Schedule of Work

Rev 1.03 25.05.2022

ITEM	Works Description	Cost
	This Schedule of Work is comprised of the following sections. 1. Additional Notes on Preliminaries 2. Samples 3. Main Chapel Roof – Removals 4. Main Roof - Enabling Works and Sequencing 5. Main Roof - Roof Space Repairs 6. Main Roof - Structural Repairs to Roof Structure 7. Main Roof – Roof Covering and Parapet Gutters 8. Main Roof - Integrated Fixing Points for PV Installation 9. BWIC with PV Installation 10. Main Roof - Repairs to Parapets and Stair Turrets 11. South Side Chapels and Porch Roof – Removals 12. South Side Chapels and Porch Roofs - Repair Works 13. Mechanical Electrical & Public Health (MEP) Installations 14. Surface Water Drainage and Rainwater Harvesting Installation	
	To be read in conjunction with: - Tender Information Package by Faithful + Gould - Scaffolding Design Package and accompanying information by Rise Scaffold Services Ltd - Architectural Drawings and Specifications by Caroe Architecture Ltd - Structural Drawings and Specifications by JM Structural Consultants - Mechanical, Electrical & Public Health (MEP) Drawings and Specifications by Max Fordham LLP - Civil Drawings by Conisbee	
	NOTE: if any discrepancies are identified between information sets, contractor must flag these for resolution prior to close of tenders. Otherwise discrepancies will be addressed in accordance with the terms of contract. Drawings and Specification to take precedence over this pricing schedule, which is for costing and cost control purposes.	
	NOTE: this schedule is not prepared in accordance with the SMM and all contract clauses or valuation terms which refer to SMM are to be amended. Pricing contractor to indicate quantities and take off allowed in cost preparation for the purposes of evaluating variations. This is not a re-measurement contract and measurement risk rests with contractor.	
1	**Additional Notes on Preliminaries**	
	Tender Information by Faithful + Gould; Scaffolding Design Package by Rise Scaffold Services Ltd.	
1.1	**This section is to be priced on the accompanying Preliminaries document by Faithful + Gould. All associated items therein must be costed in full. The following indicates a minimum list for which itemised costs are required.**	
1.2	Allow for full digital photographic Record to be taken of the Chapel prior to commencement of Works and shared with the Contract Administrator.	
1.3	Allow for a full digital photographic Record of the Chapel at completion of the Works and shared with the Contract Administrator.	
1.4	The site and all working areas in the Chapel building, paths, walls and features in the environs of Chapel must be left in the same condition as they are found. Damage to the fabric will not be tolerated - protection should be given where any damage may occur and included for when pricing the relevant items. Any damage which is incurred will be made good at the cost of the Contractor.	

1.5	Where soft landscape is to be traversed, please allow for protections - to be as stipulated by College Head gardener, to minimise compaction and de-oxygenation of soil media. For the purposes of pricing allow for geotextile and 100mm of Type 1 MOT, and removal and clean disposal of same on completion, with meticulous removal of gravels from soils. Any disturbed ground to be levelled and sown with grass seed on completion following ground preparation and de-compaction to the requirements of the College Head Gardener. Type of grass seed to be confirmed. Assume that tending and watering of the newly seeded ground will be by college staff. Include allowance for road-plate or similar to protect hardstanding or paved areas, especially cobbles, and for any making good on completion to the satisfaction of the CA.	
1.6	Through the leadwork specialist sub-contractor, provide a 25 year guarantee of workmanship and material, for all lead works, under the Lead Contractors Association Guarantee Scheme.	
1.7	Hot works are prohibited unless where explicitly agreed in advance in writing by the CA and undertaken under the management of a hot works permit. Min 2 hour fire watch. Allow for the use and management of a hot works permit system.	
	Main Scaffold Access	
1.8	All scaffolding is to be in accordance with the accompanying specification and drawings. For the avoidance of doubt: temporary works for the undertaking of construction activity are the contractor's responsibility in method, design and costing and must be prepared by a competent specialist and agreed with the project structural engineer.	
