed planning will be required to the safe handling and disposal of the material *(Appendix A)*.

Naturally other hazardous materials can be present, like lead fumes from old paint or silica dust from potential concrete tiles or the concrete frame. Appropriate PPE will be worn, and exclusion zones if necessary will be sealed off to reduce the circulation of hazardous fibres as stated in *Appendix 'A' and 'E'*.

2.7 Vibration Control

CVW 2005 provides information regarding the risks of vibrating omitting machinery. It is likely that impact drills will be used, like fixing insulation boards or tiles to the houses, and although the exposure might be low and limited, a risk assessment will be necessary to survey the activity and to identify any employees who may have developed HAVS or CTS.

2.8 PPE

The employer must ensure that suitable PPE is supplied to their employees under PPER 1992 (2022 amended). PPE is the last resort in risk management, as engineer controls

and safe systems of work are prioritised. A risk assessment of activities will identify if PPE is required, and if so what type of PPE. For any activity emergency measures must be on standby for worst case scenarios.

The PPE must be appropriate to the risk, considers the ergonomic requirements of the person, fits the individual, and does not compromise the ability of the individual to execute the task. Under no circumstances should any individuals share PPE. Moreover, if PPE is used for hazardous substances, then all equipment should be thoroughly cleaned and/or disposed of within safe exclusion zones to prevent exposure and spread of hazardous material.

3. BARRIERS TO H&S MANAGAMENT

3.1 Education

Education is paramount in developing an industry-wide understanding of the importance to H&S measures. Many do not understand the risks associated with the task, potentially due to a lack of (correct) training or unclear instructions. Moreover, communication issues may exist between language barriers or physical/mental capabilities to comprehend the task or the information provided to perform the task.

3.2 Confidence

Individuals who are too confident may become complacent and forget their H&S duties. Meaning, these individuals may cut corners because they have executed their role without any H&S incidents and therefore fall under a false sense of security or purely believe that H&S does not apply to them.

3.3 Management

Management that does not set the standard by ignoring regulations, providing poor communication/instructions, or displaying incompetence, apathy, and/or naivety will enable a dangerous and irresponsible working environment. Ultimately, these negative attributes will filter through the business and create a domain of H&S neglect, so much so that employees may feel unable to report H&S breaches due to fear, embarrassment, or loyalty.

3.4 Resources

Businesses may not have the ability to plan, monitor, assess, or provide correct PPE. Today's economic climate has forced many businesses to cut back, and this could lead on financial sacrifices to H&S.

4. OVERCOMING BARRIERS

4.1 Management

H&S is everyone's responsibility under the HASAWA 1974, therefore if management falls short the employees must act. Nevertheless, management must set the standard and feel the duty of adhering to the H&S regulations.

External governing bodies can regulate management, such as HSE. They obtain the right to caution, issue enforcement notices, and initiate prosecutions. Although, any self-respecting company would wish to avoid this scenario, thus providing management with training to inform them on how to handle H&S matters (including the consequences) would encourage good H&S practise.

4.2 Supervision, Education and Training

Identical to management, every individual must have the education and training to work safely but also comprehend why H&S should be respected. By explaining to individuals why certain measures and methods of work are implemented would generate a greater respect for the regulations than simply regulating without explication.

Despite all the training and the education, there will be individuals who act carelessly, so supervision of works is essential to observe how methods of work are executed. Moreover, supervising can also yield better suggestions on how to improve H&S through active monitoring.

Importantly, supervisors should not seek to punish or act forcefully. Rather they should look to encourage, collaborate, and communicate with staff as a first resort.

4.3 Professional Memberships

Opportunities for all individuals to become members of accredited institutions will help maintain a professional standard on-site. These bodies could include CIOB, RICS, and CSCS.

4.4 Penalties

Repeat or serious offences should not be taken lightly. Any H&S breach should be thoroughly investigated and dealt with accordingly. Possible penalties could be suspensions, fines, or termination of work. Serious offences should be held as an example that negligence will not be tolerated.

5. THE CONSTRUCTION DESIGN MANAGEMENT REGULATIONS (CDM) 2015

The CDM regulations places responsibilities on the client, designers, and the principal contractor(s) during a construction project. Simply, any construction project should plan prior to work to mitigate any hazards that may occur. These measures consist of employing suitably qualified personnel that can execute the task(s), cooperation and coordination of works, transparency of information, and open dialogue between parties.

5.1 The Client

The client must allocate sufficient time and resources to the project to manage and reduce risk. This includes supplying all pre-construction documentation to the relevant personnel whilst reviewing and maintaining the health and safety file throughout the project. Furthermore, the client must notify and submit the F10 form to the HSE prior to construction if the project will surpass the notifiable threshold under the CDM regulations, although the client can delegate this responsibility. Finally, it is the duty of the client to ensure that the principal designer and principal contractor are sufficiently skilled and competent to fulfil their legal requirements.

