Amey – DIO Housing **PVCu Windows & Doors** **Specification (Rev P)**		
1.0	**DESIGN**	
1.1	The Services Provider shall provide a design service as part of this contract. The Services Provider is to attend site prior to commencing work to obtain the exact dimensions and design requirements of each window and door. The Services Provider shall undertake surveys in accordance with BS 8213-4:2016 - Windows, doors, and roof lights. Code of practice for the survey and installation of windows and external door sets.	
1.1.1	The Services Provider shall include the door and window design including section details for the proposed frames for all elements and product literature for all ironmongery etc. within the tender submission.	
1.1.2	The outer surface of the frame of each new window and door must be in the same position in relation to the outside of the building as the original. This is to ensure they will fit in with the general appearance of the other windows in the building. Exceptions to this will be notified by Amey, for example in circumstances where the installation of External Wall Insulation is planned.	
1.1.3	The appearance of the external cill must remain the same and it must not be adversely affected by the installation of the new window. The contractor is to alert Amey at tender if the existing cill may need replacing or over cladding.	
1.1.4	The brickwork/wall finish surrounding windows, cills and doors must be left in a condition that will prevent the ingress of moisture. Its appearance must not be affected.	
1.1.5	When specified within Item Coverage, white PVCu surface mounted, clip-on glazing bars are to be installed to match existing design where possible. Bar widths are to be 25mm, chamfered profile and designed to fit flush onto sealed double glazed units. Design is to be agreed with Amey Area Billable Works Manager prior to manufacture.	
1.1.6	All habitable rooms shall have at least one outward opening window light and one top hung fan light. At 1st floor level all habitable rooms shall have an opening light that allows emergency egress; at least one room on the ground floor shall allow emergency egress.	
1.1.7	Where secondary glazing exists, the new PVCu windows are to be designed to match or exceed the sound attenuation qualities that is currently achieved with both units in place (the existing windows and secondary glazing).	
1.1.8	All first-floor windows must have the hinge capacity to allow for the cleaning of the glazing from inside the property.	
1.20	**Regulations & Standards**	
	The Services Provider is to ensure all relevant standards and regulations are met with regard to the works including the following:	
1.2.1	**British Standards**	
	• The Services Provider is to ensure that the following British Standards are met with regard to the works as well as those mentioned in other clauses:	
	• BS 8213-1:2004 - Windows doors and roof lights. Design for safety in use and during cleaning of windows, including door-height windows and roof windows. Code of practice	
	• BS 8213-4:2016 - Windows, doors, and roof lights. Code of practice for the survey and installation of windows and external door sets	
	• BS 8529:2017 – Composite door sets. Domestic external door sets. Specification (main entrance doors only)	

	• BS 7412:2007 Specification for windows and door sets made from unplasticised polyvinyl chloride (PVC-U) extruded hollow profiles (secondary and French doors)	
	• BS EN 12608-1:2016 (+A1:2020) - Unplasticised polyvinyl chloride (PVCU) profiles for the fabrication of windows and doors. Classification, requirements, and test methods. (secondary and French doors)	
	• BS 6375-1:2015 (+A1:2016) **-** Performance of windows and doors. Classification for weather-tightness and guidance on selection and specification	
	• BS 6375-2:2009 - Performance of windows and doors. Classification for operation and strength characteristics and guidance on selection and specification	
	• BS 6213:2000(+A1:2010) - Selection of construction sealants.	
	• BS EN 12209:2016 - Building hardware. Locks and latches. Mechanically operated locks, latches and locking plates. Requirements and test methods.	
	• BS EN 1906:2012 - Building hardware. Lever handles and knob furniture. Requirements and test methods.	
	• BS EN 13724:2013 (Incorporating Jan 2016 Amendment) - Postal services. Apertures of private letter boxes and letter plates. Requirements and test methods.	
	• BS EN 1670:2007 - Building hardware. Corrosion resistance. Requirements and test methods.	
	• BS EN 12051:2000 - Building hardware. Door and window bolts. Requirements and test methods.	
