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**Natwest Gravesend
30 King Street
Gravesend
Kent
DA12 2XX**

Repairs Statement



Date: December 2022

Our Reference: 22-184-AS-RS



CONTENTS

1. Introduction 3

2. Roof repairs..... 4

3. Rainwater Goods.....15

5. Stonework18

6. Bibliography20

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1. Introduction

The following Repairs Statement proposed urgent roofing and maintenance works to the Natwest retail banking branch at 30 King Street, Gravesend, Kent, DA12 2XX. The document should be read in association with the following documentation:

- 22-184-AS-DAS: Design & Access Statement
- 22-184-AS-HS: Heritage Statement

This statement should also be read in conjunction with the following drawings:

- 22-184-AS-03: Existing floor plans
- 22-184-AS-04: Existing roof plans & elevations
- 22-184-AS-05: Site Plans

The building is Grade II Listed under the Planning (Listed Buildings/Conservation Areas) Act 1990 and is situated within the prime retail district of Gravesend which also incorporates the Gravesend Conservation Area.

The proposal comprises the undertaking of sympathetic, “like for like,” maintenance repairs to the main and rear roof portions in order to address ongoing water ingress. Allowance has also been made to carry out repair and decorations works to the front and side elevations.

All repair works to be carried out in accordance with relevant legislation and Historic England Guidance.

2. Roof repairs

2.1 Main Roof Refurbishment

Full refurbishment of pitched portions of main roof weathered in a Westmoreland slate covering.

Preparation

Careful remove all remnants of vegetation and debris to all pitches. Allow to clean and flush through rainwater goods prior to stripping off existing coverings and detailing.

Strip up

Taking care to avoid damaging the adjoining building fabric carefully remove all slates and battens to pitches as indicated on drawings. Cart away all redundant materials to a registered tip. Allow for stripping all protruding fixings ensuring that minimum disturbance to the remaining roof covering is made.

The stripping works to roofs are to be undertaken in a phased manner in order to minimise exposure of the internal fabric. Only one pitched roof is to be stripped at a time. Adequate protection is also to be provided around any access hatches into roof spaces to prevent the ingress of dust and debris.

The contractor is to salvage as many tiles as possible during the stripping off process, disposing of those that are unsuitable for re-use. Those set aside are to be sorted and prepared ready for reuse as detailed within this schedule.

Allow for the replacement of 25% of the roof slates. New slates to be *Westmoreland* to match existing.

On removal of slate roof covering the contractor is to clean down all roof boarding, removing all nails and making good to any works or surfaces disturbed in the removal process.

Reconstruction/ timber repairs

Where necessary, carry out timber repairs to main roof-space to be agreed with Conservation Officer. All timber sections to be Grade C24 to match existing profile and installed fully in accordance with BS 5268 Part 2: 2002. All timber to be high pressure treated with Green Tanalith E, or similarly approved to ensure free from decay.

All timber work to be fixed using BAT metalwork including straps, clips, hangers and restraints manufactured from pre-galvanised steel strips with zinc coated edges to BS EN 10142 : 1991, DX51D + Z275 fixed to timber using MAT 3.75mm x 30mm square twisted sherardised nails.

Treat all timberwork to roof structure with suitable preservative - Five Star Cuprinol, or similarly approved solvent based equivalent. Application to be carried out in accordance with manufacturers recommendations.

Valley details

Reconstruction of valley details at junction between main roof portion and pitched portions to dormers and projections to be lined with Code 7 leadwork fully in accordance with Lead Sheet Association (LSA) guidance.

Leadwork to be laid on noggins between rafters with a continuous 18mm WBP plywood lay-board or 20mm gutter lining boards notched into the rafters. Lead work to extend 300mm from the centre of valley each side and be dressed over tilting fillets at 150mm from centre. Note a min gap of 125mm should be between tile edges.

Allow to fully replace 2no. outlets to foot of valleys including for connection to downpipes beneath and preparation to receive lead lining.

Breather membrane

To exposed rafters provide and install DuPont Tyvek Supro Plus breathable membrane laid horizontally over the entire roof surface, parallel with the eaves and secured with non-ferrous felt nails or staples as follows: (Horizontal centres = max 600mm; vertical centres = max 300mm). Ensure underlay is taut and has a minimum overlap of 150mm and 300mm at ridge details. Fit in accordance with manufacturers instructions and utilise Tyvek tape products accordingly.