5.2 Principal Designer (PD)

The primary duty of the PD is to plan, manage, and monitor during and after pre-construction to control and mitigate any potential health and safety hazards that could occur, whilst ensuring all other designers fulfil their own duties. The PD can accomplish this by fulfilling their duty to cooperate and communicate with other designers, the client(s), and relevant individuals/actors. Moreover, the PD must communicate and share H&S information with the principal contractor throughout the duration of their tenure on the project. The collected information will aid the PD in preparing, reviewing,

and revising the H&S file that encompasses the potential risks of the project. After completion of the project the PD will hand the file to the client.

5.3 Principal Contractor (PC)

The PC ensures that a construction phase plan is in place before erecting the site. The PC will seek information from the PD when creating the construction phase plan to facilitate the identification of risks, the mitigation methods, project timescales, and ensure that it works in conjunction health and safety matters. However, the construction phase plan is flexible and therefore the PC must review and update the plan when necessary. It is paramount that the PC maintains open, clear, and transparent dialogue with the sub-contractors and encourages communication between all sub-contractors. On-site the PC must provide a site-induction to all employees and prevent unauthorised access of individuals. Potentially, the H&S file could be delegated to the PC if the PD's role ends before completion of the project, in this case it is the duty of the PC to review and update this H&S file and transfer the file to the client upon project completion.

5.4 Sub-Contractors

The sub-contractor must not execute work unless they are satisfied that the client/PC are aware of their legal obligations and duties. Once satisfied the sub-contractor must control their own aspect of work and any individual who falls under that scope of work, but where multiple contractors are working, they should follow the instructions of the PC or PD and the construction phase plan. Furthermore, all employees of that sub-contractor must be fully competent and trained before entering site and must undergo a site induction. Any required PPE must be supplied to the employer.

5.5 The Construction Site

All potential risks on-site must be identified and reduced/eliminated to create the safest environment as is reasonably possible. This includes safe spaces for employees, sufficient working space, safe pedestrian and traffic routes, and clear evacuation and emergency response procedures. Any demolition works must be planned and outlined in writing before work commences to reduce the risk. Suitable and sufficient welfare facilities are required with separate rooms and/or lockable rooms for men and women. Furthermore, welfare facilities must provide an adequate supply of drinking water with suitable cups, and suitable and sufficient resting facilities for employees.

Word Count – 2192

6. APPENDICIES

Appendix A – Asbestos

Activity to be Assessed	Assessment Number
Hazardous Materials (Asbestos) – reroofing and new external insulation to domestic walls on 1940s concrete frame housing	DKW020616

Persons undertaking or affected by the activity

[*] Employees [*] Contractor [*] Public [ ] Pupil [ ] Service User

[ ] Other ……

	Identified Hazards and Associated Risks	Likelihood	Severity	Risk Level
1	General information regarding Asbestos that applies to all asbestos activities	N/A	N/A	N/A
2	Disturbing asbestos by mechanically fixing insulation to external concrete wall	3	5	15
3	Disturbing asbestos by levelling external concrete walls before applying external insulation	3	5	15
4	Disturbing asbestos by removing old concrete tiles	3	5	15
5	Releasing asbestos by dropping asbestos containing materials down the rubbish chute	4	5	20
6	Disturbing asbestos in any other roofing material such as felt, insulation, guttering, facias, and soffits	3	5	15

Existing Control Measures / Additional Control Measures Required

1	**<u>This section provides general asbestos health and safety measures that will be applicable to all asbestos activities listed in this risk assessment. Supplementary measures for the activities listed in this risk assessment will be presented in the relevant fields.</u>** • Before commencing work, apply for an asbestos demolition survey as required by law for any buildings built or refurbished prior to 1999. This survey must be undertaken by a competent, skilled, and experienced asbestos surveyor who has a degree/apprenticeship in asbestos surveying/construction management. Furthermore, the company carrying out the asbestos removal must have obtained an asbestos licence from HSE. • No work is to be done until the results from the asbestos survey is returned. If no asbestos is present then work can commence as normal by following the health and safety procedures. • If asbestos is present then **a licensed company must carry out any asbestos removal of asbestos is present in sprayed coatings, pipe lagging, loose fill insulation, or asbestos insulation board (AIB) or if work exposure or time exceeds the lower-intensity value listed under the 'non-licensed work' heading.** • If asbestos is present and does not appear in any of the listed items above or exceeds any time or exposure levels then a non-licensed contractor can carry out the work. Such activities include mechanically fixing to asbestos materials, closing off asbestos materials, removing asbestos tiles, roof sheeting, and rainwater goods. However, health and safety measures must be always adhered to which will be listed below. • Do not disturb asbestos if possible. • Any asbestos containing materials must be disposed of correctly. Once removed it should be handled with care and is placed in a secure, labelled, container or bag. The asbestos waste must then be transported and treated under the hazardous waste regulations in a licensed disposal site. • If asbestos is present, all residents must be informed of the hazard, and supplied with a separate risk assessment detailing how they will maintain protected during this phase of works. • When work on asbestos removal is being undertaken, then all windows and doors of the houses should be shut and sealed properly to prevent fibres entering the household. • Any removal of asbestos material must be done under isolated circumstances, if possible areas should be sealed off. However, due to the nature of the works external spaces should be condoned off with screening and warning signs of the hazards. No unauthorised personnel should be allowed into the asbestos zone. • Before removal, spray any asbestos containing materials with water to reduce the frictional impact that may release asbestos fibres as dust such as levelling activities or tile removal. • Alternatively coat any asbestos containing material with asbestos encapsulation coating to cover or enclose any asbestos fibres to prevent the release of fibres. • Use specialist tools to remove asbestos materials that will minimise the disturbance of asbestos. Additionally avoid power tools where possible, use manual tools to reduce vibration and disturbance. • Remove any asbestos containing materials one at a time to avoid dropping and breaking item which will release asbestos fibres. • Asbestos containing materials cannot be thrown down the rubbish shoot, therefore asbestos materials should be double bagged and sealed, placed on the loading platform in a bin/or on a wooden pallet, and lowered down by a forklift/telehandler to be carefully placed and disposed of. • All workers working with the material or at risk of encountering asbestos must adhere to the correct PPE.