1.9	Full loading bay scaffold, including stair access and hoarding. Note: Hoarding to be 25mm exterior grade, painted FSC certified plywood sheeting to a minimum height of 4m (colour TBC) OSB will not be accepted. All joints to be tightly butted to prevent tools being used to prise them apart. Top of hoarding to be set to a true level. The bottom of the hoarding will follow the contour of the ground, leaving no gaps between the hoarding and the ground. Where the hoarding abuts the building or structures, it must be cut around the contours of the building to prevent any gaps. Fixings: 100mm annular ring shank nails at 150mm centres to be used to fixed the plywood boards to the timber frame/rails; tamper proof screws may be used as an alternative. Security doors with fire escape mechanism. NOTE: if contractor wishes to offer a recyclable hoarding material as a substitution, state material and alternative costing with tender return. Include allowances for cut ply to platform edges where abutting irregular structure. AND ensure that scaffold lifts do not result in weather marking of stone chapel walls. Allow for time for gardeners to access planting to secure and keep in good condition (both on erection and dismantling). Include allowance for working lighting; for escape signs and lighting; for lightning protections.	
	1. Erection	
	2. Dismantling	
	3. Period of Hire allowed	
	4. Rate per week for additional hire	
1.10	Hot-works area on the top level of the loading bay. This is to include fire retardant base and sides and shelter for workers to contractor's own devising (and to CA	

1.11	Full temporary roof encapsulation, including all side sheeting (excluding side elevation hanging scaffolds, to be costed below). Allow for MEWP access for operatives during construction and dismantle processes and all associated RAMS to satisfaction of PD. Scaffold inspections deemed to be included. Include allowance for additional fire-detection; for working lighting; for escape signs and lighting; for lightning protections.	
	1. Erection	
	2. Dismantling	
	3. Period of Hire allowed	
	4. Rate per week for additional hire	
1.12	Side elevation hanging scaffolds to allow access to hoppers and external eaves level. Allow for MEWP access for operatives during construction and dismantle processes. Scaffold inspections deemed to be included.	
1.13	Primary deep flow guttering to collect rainwater and suitable hopper/downpipes to transfer run-off water into the existing hopper system. Gutters to be in place before roof is encapsulated. Detail to CA approval.	
1.14	Extra-over for secondary timber guttering channel with plastic inner lining to reduce risk of water ingress.	
1.15	Cost of Rack and pinion type Geda 500kg hoist for the duration of the contract.	
	1. Erection	
	2. Dismantling	
	3. Period of Hire allowed	
	4. Rate per week for additional hire	
	Lifting, transfer and/or travelling beams for materials handing under the roof to be to contractor's choice and duration fitted to detail agreed with specialist scaffold designer	
1.16	CCTV and security alarm system for full duration, including erection and dismantle (must clarify who will receive alarms if activated).	
1.17	Allow in addition for 20 working days additional standing periods (in half day periods) , inclusive of all of the above. Standing time to be instructed by CA as required. To be agreed with 5 working days notice.	
	Scaffold Access and temporary roofing, with rain water disposal, with access ladders, to south side Chapels and South Porch roofs	
1.18	For 2 bays, as per scaffold design drawings. Include all associated costs; including safety provisions and connection to lightning protection. Scaffold inspections deemed included.	
	1. Erection, with special sheeting with image of wall - to be costed.	
	2. Dismantling	
	3. Period of Hire allowed	
	4. CCTV and Security Alarm	
	5. Hoarding to 4m (recyclable)	
	6. Rate per week for additional hire	
1.19	Allow for extra-over cost to dismantle and move above scaffold in sequence to the remaining bays of the side chapel roof works. Allow for 6 no moves in sequence.	
1.20	ALTERNATIVE: Price here for extra-over cost to scaffold the full remaining bays of the side chapels in a single phase, with all associated protections, safety provisions, hoardings etc.	