Battens

Supply and fix double vacuum treated softwood replacement battens (counter-battens 50 x 19mm; battens 50 X 25mm) to BS 5534: Part 1 ensuring a moisture content of less than 22% at time of covering and set out to meet the existing gauge requirement to eliminate uplift rotation. Battens are to be fixed using zinc or zinc alloy sherardised / ring shank nails (85 x 3.35mm) and are to conform with BS EN 10230-1.

Slates

Fix to battens salvaged and new *Westmoreland* slates of equal dimensions double lapped fixed in accordance with BS 5534, code of practice for slating and tiling. Tiles are to be fixed to batten using 2 aluminium alloy nails (to BS 1202: part 3) per tile. Front facing roof pitches are to be covered first with salvaged tiles, any shortfall to be made up with tile to match existing.

Where there is insufficient salvaged slates then new *Westmoreland* slates shall be supplied and fitted accordingly to match the existing colour and profile as agreed with the appointed Conservation Officer.

Slates are to be laid with an even overall appearance with slightly open butt joints and with tails aligned. Use extra wide or tile and halves at the end of courses to ensure that side lap is maintained. Centre fix each tile with two nails to BS1201 Part 2, 3.35 x 35-40mm long, through countersunk holes 20-25mm from side edges. Use tiles of a consistent thickness in any one course and ensure lap is maintained. The existing layout of diminishing courses shall be accurately recorded so that the new roof covering can be installed to match.

Slates to be laid to eaves to ensure sufficient overhang with new lead rainwater gutters. Supply and fix suitably sized Burlington vents, or soaker style vents every 2.0m at both high and low level to achieve an airflow of 5,000mm²/m.

Gable/ verges

Slates to be laid to form standard verge detail bedded onto a 150mm wide fibre cement under cloak and all exposed mortar neatly pointed. Mortar mix to be: 1 part hydrated lime; 1 part Portland cement; 6 parts sand. No mortar or residue from is to be left on slates. Verge to be finished fillet detail.

Ventilation

Supply and fit a proprietary eaves ventilator to the base of all tiled roof pitches in accordance with manufacturer details and design details on page 201 of the LSA The Complete Manual. Ensure that through ventilation into the roof space is provided through all 'Scottish' boarded roofs.

Allow for ridge ventilation system to be included within ridge lead details to all pitched roofs as shown in fig 2 on page 200 of the LSA The Complete Manual. An alternative method of ridge ventilation may be used where hollow roll details positioned at right angles to the main ridge provide high level ventilation into the roof void - allow for insect guard at end of each hollow roll detail.

Insulation

Upgrade mineral wool insulation to all loft spaces to improve thermal performance of the building. Provide and install Knauf Ekoroll Loft Insulation to entire roof-space in accordance with manufacturers recommendations. Insulation to be laid in 2no. layers of 100mm thickness, ensuring 50mm gap is retained at eaves for ventilation purposes.

2.2 Main Roof Isolated Repairs

Carry out isolated slate repairs to northern pitch as indicated on drawings.

Preparation

Careful remove all remnants of vegetation and debris to both pitches. Allow to clean and flush through rainwater goods prior to stripping off existing coverings and detailing.

Strip up

Taking care to avoid damaging the adjoining building fabric carefully remove all damaged tiles to mono-pitched roof portions. Cart away all redundant materials to a registered tip.

On removal of tile roof covering the contractor is to clean down all roof boarding, removing all nails and making good to any works or surfaces disturbed in the removal process.

Reconstruction

Fix to battens slates of equal dimensions double lapped fixed in accordance with BS 5534, code of practice for slating and tiling. Tiles are to be fixed to batten using 2 aluminium alloy nails (to BS 1202: part 3) per tile. Front facing roof pitches are to be covered first with salvaged tiles, any shortfall to be made up with tile to match existing.

Where there is insufficient salvaged tiles then new shall be supplied and fitted accordingly to match the existing colour and profile as agreed with the appointed Conservation Officer. Allow the Provisional Quantity of 10m² to be expended upon Employer Representative's instruction. Slates to be laid fully in accordance with this specification and BS 5534.

2.3 Leadwork

Re-furbish leadwork detailing to all roof portions including all valleys, ridge rolls, hip rolls, flashings, gutters and the like. All lead works to be carried out in accordance with Lead Sheet Association guidance.

All leadwork to be treated with patination oil fully in accordance with manufacturers recommendations including cover flashings, soakers, aprons, bell housings, rolls, guttering, dormer roofs and cheeks and the like.