- Respiratory protection – Filtered respirators (HEPA)
- Clothing – Disposable protective clothing. The clothing must cover the entire body and be sealed to prevent fibre intrusion. Items of clothing include overalls, gloves, and shoe/boot covers.
- Eye protection – Safety goggles that have a sealable perimeter around the eye.
- Welfare – safety facilities for workers to safely remove and dispose of PPE.
- Health monitoring – workers working with asbestos to have regular health checks.
- All items of asbestos to be documented, keep travel and disposal receipts.
- Protect any asbestos material, or storage of asbestos material from the public. Working in residential areas may present unique challenges, therefore storage of these materials awaiting disposal should be in a secure and lockable container. Furthermore, asbestos material should not build up, and collection of asbestos material should occur twice a working week. Once on a Wednesday morning and once on a Friday afternoon to reduce build-up on-site and reduce the increase risk of asbestos exposure.
- Adhere to The Control of Asbestos Regulations 2012.
- Adhere to the Reporting of Injuries, Diseases, and Dangerous Occurrences Regulations 2013 and the HSE in any instances where an individual(s) have been exposed to quantities of airborne asbestos fibres which may be significant enough to damage health.
- This risk assessment must be kept under review and open to change.

Non Licensed Work

- The work must be low intensity – no more than 0.6f/cm^3 of asbestos measured over 10 mins
- Workers should not be subject to a concentration greater than 0.1 f/cm^3 of asbestos over a 4hr average
- Workers should only spend short durations working with poor condition/high risk asbestos material (no-longer than 1 hour per day or 2hrs per 7days), therefore an effective work method must be adopted to ensure rotation of workers on-site. However, if exposure limits can be controlled below the low-intensity threshold and the correct PPE is worn then the time exposure may be extended pending further investigation once asbestos type, presence, and condition has been confirmed by the asbestos survey.
- If non-licensed work is deemed necessary it will be notifiable non-licensed work due to the nature of possible damaged materials, therefore the HSE mut be notified.re
- This risk assessment anticipates that there will be high quantities asbestos, leading to the conclusion that the majority of work will be licensed work. However, where the condition of asbestos material (if present) is in good condition, the exposure limits can be controlled and notifiable non-licensed work may be applicable pending further review by the project manager.
- All workers on-site should have formal training on asbestos by a professional institution such as CITB, and hold a CSCS card (this is not a legal requirement but a requirement by this risk assessment)

2	**All health and safety measures of licensed, non-licensed, and general work with asbestos listed in section 1 of this risk assessment to be followed.** *ADDITIONAL MEASURES APPLICABLE TO THIS ACTIVITY* • Insulation board will provide a physical barrier to some NOT ALL asbestos fibres. • Exclusion zone to be set when mechanically fixing, followed by encapsulation tent to work area to prevent the out spill of fibres to uncontrolled areas. • Dampen the wall first to minimise dust. • Use dust extraction and suppression attachments on tools. • Make sure all doors and windows on the worked house are closed • Carry out this work when residents are less likely to be home/outside
3	**All health and safety measures of licensed, non-licensed, and general work with asbestos listed in section 1 of this risk assessment to be followed.** *ADDITIONAL MEASURES APPLICABLE TO THIS ACTIVITY* • Exclusion zone to be set when levelling surfaces, followed by encapsulation tent to work area to prevent the out spill of fibres to uncontrolled areas. • Dampen the wall first to minimise dust. • Use encapsulation coating on walls. • Use dust extraction and suppression attachments on tools. • Make sure all doors and windows on the worked house are closed • Carry out this work when residents are less likely to be home/outside
4	**All health and safety measures of licensed, non-licensed, and general work with asbestos listed in section 1 of this risk assessment to be followed.** *ADDITIONAL MEASURES APPLICABLE TO THIS ACTIVITY* • Remove one tile at a time. • Carry one tile at a time. • Place tile directly in waste bag to be sealed and double bagged before being placed on the loading bay to be mechanically lowered to ground floor for disposal. • Do not use power tools to remove tiles – use manual tools. • Avoid friction between tiles and hard surfaces. • Dampen tiles before removal. • Do not leave any loose tiles on the roof or on scaffold where they could be dislodged/kicked/dropped/broken/or any other activity which may release asbestos fibres. Ensure that all loose tiles are properly disposed of before leaving site. • Take time and care when handling asbestos containing materials. • Adhere to safe lifting practises under the Manual Handling Regulations 1992 and the Lifting Operations and Lifting Equipment Regulations 1998 to prevent failure of loads which could release high volumes of asbestos fibres.