	• BS EN 1303:2015 - Building hardware. Cylinders for locks. Requirements and test methods.	
	• BS EN 1279 Insulating Glass Units	
	• BS 12150 Safety Glass	
	• BS EN 356:2000 Glass in building. Security glazing. Testing and classification of resistance against manual attack	
1.2.2	**Other Standards**	
	The Services Provider is to ensure that the following Standards and Codes of Practice are met where relevant with regards to the works as well as those mentioned in other clauses:	
	• The Services Provider is to be a FENSA approved installer and provide copies of their registration certification to Amey with their tender document return.	
	• The Glass and Glazing Federation (GGF) codes of practice.	
	• BES 6001 Responsible Sourcing of Construction Products	
	• PAS 24: 2022 A1:2024 Enhanced security performance requirements for door sets and windows	
1.2.3	**MOD Standards**	
	"Secured by Design" criteria shall apply with A-Rated 28.8mm sealed unit composition as follows: -	
	Outer unit - 6.8mm laminated glazing	
	Inner unit - 4mm "Climaguard 1.0" Low-emissivity Glazing or similar approved	
	Cavity - 18mm "Swisspacer - Ultimate" Thermal Spacer Bar, or similar approved warm edge spacer bar. Argon gas filled cavity	

	The Services Provider is to ensure the manufactured end product is compliant with Secured by Design (SBD) criteria PAS 24 Requirements. The Services Provider is to provide evidence of Secured by Design licence of the manufacturer for the windows and doors and also be validated on the Secured by Design Portal.	
1.3	**Planning Legislation**	
	The Services Provider must alert Amey at tender stage if they believe planning permission from the relevant Local Authority will be required or that the properties fall within a conservation area.	
1.4	**Building Regulations**	
	The Services Provider shall ensure that the new window design does not compromise compliance with the Building Regulations Section J Combustion appliances and fuel storage systems.	
	Safety Glazing - Toughened glass in accordance with Part K of the Building Regulations Means of Fire Escape - Part B Ventilation - Part F Thermal Efficiency and Performance - Part L Toughened Safety Glass - Part N Security - Part Q	
	To ensure compliance with current Building Regulations the installer will be required to issue certification of compliance and details of the address and installation details to FENSA Ltd within 20 days of completion. The contractor should inform FENSA that all certificates should be issued with Amey detailed as the consumer and sent to Amey, Swales Pavilion, RAF Wyton, Cambridgeshire, PE28 2EA	

2.0	**REQUIREMENTS**	
2.1	**General Requirements - Windows**	
2.1.1	All windows shall have hermetically sealed double glazed units with argon filled air space, clear low emissivity glass and with Enhanced Warm Edge Spacer Bar.	
	The windows as a whole to be Window Energy Rating (WER) band A or better, or U-value 1.3 W/m²K or better. The Tenderer is to provide a manufacturers WER declaration to indicate compliance.	
	Air Permeability Pressure Class 600 Pa	
	Water Tightness Pressure Class 600 Pa	
	Wind Resistance Pressure Class 2400 Pa	
2.1.2	Windows on the Ground Floor are to be outward opening with top, and side hung casements and to be internally glazed for security. Windows above this level shall be designed to comply with approved document part B1 providing an alternative means of escape.	
2.1.3	All opening lights on or above the 1st floor shall be fitted with a restricting device which shall prevent the window from being opened more than 100mm. The device shall be capable of being overridden by an adult or competent person to allow the window to be opened to its full design capacity, this device should be built into the hinge.	
2.1.4	Reinforcement of windows is to be in accordance with the current BS and the GGF code of practice.	
2.1.5	The hinges shall be heavy gauge stainless steel friction type with features appropriate to the function or requirement of the opening light concerned ensuring a close weather tight fit. Where practicable all hinges shall allow the cleaning of both faces of the window from inside.	