	Generally	
1.21	The scaffolding design package has been developed to Tender Issue. The contractor is responsible for commissioning Independent Category 2 checks and Construction Issue.	
1.22	Inspection and certification by qualified scaffold designer.	
1.23	Provision of lighting both regular and emergency.	
1.24	Lightning earthing both for the complete scaffolds and in part-built state. (and testing/certification for duration and at handover)	
	Site setup	
1.25	Methodology for deliveries is to be submitted with the tender. Note: the extent of ground testing which has been undertaken is shown in drawing 202053-01 by JM Structural. The Contractor is to undertake any further testing as required to satisfy themselves of the grounds suitability for deliveries. Particularly if HIAB deliveries are proposed.	
1.26	Welfare facilities to satisfy CDM Regulations 2015. For pricing assume shared usage with Spalding Hostel Refurbishment. Provisions must be sufficient for the required labour levels of both projects combined.	
	1. Installation	
	2. Removal	
	3. Period of Hire allowed	
	4. Rate per week for additional hire	
1.27	Meeting accommodation for Chapel Roof Covering Renewal Project. Meeting accommodation for Spalding Refurbishment elsewhere.	
	1. Installation	
	2. Removal	
	3. Period of Hire allowed	
	4. Rate per week for additional hire	
1.28	Provision of secure storage as required.	
	1. Installation	
	2. Removal	
	3. Period of Hire allowed	
	4. Rate per week for additional hire	
1.29	Provide, maintain and remove on completion Heras fencing to partition site compound to separate project areas.	
1.30	Provide, maintain and remove on completion temporary heras fencing around unloading area. Allow for removal on weekend and special occasions.	
1.31	Construct min 3m high painted plywood site hoarding as described above. This is to be counter-weighted to prevent ground penetrations, and must be designed in accordance with 'Hoardings - A guide to good practice' by the Temporary Works Forum (TWF). NOTE: if contractor wishes to offer a recyclable hoarding material as a substitution, state material and alternative costing with tender return.	
1.32	Hoarding Displays: Contractor to procure large format printed hoarding panels and fit along the site hoarding (full height and length along south and east elevations (facing King's Parade). Images/artwork to be provided by King's College. Remove on completion.	

2	Samples	
	B04, Drawings and Specifications by Caroe Architecture Ltd.	
2.1	Form a 2m wide by x3m sloping off-site panel to mimic main roof ridge, gutter apron and intermediate using timber details and substrate as specified: clad in lead sheeting also as specified and agree all details with CA prior to works commencing. To include all vent details; PV fixing posts and substrate materials. (Remove and recycle after PC when instructed by CA). Include allowance to respond to comments on panel until approved in writing and to be maintained as a reference panel. Include allowance for specialist leadworker from LCA to inspect and comment on all aspects of work.	
2.2	Quality control panel on the roof itself: in addition to off-site panel; contract to include a quality control reference panel on the roof itself; 5 bays wide and whole slope; including 2 steps of parapet gutter and parapet abutment detail. Leave 1m of flashing chase unpointed with lime mortar to review application of sealant at the rear of the joint. Once approved, quality control can be incorporated into the Works. Allow for adaptation as directed by CA.	
2.3	Trial area of internal plaster conservation up to 2m2 in location(s) to be agreed in advance with CA.	
2.4	Trial area of internal plaster renewal: up to 2m2 in location(s) to be agreed in advance with CA.	
2.5	Internal wall (brick or masonry) – raking out and re-pointing in two steps: raking out to be reviewed and signed off before re-pointing: up to 4m2 in location(s) to be agreed in advance with CA.	