5	**All health and safety measures of licensed, non-licensed, and general work with asbestos listed in section 1 of this risk assessment to be followed.** *ADDITIONAL MEASURES APPLICABLE TO THIS ACTIVITY* • DO NOT use the rubbish chute to dispose of asbestos containing materials • Instead all asbestos containing materials collected from height should be double bagged and sealed the placed gently in a bin or on a wooden pallet on the loading bay ready to be mechanically lowered by a forklift/telehandler to ground level where it can be stored ready for disposal. • Any asbestos containing material collected at ground level to follow the same method, excluding the mechanical lowering. Instead take the double bagged waste to designated asbestos waste zone ready for disposal.
6	• **All health and safety measures of licensed, non-licensed, and general work with asbestos listed in section 1 of this risk assessment to be followed.** *ADDITIONAL MEASURES APPLICABLE TO THIS ACTIVITY* • All work involving asbestos regarding these materials and the like to be removed and disposed of by a licensed contractor who are competent to implement their own risk assessment in conjunction with our risk assessment to complete the task in a minimised risk manor. • In the event of an external licensed contractor being contracted to carry out this type of work, any risk assessment must consider the wider scope of works including the environment in which the work is being carried out. This type of work must not jeopardise or conflict with any risk assessment procedure currently in place, instead it should supplement or coincide with current methods of work which may mean a change of risk assessments or current methods of work. Any change to the health and safety measures on-site must be clearly communicated to workers and residents to understand the new methods of work. • To help facilitate the works clear and consistent communication from all parties must take place to help identify any new hazards that may occur following the works, and to help facilitate a safe and effective method of works to avoid delay to the project.

Reassessment of Activity Hazards		Likelihood	Severity	Risk Level
1	General information regarding Asbestos that applies to all asbestos activities	N/A	N/A	N/A
2	Disturbing asbestos by mechanically fixing insulation to external concrete wall	3	1	3
3	Disturbing asbestos by levelling external concrete walls before applying external insulation	3	1	3
4	Disturbing asbestos by removing old concrete tiles	3	1	3
5	Releasing asbestos by dropping asbestos containing materials down the rubbish chute	4	1	4
6	Disturbing asbestos in any other roofing material such as felt, insulation, guttering, facias, and soffits	3	1	3

Name	Signed	Date of Completion:
Curtis Richards		20/02/24

Reviews	Key								
Review Date:	Likelihood	Severity	S e	5	5	10	15	20	25

Reviewed by:	1 very unlikely 2 unlikely 3 likely 4 very likely 5 certainty	1 nuisance 2 minor 3 medical treatment 4 major 5 fatal		4	4	8	12	16	20
Review Date :				3	3	6	9	12	15
Reviewed by:				2	2	4	6	8	10
Review Date :				1	1	2	3	4	5
Reviewed by:				0	1	2	3	4	5
Review Date :					Likelihood of Injury				
Reviewed by:			Low Risk		Medium Risk			High Risk	

6.2 Appendix B – Working at Height

Activity to be Assessed	Assessment Number
Working At Height – reroofing and installing insulation to external walls	DKW020616

Persons undertaking or affected by the activity

[*] Employees [*] Contractor [*] Public [ ] Pupil [ ] Service User

[ ] Other ……

	Identified Hazards and Associated Risks	Likelihood	Severity	Risk Level
1	Workers falling off scaffold/roof	3	5	15
2				
3				
4				
5				
6				