Allow for the application of lead based sealant to the perimeter of leadwork at junction with adjoining masonry.

Valley gutters

Where valley gutters have been reconstructed supply and fix Code 7 lead valley gutters and saddles laid on a needle punched non-woven geotextile polyester felt.

Valley gutters are to be dressed into the timber lined gutter. The lead lining is to be taken up the roof slope and over the fillet tilting to give a minimum width of 500mm with a welged edge. The lead shall be laid in sections no longer than 1.5m with a minimum lap of 150mm. Secure using a row of copper clout nails at the head of each piece secured at 75mm centres. The Tyvek membrane should be dressed over the fillet into a 25mm gap, in accordance with the manufacturer's recommendations.

The saddle is to give a minimum of 150mm lap over the gutter lining on each side.

Ridge and Hip Rolls

Replace all lead sheeting to ridge and hip details. The width of the flashing section shall be the distance round the core roll plus 150mm dressed down the roof slopes. The lead is to be dressed tight into the bottom of the roll to prevent lift.

Sections are not to exceed 2.0m and lap joints are to be 200mm. Junctions to hip details are to be secured with copper clout nails secured through the lower section of lead into the wood core roll.

Stainless steel clips are to be used and fixed in accordance with Lead Sheet Association guidance at 400mm centres.

Box gutters

Price to refurbish box gutters to perimeter of pitched roofs including; asphalt repairs and lining with leadwork.

Preparation

Price to remove all meshed pigeon netting and cart away to a registered tip. Allow for the removal of all timber frames and fixings etc.

Carefully remove existing Portland stone coping stones and set aside for reinstatement upon completion. Allow for the removal of existing lead flashing and all mortar bedding. Thoroughly prepare substrate to receive new flashing detail.

Preparation - Asphalt

Power wash all surfaces in order to reveal a clean surface suitable for repair, where necessary. A minimum 2000 psi is recommended for preparation. There is no specific maximum as this may vary according to the equipment used and the surfaces being cleaned. At no time should the pressure jet be so high as to cause damage to the substrate being cleaned. Adjust pressure to clean away contamination and friable material from the surface. Note: Exercise suitable precautions when using high pressure equipment.

Carefully scrub and clean existing asphalt covering. Allow to remove all loose or damaged areas of asphalt and disposing of all debris to a registered tip. Ensure that the finished surface is clean and free from loose dirt etc.

Carefully remove surface, base course and sub-grade to the effected area in order to reach a firm substrate, making square or rectangular cuts. Trim and compact subgrade.

To newly prepared subgrade provide and lay new tack coat with ASTM D 2397 or D 3628 asphalt emulsion types SS-1, SS-1h, CSS-1 or CSS-1h diluted with equal parts of water.

Backfill with hot mix, hot laid asphaltic concrete while temperature stays above one hundred eighty five (185) degrees F. Prevent segregation of mixture. Allow for compacting in layers simultaneously checking quality and alignment of patch with a straight edge or string line.

Waterproofing

Supply and install code 6 lead to form a parapet gutters to perimeter of roof between adjoining walls and pitched sections.

The tops are to be dressed back to a welted edge up the roof slope over the tile batten and are to extend 150mm on both sides over the slates.

At abutments with walls the lead is to be dressed 150mm up the brickwork/stone detailing. A 150mm cover flashing is to be fixed over the up stand and is to be formed of sections of code 6 lead. These are to be secured at abutment with brickwork/stonework in 25mm raked out mortar course or cut stone section, wedged

with lead wedges at 400mm centres and pointed using traditional lime mortar (sample to be prepared for approval) to match existing. Lengths are not to exceed 1.5m between laps and lap joints are to be 150mm

Stepped Flashings and Soakers

Supply and fix code 4 lead soakers at tile abutments with adjoining walls, chimney stacks, upstands and the like. Soakers are to be turned 75mm up the wall and project 150mm down over the slate, with the top edge turned over the slate. Include in this item for one soaker per slate.

Supply and fix lead step flashings over soakers using code 6 lead. Lengths should not exceed 1.8m with a minimum lap of 100mm between sections. Secure at abutment with wall by turning into 25mm raked out mortar course, wedge and lead wedges and pointed using traditional lime mortar (sample to be prepared for approval) to match existing.

Turrets

Re-dress leadwork detailing to 2no. turrets to main roof ensuring a waterproof seal is maintained. Treat leadwork with patination oil and apply lead based sealant as described previously.