2.1.6	Windows shall be dry glazed. Glazing beads to be fitted internally for security and to resist attack. Weather seals and glazing gaskets to be in peroxide cured EPDM rubber (ethylene propylene diene monomer)	
2.1.7	All opening windows shall incorporate a white polyester-coated handle with a multi-locking action as appropriate for use. The locking mechanism shall be shoot bolt or espagnolette type operated by a single handle. Shoot bolts shall be a minimum of 8mm diameter with a throw of 25mm to steel keeps mounted in the corner of the frame. All handles provided for opening windows should incorporate a single locking action operated by a button release on the handle to facilitate immediate release and a removable key.	
2.1.8	Each window shall be fitted with a closable trickle ventilator which should comply with current building regulations. The ventilator shall provide a minimum free flow area to comply with the regulations; the main body shall be extruded aluminium alloy and polyester powder coated. It shall be fitted with an exterior extruded PVC weather hood complying with BS 6375 and shall be frame fitted. Vents to have removable fly screens for easy cleaning and maintenance. Where enhanced acoustic performance is required, the Services Provider is to include for acoustic vents within the design.	
2.1.9	All glass shall be clear floated glass free from defects, where obscure glass is required in places such as toilets and bathrooms the pattern is to be approved by Amey and shall be grade 5 maximum obscurity.	
2.1.10	All windows shall have a **PERMANENT LABEL fixed inside the frame;** the label shall give the window profile type, name of manufacturer and date of manufacture.	
2.1.11	The fabrication of all framing and opening lights is to be heat welding of the sections using approved techniques and equipment. Corner welds are to be mitred, with a grooved finish and the profiles reinforced with aluminium sections.	
2.1.12	Exposed drainage slots shall be cloaked with neat white PVCu cap, permanently glued to the face of the frame.	
2.1.13	Multi-chambered cills shall be provided to all windows and shall be sized to maintain the projection of existing cills ensuring water is pushed as far as possible beyond the face of the external walls.	

2.1.14	Where the existing windows have leaded glass, the Subcontractor shall price to replace like for like.	
2.2	**General Requirements – Insulated Panels**	
	Insulation panels that will be required are to be indicated on the Schedule of Window/Door Types and drawings.	
	Insulation panels are to comprise a phenolic foam core faced internally and externally with BSC Colorcoat Plastisol coated steel, internal colour white, external colour to be advised, both sides “Leathergrain” finish.	
	Overall panel thickness to suit PVC-U extrusion and to achieve a minimum “U” value of 0.45 w/m²K. Panel edges shall comprise square sealed edges achieved by folding one face of the steel across the edge and then folding over the other face to achieve two skins of steel which shall be pop riveted at n/e 450mm c/c. Thicker panels with rebated edges may be required to certain rooms.	
	Panels should be fixed with internal glazing beads unless otherwise indicated in which case double sided security tape shall be used when installing the panels. For integrity in case of fire it is a requirement that there be a mechanical fixing of the panel to the reinforcement within the PVC-U frame extrusion of low panels.	
2.3	**General Requirements - Doors**	
2.3.1	Thermal performance: Doors are to be double glazed and to contain insulation to prevent cold bridging. The door as a whole to have a Door set Energy Rating Band A or better, or a U-value of 1.3 w/m²K or better. The Services Provider is to provide a manufacturers WER declaration to indicate compliance.	
2.3.2	Main entrance doors are to be composite, high-density polyurethane foam core door with GRP outer skin and heat reflective and PVCu lined frame with capsulated edge banding and compression seals for water resistance. Secondary and French doors and frames are to be constructed from colour fast, impact resistant PVCu, made from hollow profiles and reinforcement is to be in accordance with the current BS and the GGF codes of practice.	
2.3.3	All doors shall be hinged at 3 points and allow inward opening in accordance with the manufacturers design the hinges having associated hinge bolts.	
2.3.4	All fixing screws shall be stainless steel; screws shall be located at a maximum of 600mm centres with at least 1 fixing no more than 150mm from a corner.	
2.3.5	Each door shall be provided with 3 keys clearly labelled with the property address, these to be handed to the occupant or Amey. It shall be the Services Provider’s responsibility to ensure any keys handed over are signed for, without this signature Amey will not accept any keys have been passed on.	