Existing control Measures / Additional Control Measures Required

1	• Scaffolding to have edge protection, kickboards, and safety rails at a maximum of 450mm. • Only work on secure surfaces – do not work on fragile surfaces. • All roofs are deemed fragile subject to inspection by a competent and skilled person. This individual must be a qualified roof inspector and undertaken recent training/be a certified roof inspector by the National Roof Certification and Inspection Association (NRCIA). • Erect a haki stairs system for safe access and egress from roof and wall work. Ensure that access levels off the haki stairs to the work are level surfaces – preferably a double width industrial ladder scaffold tower to BS EN1004 standards. • Place crash decks in between the voids of scaffolding where there is a possibility of a worker to fall and strike the ground. Additionally ensure that a crash deck overlaps the lowest level of scaffold by at least 2 meters to break any potential fall of a worker who has fell through the guardrails. This will reduce the distance of any fall and avoid a potentially fatal fall. Nevertheless this does not eliminate the risk of falling, it only reduces the risk of a fatal fall. • All scaffolding systems should be inspected after installation, and thereafter every 7 days, and where possible in frequent intervals. If an event which could jeopardise the structural integrity of the scaffold has occurred (e.g., bad weather, or plant has made physical contact with the structure), then the scaffolding should be reinspected. • Inspection of scaffolding must be carried out by an individual with an in-date CISRS Scaffolding Inspection Card which confirms that they have the relevant training to inspect scaffolding, are competent, and are experienced in erecting and dismantling scaffolding. • All scaffolding installations to adhere to the National Access and Scaffolding Federation (NASC) safety guidance or by manufacturers of the scaffolding. • All scaffolding to be installed by a trained, experienced, and competent individual(s), who obtain an in-date CSCS card and completed an updated training course on scaffolding from a qualified body such as the 'Construction Industry Scaffolders Record Scheme (CISRS). • In the case of extreme cold temperatures/and or heavy rain where scaffolding could become slippery, inspect the scaffold boards before use by an individual with a CISRS Scaffolding Inspection Card. If work commences then brief all workers working on that scaffold of the additional risks and to apply extra caution. • All scaffolding should have a scafftag stating the date in which is was last inspected, to ensure that scaffolding inspections are up to date. • Prohibit the use of free-standing ladders, where possible scaffolding should be accessed via scaffold stairs or scaffold stairwell. • Use internal safety netting underneath the roof if the roof structure can support the weight of a falling individual. If roof structure is not stable enough to support the weight, then roof work must be phased where the removal and replacement of rafters and purlins at the base of the roof is carried out first to create a stable structure for workers to climb to remove and replace the existing roof above. • Alternatively, roof ladders should be used where the roof can support the weight. • Reduce the duration of time that individuals spend at height to 1 hour to prevent the individual from becoming complacent and unaware of their surroundings. • Ensure that the physicality of workers are to sufficient standard to work at height. • Ensure all workers on the roof and at height are fully trained and experiences in working at height, hold an in-date CSCS card, and undertake additional working at height training by a professional body/qualified training provider such as the CITB Rooftop Safety Training. • Do not overload the scaffold that could cause the scaffold to collapse – refer to the scaffold's load bearing capacity. • Instal an emergency response procedure and make emergency services aware of the nature of the work.

Reassessment of Activity Hazards		Likelihood	Severity	Risk Level
1	Workers falling off scaffold/roof	1	4	4

Name	Signed	Date of Completion: 19/02/24
Curtis Richards		

Reviews	Key	
Review Date:	Likelihood	Severity
Reviewed by:	1 very unlikely 2 unlikely 3 likely 4 very likely 5 certainty	1 nuisance 2 minor 3 medical treatment 4 major 5 fatal
Review Date :		
Reviewed by:		
Review Date :		
Reviewed by:		
Review Date :		
Reviewed by:		

Severity of Injury						
	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
	0	1	2	3	4	5
		Likelihood of Injury				

Low Risk | Medium Risk | High Risk

Appendix C – Falling Objects

Activity to be Assessed	Assessment Number
Falling Objects – reroofing and new external insulation to domestic walls	DKW020616

Persons undertaking or affected by the activity

[*] Employees [*] Contractor [*] Public [ ] Pupil [ ] Service User

[ ] Other …….

	Identified Hazards and Associated Risks	Likelihood	Severity	Risk Level
1	Tiles falling	3	5	15
2	Tools and equipment falling	2	5	10
3	Collapse of scaffold	1	5	5
4	Any other falling objects	2	4	8