Allow the Provisional Sum of £2,000 for further repairs upon erection of a scaffold to be expended upon Employer's Representative's instructions.

Patination oil

To all leadwork provide and apply 2iM patination oil in accordance with manufacturers recommendations and instructions.

2.3 Flat roof refurbishment

Fully refurbish the rear flat roof, including stripping back to deck with the application of Garland StressPly Flex Plus system.

Waterproofing

Price to fully refurbish the rear flat roof, including stripping back to deck with the application of Garland StressPly Flex Plus system.

New covering to be Garland StressPly Plus elastomeric bituminous felt waterproofing system installed fully in accordance with manufacturers recommendations:

"The Garland Company (UK) Limited
Contact: Alex Copp
Mobile: 07944611796
Email: acopp@garlandukltd.co.uk"

All waterproofing details are to be formed in accordance with The Garland Company (UK) Limited installation recommendations. Where waterproofing details cannot be formed in accordance with published guidance, The Garland Company (UK) Limited Technical Services should be contacted for further advice.

Preparation

Strip up and remove the existing waterproofing and timber detailing to include upstand, gutters, drip edges and kerb details and dispose. Carefully remove all arisings in preparation for overlay.

Dispose of all waterproofing in to skips and remove from site. Remove all dust, debris and superfluous materials from the roof and leave in a dry and clean condition

Any waterproofing stripped down to a combustible substrate must be treated as a fire risk and the self-adhesive VCL used.

The existing surfaces are to be inspected and made good prior to application of the primer in order to receive the new felt system. Split and reseal all blisters on the existing roof surface ready to receive primer. All areas where membrane laps are defective are to be removed back to adhered areas and made good. To the bitumen surface gas blisters should be ironed flat, slump or sag reinstated. Large cracks should be filled using a compatible material or heated and re-sealed - do not overheat. If necessary, patch repairs should be carried out and allowed to cure prior to application. Note: Exercise all necessary care when heating. It is not usually necessary to remove the existing asphalt coverings once the surface is prepared and sound. Any existing degraded and perished felt upstand or edge detail waterproofing is to be removed, deposited into skips and removed from site. This will also include removal of any existing metal apron flashing when the pitched metal panels are removed.

Remove all dust, debris and superfluous materials from the roof and leave in a dry and clean condition. All vegetation and associated debris is to be removed prior to application of the primer.

When stripped, inspect the deck for any damage repairing all items as deemed necessary, the deck must be checked to ensure its integrity and any damaged areas must be replaced.

Deck repairs

Allow the provisional quantity of 5m² of new decking to be expended upon Employers Representatives instruction.

Where defective strip up existing timber deck back to structure and cart away all redundant materials to a registered tip. Price for the removal of all boarding, fixings, priming materials and the like.

To area of roof stripped of existing timber decking provide and fix, new 18mm thick WBP plywood deck with end joints staggered and screw heads well countersunk. New plywood deck to be fixed to existing structure using suitable sized anti corrosive mechanical fixings. Allow for all cutting and adaptation of boards necessary to complete installation.

Priming

Prepare, provide and prime existing deck with Garland Garla-Prime Primer. Allow for priming all upstands, skirtings, kerbs, flashings, valley gutters, parapet gutters, box gutters etc. in accordance with manufacturers recommendations. Allow for the

application of Garland SA Contact Primer to all detailing and high risk areas as required.

All surfaces must be clean, dry and free from grease, oil, dirt and loose material and structurally sound. All areas to which the waterproofing system is to be bonded must be prepared and primed accordingly.

Vapour Control layer

Install a layer of Garland Torch Evolution VCL membrane (10.0m x 1.0m roll) direct to the primed surface. A minimum 80mm side laps and 100mm end laps must be obtained in order to ensure a full watertight seal. To ensure total security, all laps must extrude a minimum 5mm of bitumen bleed which should be checked thoroughly as work proceeds. All end and side laps to be fully sealed in accordance with manufacturers recommendations.

Any areas of stripped waterproofing back to a combustible substrate must be installed with self-adhesive vapour control layer. Install a layer of Garland SA Flex Vapour Barrier (10.0 x 1.0m roll) in accordance with current instructions. The substrate should be clean, dry, and free of debris, dust and primed.

"Heat weld the membrane laps ensuring a 50mm gap is maintained between the heat gun nozzle and seam roller for a consistent weld. Excess pressure should not be required to create a bleed.