2.3.6	Doors are to resist all elements of the weather from entering the property; all extrusions are to be self-draining, multi chamber profiles with hot blade welded joints within the structure of the door.	
2.4	**Main or Front Doors**	
2.4.1	Four panel, cassette glazed design composite, high-density polyurethane foam core, the upper panels shall be double obscure, glazed safety glass with decorative, patterned design.	
2.4.2	Standard size inward opening chrome finish letter plate fitted centrally to the door with both internal & external draft exclusion, aperture size: 30-40mm x 230-280mm to DHF standards TS008.	
2.4.3	Door chain or limiter to allow partial opening to DHF standards TS003.	
2.4.4	Door knock with integrated spy hole to allow secure external viewing for the occupant through 180^0 and fitted at an agreed height to DHF standards TS002.	
2.4.5	Multi – point locking system with 3 or more locking points to BS 3621:2017 and PAS 8621 with 6 lever/cylinder euro lock & lever handle externally, internally a provision should be made for emergency open via a thumb turn or similar.	
2.4.6	Numerals fitted as appropriate with a non-corrosive chrome finish and 80mm in height.	

2.4.7	Floor mounted black rubber centre fixed door stop to be fitted to doors that open against walls.	
2.4.8	Accessible elevated aluminium threshold to be provided (no greater than 15mm) with chamfered edges with integrated drainage, designed to maintain tight seal and prevent water ingress, thermally broken.	
2.5	**Rear or Side Entry Doors**	
2.5.1	2XG style, the bottom panel shall be PVCu insulated impact resistant, the upper panel shall be double glazed as per the glazing requirement.	
2.5.2	Multi – point locking system with 3 or more locking points to BS 3621:2017 and PAS 8621 with 6 lever/cylinder euro lock & lever handle externally, internally a provision should be made for emergency open via a thumb turn or similar.	
2.5.3	Floor mounted black rubber centre fixed door stop to be fitted to doors that open against walls.	
2.5.4	Door restrictors are to be fitted to all outward opening doors to prevent doors opening full width against walls.	
2.6	**French Doors**	
	General construction shall be as the main doors with the following:	
2.6.1	Weather tight and provide an acceptable level of security complying with the “secured by design” standards.	
2.6.2	Full double-glazed units as per the glazing requirement.	
2.6.3	Multi – point locking system with 3 or more locking points to BS 3621:2017 and PAS 8621 with 6 lever/cylinder euro lock & lever handle externally, internally a provision should be made for emergency open via a thumb turn or similar.	
2.6.4	Door restrictors are to be fitted to all outward opening doors to prevent French doors opening full width against walls.	
2.6.5	All glazing beads to be internally fixed.	
3.0	**GENERAL INSTALLATION, WORKMANSHIP & REQUIREMENTS**	
3.1	The Services Provider is to carefully take out the existing windows and doors and remove from the site, care is to be taken to minimise any damage to finishing's and decorations.	
3.2	**Making Good**	
3.2.1	Internally the new windows and doors shall, as far as practicable, be fitted up to existing plaster. The Services Provider is to make good any damage or gaps to the window reveals and cills and decorate to match the existing. Where gaps are less than 12mm, they may be covered with a neat PVCu bead or quadrant.	
3.2.2	Where secondary glazing is removed and replaced by double glazing the Services Provider is to make good any damage to the window reveals and cills and decorate to match the existing.	
3.2.3	Externally the Services Provider is to make good to all affected external finishes including, brickwork, block work, render, timber etc. to match the existing as far as practicable. External gaps are to be sealed with solvent based acrylic sealant in a colour to match window and door finishes. Sealant to be finished to a flat or slightly convex profile.	
3.2.4	Where internal cills are tiled, the Tenderer is to include for provision of internal capping pieces or replacement of entire cill.	
3.3	Doors, hinges & ironmongery to be securely fixed in accordance with manufacturers recommendations and to be accurately aligned and adjusted to ensure smooth operation. All to be checked, adjusted and lubricated to ensure correct functioning. All screws and fastenings to match finish of the supplied ironmongery. The ironmongery shall be capable of being adjusted or replaced without removing the outer frame from the structure.	