	Existing Control Measures / Additional Control Measures Required
1	• To identify the unsecured tiles. • Make sure any loose tiles are removed or secured before the end of the day. • Stack tiles sensibly on roof battens. Tile stacks not to exceed 4 tiles per batten as recommended by Forticrete. • Remove all loose tiles from loading bays before the end of the day. • Do not overload scaffold with loading of tiles onto the scaffold. The maximum load of a heavy-duty scaffold is 300kg/m^2 according to HSE. A loading bay can bear 1000kg/m^2 . Therefore, it is the responsibility of the roofers to calculate the weight of the specified concrete tile to ensure the loading bay threshold is not overloaded. To minimise the risk further the loading bay should not exceed 850kg/m^2. Additionally, tiles should not be left on the walkway of the scaffold. Tiles should be picked up one by one and places directly on to the battens in stacks of no more than 4 per batten ready to be fixed. • Use a suitable and safe scaffold chute that is sufficiently secured to scaffold to enable safe disposal of old tiles. The chute must be fixed by a trained scaffolder that holds an in-date CSCS card and a CISRS card. The fixing of the chute should NOT damage the integrity and stability of the scaffold, • Avoid walking or working underneath zones where there are risks of tiles falling. • Remove and fix one tile at a time per worker. • When tile is removed from roof, place down the scaffold chute immediately to avoid overloading of scaffold and accumulating waste build up that could cause a trip hazard or fall off the scaffold.
2	• Erect appropriate kick-boards/toe-boards at 225mm high. • Store tools in a secure compound at the end of every working day. Or alternatively take personal tools back home. Do not leave tools on scaffold after your shift. • Tools to be stored securely and safely when not in use. • Workers to use lanyards – tool tethering when working on roof or scaffold.
3	• Scaffold to be erected by competent and skilled scaffolders that hold a valid CSCS card and CISRS card. • Scaffold to adhere to UK industry Standards such as BS 5975 and BS 1139. • Do not exceed weight limit of scaffold. • All employees working on-site must undertake the 'Roof loading and Manual Handling' training course provided by the CITB • If scaffold needs to be moved or altered then this is ONLY to be done by competent and skilled scaffolders holding the relevant cards and qualifications as detailed in this risk assessment. • Scaffolding must be inspected every 7 days/after erection of scaffold or after any alteration to scaffold/in regular and appropriate intervals/in any incidents where the stability of the scaffolding could have been compromised e.g., bad weather.

4	• All workers and individuals in the working zone must wear appropriate PPE e.g., hard helmets. If hard helmets falls from a height greater than 2 meters it should be replaced immediately. Likewise if anything falls on the hard element from a height greater than 2 meters it should be replaced. • Avoid all activity underneath zones where activity is live above. Where not possible to avoid then reduce the activity time and method including the number of workings working in that space. • Erect a canopy system to facilitate a safe and sheltered walkway where no other safe walkways are available. • Report and incidents and near misses in the accident log book placed in the site-office. • Instal an emergency response procedure and make emergency services aware of the nature of the work. • Provide training and awareness to workers and visitors on-site via a site induction on the relevant risks of falling objects. Ensure all workers have an in-date CSCS card. Where undertaking specialist work ensure that they possess the relevant qualifications and experience to carry out that work safely and professionally. • Check the weather before work as windy and stormy conditions can compromise the stability of fixtures and force objects to collapse or fall. In this event, the scaffold should be checked by a competent individual that is a trained scaffolder, that obtains a CSCS and CISRS card. • All health and safety measures and methods of work to be under review and subject to change where necessary.
5	

Reassessment of Activity Hazards		Likelihood	Severity	Risk Level
1	Tiles falling	1	4	4
2	Tools and equipment falling	1	4	4
3	Collapse of scaffold	1	4	5
4	Any other falling objects	1	3	3
5				

Curtis Richards	Signed	Date of Completion: 02/02/2024

Reviews	Key	
Review Date:	Likelihood	Severity
Reviewed by:	1 very unlikely 2 unlikely 3 likely 4 very likely 5 certainty	1 nuisance 2 minor 3 medical treatment 4 major 5 fatal
Review Date :		
Reviewed by:		
Review Date :		
Reviewed by:		
Review Date :		
Reviewed by:		

Severity of Injury						
	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
	0	1	2	3	4	5
		Likelihood of Injury				

Low Risk | Medium Risk | High Risk

Appendix D – Manual Handling

Activity to be Assessed	Assessment Number
Manual Handling – Reroofing and installing external insulation to concrete frame walls	DKW020616

Persons undertaking or affected by the activity

[*] Employees [*] Contractor [*] Public [*] Pupil [ ] Service User

[ ] Other …….

	Identified Hazards and Associated Risks	Likelihood	Severity	Risk Level
1	General information regarding manual handling that applies to all manual handling activities	N/A	N/A	N/A
2	Lifting Tiles to roof	5	2	10
3	Lifting Tiles off roof	5	2	10
4				
5				
6				