A minimum of 100mm end laps must be obtained to ensure a watertight seal has been achieved."

Secure vapour control layer around all pipes and other components penetrating through the roof with tape or other approved means in accordance with manufacturers recommendations.

The vapour control layer must be installed a minimum 100mm above the insulation height at all roof details (upstands, water check curbs, timber battens, rooflight curbs, vent curbs, parapet walls etc.), this ensures continuity in the VCL and that roof system is protected from damaging effects of condensation.

Insulation

To newly laid vapour control layer supply and apply Tapered Plus Ltd Cut To Falls (CTF) insulation in accordance with drawing number: GA5339_19.02 Insulation adhesive in preparation to receive new insulation. Adhesive to be applied to all areas to ensure complete covering in accordance with manufacturers instructions and recommendations.

Provide and install Bitumen faced CTF high performance rigid polyisocyanurate (PIR) foam insulation to have a thickness to achieve a minimum U Value of 0.18W/m2.k in accordance with approved document Part L2 of the Building Regulations. Insulation boards must be laid break-bond pattern in accordance with the current instructions. Boarding to be installed to all areas in accordance with manufacturers instructions and recommendations.

All joints in boarding to be staggered and tightly butted to avoid gaps. The insulation boards must be installed into wet PU adhesive at the specified coverage rate and prior to the adhesive 'skinning' (between 3-15mins).

All insulation boards must be protected from moisture prior to installation by storing off the ground and covered with a tarpaulin. Any hollows, depressions, deflections, back falls etc. found in the deck either before or after stripping should be rectified prior to installation.

On inclined roofs apply additional insulation stops for anchoring the waterproofing system against slippage, at intervals according to the slope as necessary.

No hot works must be used in the installation of insulation or the subsequent underlay. All hard edges used must be fire rated to BS476-7 Class C or better.

Treated timber battens must be installed at all non-supported edges i.e. internal and external gutter edges etc. The treated timber batten must be slightly thinner than the specified insulation in order to allow for the build-up of waterproofing membranes and rainwater runoff. All timber battens must be mechanically fixed and primed prior to being encapsulated with Garland SA Flex Vapour Barrier or a mechanically fixed bitumen membrane layer prior to a torch application. Fillets must be installed to all upstands, chase details etc. If using combustible timber fillets, these must be encapsulated with SA Flex Carrier layer Sheet or a mechanically fixed bitumen membrane layer prior to a torch application.

Underlay

To newly laid insulation provide and lay Garland SA Flex Base Sheet fully bonded underlay. Underlay to be self-adhered and polyester reinforced installed in accordance with manufacturers instructions and recommendations. Allow for the application of SA Flex Carrier Sheet to high risk areas

Ensure the substrate is free of dust, debris or moisture that will impair the bond. Underlay to be dressed to the perimeter details to allow for linking with the specified vapour control layer by 80mm minimum. Layer to be applied directly to the insulation boards without the need for priming.

Underlay to be being fully bonded by the torching technique and lapped onto the main roof area by a minimum 125mm and dressed to the detail as specified. Ensure a visible bead of bitumen is exuded from all side and end laps.

All laps to be hot air welded and pressure rolled ensuring a visible bead of bitumen is exuded from all side and end laps. Take care to ensure naked flames are not allowed near the surface of the insulation boards.

Capping sheet

Install a layer of Garland StressPly Flex Plus Cap Sheet (5.0m x 1.0m roll) by torching in accordance with current instructions. Minimum 100mm side laps and 150mm head laps are required. A minimum 5mm bead of bitumen must extrude at all laps to ensure a watertight seal has been achieved.

"All head laps must be staggered and mechanically fixed to the timber battens installed with the insulation."

Associated Detailing

All works to associated details are to be carried out strictly in accordance with manufacturer's recommendations and current British Standards

Adjust levels and dress roof coverings through all changes in levels including kerbs and upstands to suit new roof levels. Allow for bonding new roof coverings to existing roof coverings where applicable.

Dress upstands at abutments minimum 150mm above new roof level. Provide, prime and lay upstands, skirting, kerbs, flashings, valley gutters, parapet gutters, box gutters etc.

Adjust levels of and dress roof coverings into rainwater outlets to suit new roof levels and rainwater goods.

Nailing Battens at Changes of Roof Level Over 300mm High

Provide and fix 75mm(d) x 50mm(w) PAR softwood battens at top of upstands over 300mm high at changes of roof levels plugged fixed to concrete deck using anti corrosion stainless steel screws at 450mm maximum centres, to provide hard surround for new insulation and nailing battens for mechanical fixing of new roof coverings.