3.4	**Fixing of PVC-U Frames**	

3.4.1	Ensure that when existing doors and windows are removed that the cavities are closed, if they are not already closed.	
	Note: Properties may have insulated cavities. Care must be taken when removing the old windows to make sure that the insulation does not slump or run out.	
3.4.2	Spacing: When not predrilled or specified otherwise, position fasteners 150-250 mm from ends of each jamb, adjacent to each hanging point of opening lights, but no closer than 150 mm to a transom or mullion centre line, and at maximum 600 mm centres.	
3.4.3	Ensure that DPCs are positioned correctly in relation to the frames and prevent any displacement during fixing.	
3.4.4	Set doors square and flush within the frame or lining, compensate for carpet / flooring finish to avoid binding.	
3.5	**Lintels**	
	The Services Provider is to check for supporting lintels above doors or windows that are to be removed. Where it is found these do not currently exist, the Services Provider shall supply and fit a suitable and compliant replacement lintel before proceeding with the installation. The Services Provider will need to allow for any required supports and the careful removal of the existing course of bricks above the doors or windows as necessary and re-fixing and relaying into new joints with new mortar to match the existing as near as possible.	
3.6	**Intruder Alarms**	
	The Services Provider is to determine whether any existing intruder alarm sensors / magnets can be re-fitted. If this is not possible the Tenderer is to inform Amey immediately.	
3.7	**Doorbells**	
	The Services Provider is to determine whether any existing doorbell system can be re-connected with a new bell push or whether they must supply and fit new mains operated low voltage electric doorbell. The bell push to be surface mounted on the door frame, bell & transformer mounted in the hall / lobby. All cable to be hidden in the building fabric as far as possible where surface cable is required it shall be neatly hidden in trunking run parallel to the building fabric.	
3.8	**Extractor Fans**	
	During the tender, the Services Provider is to notify Amey of the presence of any window mounted extractor fans.	
	The Services Provider is to provide details of location and quantity and whether there is space in the wall adjacent to the window opening to mount a replacement extractor fan and include for the cost to supply and fit the replacement unit. Fans (60l/s) shall be supplied and installed complete with external louvers and through wall sleeves. Control shall be via a switched pull cord, with adjustable run-on timer 0-30 minutes, initially set to 15 minutes (or time delay as required by Building Control).	
	If there is no space, then the Services Provider is to allow in the design for a blank panel in the top quarter of the frame nearest to the existing extractor location for mounting the replacement extractor. The Tenderer is to include for the cost to supply and fit the replacement unit. Fans (60l/s) shall be supplied and installed complete with external louvers and through wall sleeves. Control shall be via a switched pull cord, with adjustable run-on timer 0-30 minutes, initially set to 15 minutes (or time delay as required by Building Control).	
3.9	**Protection of Components**	
	Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.	
	Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.	
3.10	**Colour**	

	All replacement windows and secondary entrance doors are to be constructed from slim line section colourfast white PVCu. Main entrance doors externally are to be one of the three following colours with white PVCu frame and is specified within the item coverage: Black – RAL Code – 9005 Blue – RAL Code – 5011 Green – RAL Code – 6009 Store doors/Garage Personnel Doors are to be: Black – RAL Code – 9005 The exception to this may occur where windows and doors in the building or in neighbouring properties are coloured or of a different material or where planning legislation requires a colour other than the above.	
	All main entrance and secondary entrance internal frames and glazing and finishing beads to be fitted in white PVCu. Store Doors/Garage Personnel door internal frames and finishing beads to be fitted in black PVCu	
	Any external gaps should not exceed 5mm and should be finished in approved silicon bead to match the colour of the installation.	
	Any internal gaps should not exceed 5mm and should be finished in an approved silicon bead to match the colour of the installation.	
3.11	**Lifespan**	
	The windows, doors, and all ironmongery including hinges, locks, handles, letter plates, and spyholes should have a minimum lifespan of 25 years, the manufacturer shall retain spares for a minimum of 7 years or advise Amey of maximum retention period expected.	