2.6	B04 Repair Type PR.T1 Rake out and repoint with lime mortar (standard). Location to be agreed.	
2.7	B04 Repair Type PR.T2 Clean out and grout and repoint deep open joints. Location to be agreed.	
2.8	B04 Repair Type PR.T3 Grout, point and cap delaminating/scaling face of ashlar stonework. Location to be agreed.	
2.9	Sample Fertan treatment to 1no tie bars within the roof space. Trial to include application by spray and brush.	
2.10	Redecoration of anti-climb spikes: Clean back and redecorate with zinc primer and top coats to match existing colour. Following approval to be maintained as control until completion.	
2.11	Materials samples: refer to specifications. TO BE SUPPLIED WITHIN 1 WEEK OF TENDER ACCEPTANCE 1. New stone for masonry repairs. 2. New roof sarking boarding. Include for up to 10no staining trials to the soffit and edges to match in with adjacent boarding. 3. New air-dried seasoned oak for new doors and hatches 4. New structural timber to S/E specification 5. New mortar patties for mortar mixes. 6. New patties for internal render/plaster mixes. 7. Paving brick for internal passageway repair 8. Artificial wood for walkways	

2.12	For all contractor design elements, provide samples for all items that will be visible following the completion of the building. In particular, any human interfaces such as building and lighting control interfaces should be provided for comment by the Client. Provide samples at least 3 months prior to the date they need to be ordered to avoid delays to the construction contract. Provide any other samples specifically identified in the MEP specification work sections. Sample items to be provided include but are not limited to: 1. Control interfaces 2. Fittings 3. Electrical accessories 4. Sensors	
2.13	Flashing pointing trial; to include preparation of joint by mason 2lin m and agreement with CA; then fitting flashing and fixing; to be agreed with CA; then pointing as specified; to be agreed by CA. Then keep as reference and quality control on site. 1m length of joint preparation to be kept visible as reference.	
2.14	Provisional sum for additional samples: £2,500	£2,500
	Total Samples	
3	**Main Roof - Removals**	
	Drawing DEM 200 and Specifications by Caroe Architecture Ltd.	
3.1	Tobit Curteis Associates are monitoring the environmental conditions impacting the lead and have placed a number of sensors beneath the existing roof covering - recessed into the sarking boards. Prior to commencement, coordinate with Tobit Curteis to allow for safe management and maintenance of the monitoring equipment for the duration of the works, and retrieval on completion.	
3.2	PV mock-up trials . Prior to installation of temporary roof, the PV installer is to carefully remove 9no PV panels and associated framing from Mock-up Location 1 as shown on the drawing. Protect and safely store in the site compound for reinstatement. Fixing points to remain in place until temporary roof has been installed. See below for their removal.	
3.3	Take down and cart away ridge ladders (both slopes, east and west ends of the roof).	
3.4	Remove and cart away all sections of duck-boarding from the full length of both parapet gutters.	
3.5	Carefully detach 2no existing lead plaques at the west end of the roof and store at location within the Chapel to be agreed with the CotW. Plaques are not to be removed from site and will be re-fixed to the new roof, location TBC.	
3.6	1. Take up existing mini roll lead roof covering from both slopes, hatch (at west end) and lead flashings from all associated abutments (including those around each turret). Cart away batten rolls; transport lead for re-casting. Remove or drive home any remaining fixings and/or protruding nails.	
	2. The expectation is that the existing lead will be taken off for recasting and reused subject to metallurgical testing. Include extra-over for make-up to accommodate thickness of new coverings, programme, lead testing and chain of custody costs.	
3.7	In conjunction with roof covering removals above, take up 12no integrated fixing points from PV mock-up Location 1. Store for reinstatement.	
3.8	1. Take up existing lead gutter linings from both parapet gutters and lead flashings from all associated abutments (including those around each turret). Deconstruct and cart away existing gutter boarding and timber substructure. Transport lead for re-casting; cart away timbers.	
	2. Allow for both removal and adaptation of gutter sumps subject to CA instruction following inspections and setting out.	

	3. Include provisional item for breaking out and removing concrete or masonry in each gutter base, to a depth of up to 150mm, if required following opening-up. For the purposes of pricing allow for 30 lin m provisionally.	