Angle Fillets

Provide and fix ex 50mm x 50mm cork or Universal angle fillets to all vertical junctions with roof surfaces e.g. abutments, upstands, rooflights, Kerbs etc. Fillets to be installed in accordance with manufacturers instructions and recommendations.

Angle fillets to be used at all horizontal and vertical abutments. Apply with the facing upper side most, tightly butted to the horizontal and vertical abutment. Fillets to be adhered and bonded in Garland bituminous mastic sealant.

Welted Drip Batten

Provide and fix 75mm(d) x 38mm(w) softwood welted drip battens plugged and fixed using anti corrosion stainless steel screws at 450 maximum centres to concrete upstand, brickwork parapet, ready for new welted drip.

Provide and lay welted drips fixed to welted drip battens. Provide, prime and reinforce welted drips with 3.2mm thick oil tempered quality hardboard to BS 1142 Part 2 1971 to give neat level finishing lines.

Edge Trim

Provide and install pultruded Garland GRP edge trim to eaves of all flat roofs scheduled to receive new waterproofing system. Trim to be installed in accordance

with manufacturers instructions and recommendations – colour to be agreed with Employers' Representative.

Flashings

To all upstand details provide and lay new lead free waterproof flashing.

In lieu of traditional leadwork provide and apply Ubbink modified polyethylene lead free flashings complete with aluminium mesh re-enforcement. Flashings to be installed at junction between new felt and all chimney stacks and abutments and rooflights and pitched valley linings and the like. Allow for dressing all flashings to ensure a suitable weather-proof seal is maintained in accordance with manufacturers instructions and recommendations.

Price for cutting 25mm chases into brickwork to ensure a minimum 150mm clearance is maintained between finished roof covering and upstand.

Flashings to be fixed using standard fixing clips including the application of mastic at junction between flashing and chase.

Where upstands meet adjoining windows allow for dressing flashing over cills and pointing up in mastic sealant.

Parapet walls

Install a 18mm exterior grade OSB 3 SmartPly support to the face and top of the parapet, the plywood should be mechanically fixed to timber battens.

Ensure that surfaces are free from visible dampness and that surface lying dust, dirt and other forms of contamination are removed immediately prior to priming.

Apply the Garla Prime Bituminous Primer to all timber detail areas and allow to dry thoroughly prior to waterproofing application.

Install the Garland Torch Evolution Base Sheet (8.0m x 1.0m) roll up and over the parapet wall to finish a minimum 5mm beyond the outer edge of the brickwork, fully bond by torching, ensuring a full bitumen bond and watertight seal is obtained.

Mechanically fix new black GRP edge trim to the parapet walls perimeter.

Install the Garland StressPly Flex Plus Mineral Cap Sheet (5m x 1.0m) roll up and over the parapet wall to finish a minimum 5mm beyond the outer edge of the brickwork, fully bond by torching, ensuring a minimum 5mm of extruded bitumen is present at all side laps and end laps.

Install treated angle fillets to all upstand details where required.

Install new Black Viking GRP trim.

3. Rainwater Goods

3.1 Refurbishment to rainwater goods

Refurbishment of rainwater goods complete including all downpipes, outlets, gutters and the like.

Repairs to corroded sections

Taking care to protect the remainder of the installation carefully cut out existing corroded sections and cart away redundant materials to a registered tip. Cut back all corroded metalwork back to sound sections. Exact extent to be agreed with Conservation Officer.

To newly prepared sections provide and apply isolated patch repairs. Price to carry out all cutting, fabricating, assembling and joining / welding necessary to complete the repairs. New sections to be pieced in to match existing.

Allow to test pipework upon completion to ensure it is operating correctly.

Replacement sections

Where corroded sections are deemed beyond repair, price to remove and replace sections as required.

Carefully take off and remove existing damaged cast iron rainwater pipes, making good to any works and surfaces disturbed.

Supply and install new Alumasc Apex Heritage (circular) cast iron rainwater downpipes to include all bracket and caulking. Profiles to match existing and connected to new and existing hopper heads. To be installed in accordance with manufacturer requirements.

Supply and install where required new cast iron Alumasc rectangular hopper heads of suitable size to match existing fully in accordance with manufacturer instructions allowing for all necessary connections and bracketry.