3.12	**Fire Performance**	
	The Services Provider shall ensure the current Building Regulations are met in relation to fire performance. Amey will advise the Services Provider where Defence Fire Risk Management Organisation (DFRMO) wish to impose a higher standard under the Crown Fire Standards (CFS).	
	At project inception the DIO will notify DFRMO and issue Form 1 to the appropriate Regional DFRMO Officer. The Regional Officer will appoint a local Project Fire Officer and DIO will inform the Amey Project Team.	
	Prior to commencement on site the Services Provider will be required to issue copy of drawings/schematics/schedules as required to Amey and DIO.	
	CFS differ from Building Regulations in that the fenestration opening dimensions at first floor are larger. The current requirements at are:	
	Crown Fire Standard (CFS) E1, Single Family Dwelling Houses.	
	4.3 Means of Escape – All habitable rooms in the first storey shall be provided with a window (or external door) complying with the following:	
	It should have an unobstructed opening that is at least 750mm high and 450mm wide with a perimeter measuring at least 2700mm and the bottom of a window opening should be not more than 1100mm above the floor. Where locks are fitted to these windows, the keys should not be removable.	
	It should enable the person escaping to reach a place free from danger from fire. This is a matter for judgement, in each case, but, in general, a courtyard or back garden from which there is no exit other than through other buildings would have to be at least as deep as the dwelling is high, to be acceptable.	
	Hinges (or part of the hinge) must be capable of resisting a fire and have a melting point of not less than 8000C.	
	Door Closers	
	All fire doors must be made self-closing by means of an approved self-closing device, these being either a double chain concealed jamb closer or an overhead type closing device. Door closers are to ensure the door closes fully within the door fame and is held firmly shut against the door stops. (Gibraltar type closers and single chain concealed jamb closers are not to be used).	
3.13	**Works Access**	

	Scaffold & Access Equipment	
	The Services Provider is to include for all safety equipment and access requirements e.g. scaffold, towers, working platforms, ladders, movable platforms, cherry pickers, etc. necessary for the safe carrying out of the works. The Services Provider is to include for all necessary plant to undertake the works.	
	Note:	
	The Sub-Contractor is to identify the need for Ladders / Step Ladders, MEWPs, Scaffold (Tubular or Mobile), and apply the subsection standards for provision of scaffolding and access equipment in accordance with Amey Health and Safety Requirements document SP003.1. The Subcontractor is to confirm to Amey as part of their tender return the name of their proposed scaffolding contractor and that they are NASC approve. The work may involve Temporary works.	
3.14	**Asbestos**	
	The Services Provider is to price to undertake a Pre-Demolition/ Major Refurbishment Asbestos Survey in accordance with Health & Safety Legislation.	
	Copy of survey reports to be issued to Amey electronically in excel in the Amey template format and as a pdf.	
3.15	**Samples**	
	Before placing orders, the Services Provider is to submit to Amey labelled samples of the following:	
	External/internal door and window handles	
	Letter plate	
	Door Chain	
	Door bolt	
	Door Knocker with integrated spy hole	
	Numbers	
	Samples are to be retained on site on site for the duration of the contract and the Services Provider is to ensure conformity of ironmongery as delivered with labelled samples.	
4	**ENVIRONMENTAL**	
	Services Providers must issue a copy of their Environmental Policy with their Tender Return.	
5	**CLEANING**	
	The Services Provider is to clean the working area and remove all debris, rubbish, materials and clear from site.	
	The Services Provider is to ensure all new windows and doors are fully cleaned before handover to Amey.	
6	**APPROVALS**	
	The Services Provider is to notify Amey once all works have been completed at each address.	
	The Services Provider is to submit to Amey a Technical Maintenance manual which is to incorporate;	
i.	A set of record drawings.	
ii.	A complete list of all components used in the windows and doors including names and addresses of the manufacturers of those components and availability of spares including merchants/retail outlets/trade suppliers.	
iii.	A detailed description of re-glazing procedure.	
iv.	all other relevant information regarding cleaning, maintenance etc.	