Existing Control Measures / Additional Control Measures Required

1	• Consider the task, the load, the working environment, and the individual's physical capabilities • Maintain good posture when lifting loads, maintain a stable position (feet either side of the object) before lifting, bend and lift loads with the knees - not your back. Hold the item close to your waist. Avoid twisting your body when carrying loads. • Where possible, use mechanical lifting equipment that complies with LOLER 1998 and the Manual Handling Regulations 2002 if manual handling of loads cannot be avoided. • Every employee working on-site must undertake the 'Roof Loading and Manual Handling' course supplied by CITB. • Every task involving manual handling should be assessed thoroughly to either avoid lifting totally, reduce the risk of lifting, or change the method of work to facilitate a safer work plan. • Each load should have the relevant information regarding the load itself. This includes the weight of the load, the heaviest side of the load, and centre of gravity of the load. • Each employee undertaking manual handling, be it mechanical lifting or non-mechanical lifting should be provided basic on-site training on safe procedures regardless of experience and knowledge to supplement their previous training on manual handling operations. • According to the Manual Handling regulations 2002, at elbow height an adult female can lift 10kg when arms are extended and 16kg when tucked in. Likewise, men can lift 15kg when extended and 25kg when tucked in. The tucked-in position is the ideal position for carrying materials, therefore this risk assessment justified this selection of weight thresholds based off the information provided in the Manual Handling Regulations 2002 as 10kg for women and 15kg for men. This risk assessment selected the lower weights of the two estimates (10kg for women and 15kg for men) to allow flexibility when individuals are carrying the items (e.g., if they must extend their arms from the tucked position, then they would still be in the safe threshold of manual handling according to the regulations. • However, these weights are only estimating therefore each item and individual must still be thoroughly assessed to determine if the load is safe to lift. • The selected weight freeholds assumes that when carrying these items, the individual is on a level surface and does not need to climb any stairs or carry the load further than 10 meters. • Anything heavier than the selected thresholds must be mechanically lifted. • If for any reason that the load weighs below the maximum thresholds but the individual must climb any heights, walk on uneven surface, and or travel further than 10 meters with the load then the load should be thoroughly assessed to determine a safe method of work. • When carrying items the individual must maintain full view of the direction in which they are travelling. • Any items being carried must be held with both hands • The item being carried must be safe to handle (i.e., no sharp edges, boiling surfaces, hazardous chemicals etc). • Employees to wear suitable PPE. • Workers to wear suitably fitted waterproof gloves with gripped material to protect hands when handling items. • Workers to wear steel capped toe boots with sufficient grip to soles to maintain a steady balance on scaffold and roof. • Workers to wear protected anti-mist safety glasses, however if working in environments where dust or material particles are airborne and could penetrate eyes around the perimeter of the glasses then workers must upgrade their eye protection to clear anti-mist goggles with a sealable permitter to protect the eye against dust particles.

2	• This cannot be avoided. • However, physical manual handling of tiles to roof can be avoided – therefore no employee should carry tiles up the scaffold to the roof level. • Instead, tiles will be loaded on pallets to be mechanically lifted by a forklift up to the loading bay at roof level. • Tiles then can be accessed by workers on the roof without carrying them from ground level. • Tiles are to be picked up 1 tile at a time, by following the health and safety regulations listed in item 1 of this risk assessment. • If tiles need to be placed on battens that are out of reach of scaffold, do not climb across the roof or use any roof ladders whilst carrying the tile. To safely execute this sequence a worker should pick up a tile and pass it up to the next worker who is already on the roof. Use multiple workers until all surface areas on roofs can be populated with tiles. • It is possible that workers may need to use one hand to carry the tile and another to maintain their balance. In this instance falling off roof presents a greater risk than lifting the tile, therefore workers will be permitted to pass tiles up to roof levels with one hand to maintain balance. However, the suitability of the workers must be assessed beforehand to ensure that those passing tiles with one hand can safely manage the weight. • As per the falling objects risk assessment tiles are to be stacked sensibly on battens that are strong enough to bare the load. No more than 4 tiles per batten. • Additionally, tiles should be fixed as soon as reasonably possible to limit a build-up of loose stacked tiles.
3	• The lifting of tiles off the roof will follow the same method as lifting the tiles on to the roof, albeit in the opposite sequence. • Tiles are still to be passed down worker to worker if an individual cannot move the tiles off the roof without climbing across the roof with a tile in-hand. • Again, workers are permitted to use one hand to pass tiles if physically suited to handling the tiles in that manor. • Tiles should not be thrown off the roof. • Tiles should not be put down the rubbish chute if asbestos is identified in the tiles. See the asbestos risk assessment for safe working procedures with asbestos containing materials. • If tiles contain asbestos they are to be placed a pallet/bin on the loading bay, double bagged and sealed ready for the forklift to mechanically lift the material to ground level ready for disposal. Remember to adhere to the bearing capacity of the loading bay and the bearing capabilities of the forklift when placing materials on the loading bay for mechanical lifting. • If tiles do not contained asbestos then tiles can be placed down the rubbish chute into a skip.
4	
5	
6	

Reassessment of Activity Hazards		Likelihood	Severity	Risk Level
1	General information regarding manual handling that applies to all manual handling activities	N/A	N/A	N/A

2	Lifting Tiles to roof	4	1	4
3	Lifting Tiles off roof	4	1	4
4				
5				
6				

Name	Signed	Date of Completion:
Curtis Richards		21/02/2024

Reviews	Key	
Review Date:	Likelihood	Severity
Reviewed by:	1 very unlikely	1 nuisance
Review Date :	2 unlikely	2 minor
Reviewed by:	3 likely	3 medical treatment
Review Date :	4 very likely	4 major
Reviewed by:	5 certainty	5 fatal
Review Date :		
Reviewed by:		