Decoration

Wash down the surfaces with a suitable detergent solution to remove dirt, chalking paint and other contaminants. Rinse off with clean water and allow to dry. Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Prepare all exposed metal to remove corrosion products. Rub down sound paintwork with a suitable abrasive to remove 'nibs' and provide a 'mechanical' key. Dust off. Ensure the surface is clean and dry before proceeding with redecoration works.

Prime metalwork with 1no. coat of Dulux Trade Metalshield Zinc Phosphate Primer and finish with 1no. Coat of undercoat and 2no. Coats gloss fully in accordance with manufacturers recommendations.

4. Windows and Doors

4.1 Repairs to windows and doors

Repairs to all timber and crittall framed windows to front and side elevations as detailed on the drawings and within this specification. Allowance should be made to carry out repairs to all windows, with replacement complete where specified.

Timber windows

8no. Windows

Provisional Quantity of 0.5m timber repairs per window and door

Crittall windows

52no. Windows

Provisional Quantity of 0.5m metal repairs per window

Timber cills

6no. Cills

Provisional Quantity of 0.25m timber repairs per cill

Timber window casement replacement

8no. Windows

Timber Repairs

Using a suitable diluted cleaning detergent wash down all timber in order to remove all dust and debris etc. Lightly sand timber work to form a key, remove debris and bring forward for decoration.

Carefully remove / cut out damaged and decaying sections of timber back to a sound substrate. Allow for the removal of all infected timber in preparation to receive repairs.

Treat exposed grain with Boron Ultra Paste or similar approved. Undertake repair letting in matching well seasoned hardwood timber using a neat scarf joint. Repairs are to use non ferrous screws/pins as well as glue to create mechanical fixings and employ splayed and undercut joints.

Window replacement

Replacement of timber casement windows to front gables at the locations detailed on the drawings. New casements to be solid hardwood, dimensioned to match existing.

Taking care to minimise damage to the building fabric carefully remove existing glazed windows and cart away to a registered disposal site. Allow for the removal of all casements and fixings and the like. Make good existing openings and remove all loose debris in preparation to receive new masonry.

New installation to have a maximum elemental U value of 1.6W/m²K in order to comply with the requirements of Approved Document Part L2 of the Building Regulations.

Installation to include provision for background ventilation in the form of trickle vents, appropriately sized, which must be shown to comply with the requirements of Approved Document F of the Building Regulations, and BS 5245: 1991. The contractor must provide details for how he intends to achieve this.

All windows to incorporate trickle ventilators equal to 4000mm sq.

All double glazed units to be 24mm overall thickness, with an inner pane of 4mm toughened Pilkington Optifloat glass and an outer pane of 6mm laminated Pilkington Suncool 50/25 solar control safety glass, with an argon filled cavity.

All side lights and glazing under 800mm from finished floor level to be glazed using safety glass to BS6206 1981.

Metalwork repairs

Isolated replacement of corroded sections to be expended upon Employer Representative's instruction - to be agreed with Conservation Officer.

Taking care to protect the remainder of the installation carefully cut out existing corroded sections and cart away redundant materials to a registered tip. Allow to cut back corroded metalwork back to sound sections.

To newly prepared sections provide and apply isolated patch repairs. Price to carry out all cutting, fabricating, assembling and joining / welding necessary to complete the repairs. New sections to be pieced in to match existing.

Putty renewal to windows

Carefully rake out damaged putty back to metal/glazing surface. Clean and degrease exposed rebates and ensure all glazing panels are secured and pinned in. Fill rebate with Linseed Oil Putty (BS 544) and smooth off with one stroke of putty knife so that cross section forms a triangular area. Allow putty to harden and apply coat of wood primer. Prepare ready for decoration.

Mortar fillet

Provide and apply lime based mortar fillet to perimeter of all structural openings at junction with frames to windows and doors. Mortar to be 1 part lime to 3 parts aggregate. Ensure an aggregate is used to best match existing masonry in colour and texture.

4.2 Windows and doors decorations

Decoration of all timber and crittall windows following completion of repair works.

Timberwork

Redecorate all timber windows, doors and high level joinery to all elevations complete - as follows:

- Windows
- Doors
- Balustrade detailing to 2no. Turrets

Wash down all previous painted timber with sugar soap solution and rinse off. Rub down back to a sound base and brush away all dirt and grit etc. Fill all cracks and joints with epoxy filler and sand ready to receive decorations.