	4. Removal of all debris and loose material from wall head as may be exposed and timbers/wall plate zone to be costed. Include vacuuming throughout, including vacuuming of wall heads. NOTE: methodology MUST minimise dust ingress entering into roof space during works. This is vital to prevent debris being scattered throughout the roof space and then falling down into chapel.	
	5. Include extra-over make-up, programme and chain of custody costs for recycling of lead, as above.	
3.9	Remove existing anchor points from west end (4no total) and make good structure and sarking boards.	
	Total Main Roof - Removals	
4	**Main Roof - Enabling Works and Sequencing**	
	Drawing EN 200 and Specifications by Caroe Architecture Ltd; Scaffolding Design Package by Rise Scaffold Services Ltd.	
4.1	Dust control is paramount. Prior to commencement the main contractor is to stop up all penetrations internally through vaults in temporary materials and remove as directed on completion.	
4.2	Include allowance prior to opening up for dusting/vacuuming throughout the roof space using backpack equipment and accessing on to wall heads within reach. Note this work should not require access platforms but does need a safe method of working to be agreed in advance and also for disposal of all debris arising and containing these packages of dust. Methodology for dusting to be agreed with training required to ensure existing materials are not scratched or harmed.	
4.3	Roofing penetrations for installation of temporary roof scaffold columns to be installed: Agree exact locations with scaffold contractor on site. These are to be located on either side of each of the major principles in the roof structure to allow the scaffold columns for the temporary roof to bear down on the wall top. Pilot hole from inside to check correct position in relation to the buttress externally, then core drill 60mm dia. hole to accept the standards. Temporarily weather with Flashband until columns are installed. Seal around scaffold poles with Lead Mate sealant or similar, directly after installation to weather until temporary roof has been completed. On completion of the works, plug holes in sarking boards with softwood to match	
	To be undertaken concurrently with scaffold/temporary roof installation:	
4.4	Detach lightning conductor tapes from the existing lead roof covering and earth for the duration of the work. Re-attach to new roof covering on completion.	
4.5	Carefully take down the bottom sections of the turret downpipes, from the socket beneath the anti-climb spikes. On the SW turret allow for removal and reinstatement of the downpipe to the collar above the anti-climb spikes. Fix temporary downpipe to discharge rainwater onto the temporary roof. Store for lead downpipe sections for inspection by the Architect and allow provisional sum of £500 for local repairs. Reinstate repaired sections of leaded downpipes as temporary roof is removed, with new fixings to match existing.	
4.6	Remove mesh from hoppers in conjunction with installation of temporary roof and rainwater disposal. Replace to match existing as the scaffold is removed.	

4.7	Quatrefoil apertures (3no per bay each side): Remove mesh across each of the apertures in the mural passageways to facilitate the scaffold installation. Form special protective saddle/armature within stone surround prior to scaffolding installation to ensure no damage arises to stone work. Note: the protective armatures can be deployed just as the scaffolding contractor works (both during erection of scaffolding and during dismantling), or can remain as protective elements for the duration of the project. Detail of this protection to be provided by contractor with the specialist scaffolder with the method statement for scaffolding. Install mesh around scaffolding to maintain bird exclusion throughout. See section on Mural Passageways below for replacement following removal of thescaffolding.	
	Sequencing	
4.8	The following sequencing will need to be incorporated into the programme of works and must be allowed for when pricing the relevant items throughout this schedule: 1. Removals to the Main Roof after scaffolding and temporary roofing is certified as complete and fully encapsulated against inclement weather. 2. Enabling Works (as above) 3. Repair Works: Undertake repair works to the Main roof, parapet gutters and parapets. This is to include installation of the integrated fixing points for the PV array. Note: The scaffold columns will locally obstruct works which will need to be completed as the temporary roof is removed. The Contractor is to allow for this in planning and managing the works. 4. Local completion of repair works (where previously obstructed by temporary works): Sequentially complete roof build-up (underlay; over-boarding; lead covering) in relevant bays as temporary roof is removed. Include for temporary weather protections until the roof is water-tight. 5. PV Installation: PV frame and array to be installed by specialist installer as domestic sub-contractor. BWIC to be completed by the Main Contractor; read with BWIC drawing BW200. **PV Installation Contractor's Designed Portion (CDP) Scope** - Sequencing of PV installation (incl. electrical works) to be coordinated with BWIC and repair works. - Lead layout to co-ordinate with PV supports.	