Severity of Injury					
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	8	10
1	1	2	3	4	5
0	1	2	3	4	5
	Likelihood of Injury				

Low Risk | Medium Risk | High Risk

Appendix E - Silica

Activity to be Assessed	Assessment Number
Removing concrete tiles and fixing insulation to external concrete walls which may contain silica	DKW020616

Persons undertaking or affected by the activity

[*] Employees [*] Contractor [*] Public [ ] Pupil [ ] Service User

[ ] Other ……

	Identified Hazards and Associated Risks	Likelihood	Severity	Risk Level
1	Releasing silica through friction of removing concrete tiles	3	3	9
2	Releasing silica by dropping/breaking tiles	3	3	9
3	Disturbing silica by mechanically fixing insulation boards to external walls	4	3	12
4	The use of any power tools to fix or remove concrete tiles or insulation will disturb silica	3	3	9
5	Cutting new concrete tiles for specific fitting requirements on roof	3	3	9
6	Dust from materials intruding to workers' eyes	3	3	9
7	Workers exceeding their trigger times on power tools	3	3	9

	Existing Control Measures / Additional Control Measures Required
1	• Wear the correct PPE (FFP3 facemask) and ensure that it is fitted properly, does not distract from the task at hand, and also is inspected before use. To prevent dust entering the eyes wear clear safety goggles that create a sealable perimeter around the eye to prevent dust intrusion behind the goggles. • Remove one tile at a time. • Avoid making contact between tiles and other surfaces.
2	• Avoid damaging tiles that could release silica dust. • Create an exclusion zone around the scaffold chute and skip when workers are actively throwing away used tiles. • Wear gripper gloves to increase the hold on the tiles.
3	• Wear the correct PPE (FFP3 facemask) and ensure that it is fitted properly, does not distract from the task at hand, and also is inspected before use. To prevent dust entering the eyes wear clear safety goggles that create a sealable perimeter around the eye to prevent dust intrusion behind the goggles. • The insulation boards will provide a physical barrier to silica dust, but this does not completely eliminate the risk. • Limit mechanical fixings to the maximum minimum centres for fixing to reduce the number of penetrations through the concrete walls. • Create an exclusion zone to areas that are undergoing mechanical fixing. • Dampen concrete walls before fixing. • Do not allow any unauthorised access to work area when fixing is taking place.
4	• Where possible use manual tools to fix and remove tiles. • Where it is not possible to avoid the use of power tools make sure that the correct PPE is worn as listed in this risk assessment, isolate the activity from other workers who might be exposed, and limit the number of workers using the power tools.

5	• Wear the correct PPE (FFP3 facemask) and ensure that it is fitted properly, does not distract from the task at hand, and also is inspected before use. To prevent dust entering the eyes wear clear safety goggles that create a sealable perimeter around the eye to prevent dust intrusion behind the goggles. • Have a designated cutting zone, which prohibits unauthorised access. The designated cutting zone could also be marked with screens and physical barriers to prevent silica spread. • Use water suppression and tools fitted with vacuum extraction.
6	• Avoid power tools where possible. • Wear clear safety goggles that has a full seal around the eye.
7	• Calculate the trigger time per individual for the relevant task, then select an appropriate work method where workers are rotated to reduce the trigger time to an acceptable level (below 5 m/s^2) which ensures that the job does not stop due to insufficient worker numbers. • Wear anti-vibration gloves and warm clothing. • Select low-vibration tools. • Provide training to employees on correct use of vibrating-omitting machinery to ensure that the correct use it followed. Additional training from a professional body such as CITB is encouraged. All workers must obtain relevant experience with vibrating omitting machinery and possess a CSCS card.

	Reassessment of Activity Hazards	Likelihood	Severity	Risk Level
1	Releasing silica through friction of removing concrete tiles	2	1	2
2	Releasing silica by dropping/breaking tiles	1	1	1
3	Disturbing silica by mechanically fixing insulation boards to external walls	3	1	3
4	The use of any power tools to fix or remove concrete tiles or insulation will disturb silica	3	1	3
5	Cutting new concrete tiles for specific fitting requirements on roof	4	1	4
6	Dust from materials intruding to workers' eyes	1	3	3
7	Workers exceeding their trigger times on power tools	1	2	2

Name	Signed	Date of Completion: 02/02/2024
Curtis Richards		

Reviews
Review Date:
Reviewed by:
Review Date :
Reviewed by:
Review Date :
Reviewed by:
Review Date :
Reviewed by:

Key	
Likelihood	Severity
1 very unlikely 2 unlikely 3 likely 4 very likely 5 certainty	1 nuisance 2 minor 3 medical treatment 4 major 5 fatal

Severity of Injury						
	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
	0	1	2	3	4	5
		Likelihood of Injury				

Low Risk | Medium Risk | High Risk

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