7	**DEFECTS**	

	The Services Provider is to attend site within 2 working days following notice from Amey that a defect has occurred.	
8	**GUARANTEES**	
	The Services Provider is to supply a fully transferable insurance backed 10-year (Minimum) materials and workmanship guarantee for the windows and doors.	

Revisions

Rev K 03/12/2019	**Windows 2.1.7 upgraded to include multi locking.** All opening windows shall incorporate a white polyester-coated handle with a multi-locking action as appropriate for use. The locking mechanism shall be shoot bolt or espagnolette type operated by a single handle. Shoot bolts shall be a minimum of 8mm diameter with a throw of 25mm to steel keeps mounted in the corner of the frame. All handles provided for opening windows should incorporate a single locking action operated by a button release on the handle to facilitate immediate release and a removable key. **Rear or Side Entry Doors 2.4.5 Upgraded to match front door.** Multi – point locking system with 3 or more locking points to BS 3621:2017 with 6 lever/cylinder euro lock & lever handle externally, internally a provision should be made for emergency open via a thumb turn or similar.
Rev L 08/09/2020	**1.2.3 DIO Standards** Improved U-value achieved with warm bar spacer
Rev M 13/6/23	**2.1.1** Window WER Band Rating corrected to a 'B' Rating in lieu of a 'C' Rating. (U value was correct at 1.4 w/m²K.) 2.3.1 Door U Value changed to 1.4 w/m²K & Doorset Rating Band B.
Rev N 16/11/2023	**1.1.5** Glazing bars section removed, altering numbering. **1.1.6** added top hung fan light and re-numbered to 1.1.5. **1.1.7** Wording amended to remove secondary glazing. **2.1.1** The Window Energy Rating (WER) upgraded to Band A, U-value 1.3 w/m²K. **1.1, 1.2.1, 1.2.2** British Standard updates. **1.2.3** MOD Standards – updated spec for better U-Value and A rated. **1.4** Associated Building Regulations set out. **2.1.3** – removed the 'accessible to children' statement. **2.6 & 2.6.4** changed from Patio to French doors
Rev O 14/08/2024	Wording changed from 'Tenderer' to 'Services Provider' throughout. **1.2.1** added BS EN 356:2000 Glass in building. Security glazing. Testing and classification of resistance against manual attack. **1.2.2** PAS 24: 2022 Enhanced security performance requirements for door sets and windows. **1.2.3** Glazing updated to ensure Secured by Design (SBD) criteria. Evidence of SBD License requested. Removal of double-sided security tape. **2.4.2** added 'to DHF standards TS008.' **2.4.3** added 'to DHF standards TS003.' **2.4.4** added 'to DHF standards TS002.' **2.4.5, 2.5.2, 2.6.3** added 'to PAS 8621.'

Rev P 23/09/2025	1.1.5 added new item - When specified within Item Coverage, white PVCu surface mounted, clip-on glazing bars are to be installed to match existing design where possible. Bar widths are to be 25mm, chamfered profile and designed to fit flush onto sealed double glazed units. Design is to be agreed with Amey Area Billable Works Manager prior to manufacture. 1.2.1 added BS 8529:2017 – Composite door sets. Domestic external door sets. Specification (main entrance doors only) 2.3.2. added Main entrance doors are to be composite, high-density polyurethane foam core door with GRP outer skin and heat reflective and PVCu lined frame with capsulated edge banding and compression seals for water resistance. 2.4.1 Four panel, cassette glazed design composite, high-density polyurethane foam core, the upper panels shall be double obscure, glazed safety glass with decorative, patterned design. 2.4.4 Door knocker with integrated spy hole added. 2.4.8 Accessible elevated aluminium threshold to be provided (no greater than 15mm) with chamfered edges with integrated drainage, designed to maintain tight seal and prevent water ingress, thermally broken. 2.5.1 Removed multi panel and added 2XG. 3.10 Updated colours for main entrance, store doors/garage personnel and internal frames 3.15 Door knocker with integrated spy hole added to samples