	Total Main Roof - Enabling Works and Sequencing	
5	**Main Roof - Roof Space Repairs**	
	Drawings and Specifications by Caroe Architecture Ltd.	
5.1	Note: Electrical equipment/infrastructure in the roof space to remain accessible and in use during the works. This includes the fire detection and alarm systems, AV and microphone winches.	
5.2	Internal winches project: main contractor to be aware of separate winches project (works by others) and to undertake CDM duties for construction phase with separate contractor directly appointed by employer.	

5.3	Access to roof space during works: contractor to operate a 'permit to work' system for all access to roof space - including by employer or agents - from above or people coming up spiral stairs from below. NOTE: If contractor's means of escape plans include secondary MoE via internal stairs, control methodology to be included at tender and to be agreed with Chapel manager, as management will be complex.	
5.4	1. Existing access hatch into roof space at West End: This is the only access internally. Hatch to be lifted, and access platform to be erected internally with vertical safe access from inside to out for contractor. Submit access proposal for review by Structural Engineer in advance.	
	2. Modify opening and edging to accommodate sufficient upstands following over-boarding.	
	3. Adapt hatch to include hinges; struts and locks. Prime cost for specially made heaving hinges: £500.	
	4. Adapt finish to terne-coated stainless steel, which will be lighter weight	
5.5	Allow provisionally for forming similar new access hatch with all forming of opening trimming, edging at the east end of the roof. Clad in terne-coated stainless steel. PC ironmongery as above £500. Include for associated access.	
5.6	Subject to CA approval of trials, apply Fertan to the full extent of each tie bar, in accordance with supplier's specifications. Include application for metal work exposed by gutter removals.	
	FIRE RISK MANAGEMENT. Read with MFP report and recommendations.	
5.7	Existing systems to be maintained by main contractor (and coordinated in risk management terms with operations of the live occupied spaces below, and to undertake drills to prove the operational handling of alarms, tests and alerts).	
5.8	Additional fire detection of the works area within roof space. Including beacons and or sounders for workforce.	
5.9	Additional fire detection of the works area above the roof and within the temporary roof, Including beacons and or sounders for workforce.	
	Mural Passageways - passages within walls - (both north and south sides)	
5.10	Method Statement required for personnel access and sequencing of work in passageways mindful scaffolding will obstruct narrow access.	
5.11	**Note: Sequencing issues with scaffolding ties in the Mural Passageways**	
5.12	**Brick replacements in passageway walls/floors:** Where listed, allow for carefully taking up/cutting out and replacing with new handmade bricks to match existing, supplied by Bulmer Brick and Tile or York Handmade Brick Company. Sample brick and mortar pointing to be provided and approved before full orders are placed.	
5.13	**Conservation of Plasterwork:** The extant plaster is historic and extremely fragile. All associated work is to be led by an ICON registered conservator.	
5.14	Record condition of remaining plaster, particularly to the Eastern ends of the roof space and mural passageways. Map conditions and record on rectified photographs (to be provided by the contractor) **before scaffolding installation**. Submit with proposed repair methodologies to the CA for review and comment. This is to include capping of edges of render and setting back and bonding by a specialist conservator. Conservation works subject to tests and samples signed off by CA. Production of final issue of completed conservation work and report by conservator to be completed.	
5.15	Following the above, areas of repair to be set out and agreed on site following guidance	
	North Mural Passageway	
5.16	Price for the following, split across the bays as shown on dwg WL 900.	
5.17	23.7m2 plaster conservation (in various areas, small to large, to be scheduled on site).	