Allow for the application of knotting fluid and primer to any areas of exposed bare wood. Putty mixed with the correct and suitable amount of white spirit should be carefully rubbed into hairline cracks in sound putty after it has been suitably cut back.

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To prepared timber provide and apply 2no. coats of undercoat and finish with 2no. coats of gloss paint, all in accordance with manufacturers recommendations. Colours to match existing.

Metalwork

Repairs and redecorate all external metalwork including cast iron rainwater downpipes, handrails, balustrading and stair as detailed below. Allow for replacement of damaged and corroded sections.

Windows
Railings/ Juliet balconies

To all previously decorated metalwork degrease where necessary with ICI Oil and Grease Remover. Wash down the surfaces with a suitable detergent solution to remove dirt, chalking paint and other contaminants. Rinse off with clean water and allow to dry.

Carefully scrape back to a firm edge all areas of poorly adhering or defective coatings. Prepare all exposed metal to remove corrosion products. Rub down sound paintwork with a suitable abrasive to remove 'nibs' and provide a 'mechanical' key. Dust off. Ensure the surface is clean and dry before proceeding with redecoration works.

Prime metalwork with 1no. coat of Dulux Trade Metalshield Zinc Phosphate Primer in accordance with manufacturers recommendations.

To newly prepared metalwork provide and apply 1no. coat of Dulux Trade Weathershield Exterior Flexible Undercoat in accordance with manufacturers recommendations.

Provide and apply 2no. coats of Dulux Trade Weathershield Exterior High Gloss in accordance with manufacturers recommendations - Colour to be black.

5. Stonework

5.1 Stonework repairs and decorations

Stone repairs to front and side elevations including all detailing. Allow for the replacement of all decaying sections including associated re-pointing works.

Repairs

Price for carrying out repairs to stonework to front and side elevations of original building using a hydraulic lime mortar in accordance with BS 8221 Part 2. Repairs should be undertaken to reinstate details, line, level and planes of stonework to all areas agreed with Employers Representative. Contractor to ensure mortar repairs match existing stone in colour, texture and finish.

Repairs to the following stone sections:

Cornice/ Corbel to parapet wall
Window surrounds
Window cills
Cornice/ Corbel to fascia

Hydraulic lime mortar to be weaker and less dense than the surrounding stone using a well graded sharp sand. Hair should be added to all but the finishing coat in order to provide stability. Work should not start in frost conditions or with temperatures below 5°C. Mortar to be protected from frost over night using damp hessian and NOT plastic sheeting.

Preparation

In general all decayed stone is to be removed until sound surfaces are reached. Repairs must not be worked to feathered edges and sound stone should be undercut to form a satisfactory keyed edge. Remove all dust and debris prior to the application of any plastic repairs and ensure that any dowels/pins are of a non-ferrous material. Ensure the background is thoroughly cleaned prior to commencement.

Suction Control

Prior to the application of each mortar coat apply sufficient water to reduce excessive suction ensuring surface is damp before mortar is applied. This will prevent water being drawn out of the mortar before curing commences and will ensure that the applied mortar remains workable.

Stipple or Spatterdash Coat

Stipple or spatterdash coat to be used on weak and variable substrates in order to break up tensile stresses within subsequent coats of mortar and to provide an adequate key. Thickness to vary between 3 and 5mm and should provide sufficient bonding to support the remaining coats of mortar. On soft or weak substrates use a 1:2 or 2:5 mix (non hydraulic lime: sand). Successive coats must be the same strength or weaker than this coat.

Base Mortar Coat

Base mortar coat or first coat to be applied a minimum of 2/3 days after completion of the stipple coat. Strength to be marginally weaker than previous coat with an overall thickness between 10 and 15 mm but no greater than 20 mm. Base coat to be scored in a criss-cross manner in order to provide a key for finishing coat.

Finishing Coat

Prior to the application of the finishing mortar coat contractor to ensure that previous coats have not suffered from shrinkage. Should this be the case lightly dampen the relevant area, scour back and re-key.

Finishing coat to be applied a minimum of 3 days after application of undercoat ensuring substrate is firm and any small amounts of shrinkage have been remedied. Finishing coat to have an approximate thickness of 3mm, ideally applied in two thin coats immediately after each other. A Sponge and small tools should be used to achieve a finish appropriately coloured and textured to match existing."

6. Bibliography

- Design and access statements guide, CABI, 2007
- <http://www.heritagegateway.org.uk>
- <http://www.planningportal.gov.uk>
- <http://www.communities.gov.uk>

VERIFICATION
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