5.18	Carefully cut out and replace to match existing:	
5.19	104 stretchers	
5.20	72 headers	
5.21	8 floor bricks	
5.22	Bay 1, internal wall: Grout and point crack in head of doorway to roof space.	
5.23	Bay 5, outer wall: Repoing open vertical crack. Brush back to slightly recessed finish.	
5.24	Bay 10, vault: carefully scale back blistering surface.	
5.25	Bay 11, floor: repoint 0.25m2.	
5.26	Bay 12. Provisionally repoint brick and stone steps leading into the roof space.	
	South Mural Passageway	
5.27	Price for the following, split across the bays as shown on dwg WL 900.	
5.28	81.7m2 plaster conservation (in various areas, small to large, to be scheduled on site).	
5.29	Carefully cut out and replace to match existing:	
5.30	11 stretchers	
5.31	6 headers	
5.32	Bay 6, inner wall: Grout and point cracked stone in head of doorway to roof space.	
	Mural Passageways Generally	
5.33	Install new 316 st/sl mesh with simple edge frame to each of the apertures along the north and south passageways (3no per bay on the north side and 3no per bay on the south side: Allow for square welded mesh on a 45 deg bias, welded to simple flat edging; fixed into existing holes with loose tabs as washers.	
5.34	Provisionally allow for a further 5m2 plaster conservation (in various areas, small to large, to be scheduled on site)	
5.35	Provisionally allow for cutting out and replacing a further 20 stretchers.	
5.36	Provisionally allow for cutting out and replacing a further 20 headers.	
5.37	Provisionally allow for cutting out and replacing a further 10 floor bricks	
	Roof Space	
5.38	Price for the following, split across the bays as shown on dwg WL 900.	
	North side	
5.39	1.4m2 plaster conservation (in various areas, small to large, to be scheduled on site).	
	South Side	
5.40	3.2m2 plaster conservation (in various areas, small to large, to be scheduled on site).	
5.41	Bay 5 (west half): 1m2 repointing to exposed brickwork	
5.42	Provisional item: Bay 4 (west half) Prepare and re-render full panel with well-haired, 2 coat lime render, approx 4m2.	
	East Gable	
5.43	2m2 plaster conservation (in various areas, small to large, to be scheduled on site).	
	West Gable	
5.44	2m2 plaster conservation (in various areas, small to large, to be scheduled on site).	

	Roof Space Generally	
5.45	Provisionally allow for a further 4m2 plaster conservation (in various areas, small to large, to be scheduled on site).	
5.46	4 no internal passage doors: allow provisional sum of £150/door for minor repairs or decoration, scheduled by CA.	
5.47	Turret stairs: all four stairs to be cleaned top to bottom; all dust removed during cleaning programme.	
	Total Main Roof - Roof Space Repairs	
6	**Main Roof - Structural Repairs to Roof Structure**	
	Drawings and Specifications by JM Structural Consultants Ltd; drawings CE 200.1-3 by Caroe Architecture Ltd.	
6.1	Truss A: infill voids in top chord of truss with Rotafix Resiwood Moulding Mortar, after brush applying Rotafix Consolidating Liquid Slow Set primer to surface of existing timber; refer to Caroe Architecture drawing number 099.4.1 CE 200.1 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.2	Truss E: infill void in top chord of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.1 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.3	Truss F: infill void in horizontal chord of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.1 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.4	Truss F: infill voids in top chord of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.1 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.5	Truss H: infill void in top chord of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.1 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.6	Truss I: infill split in bottom chord of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.1 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.7	Truss M: push packers back into place; refer to Caroe Architecture drawing number 099.4.1 CE 200.2 for location and photographs.	
6.8	Truss N: fill gap between truss and steel hanger to purlin with cut wedges of new timber (seasoned English Oak as Specification), fixed in place with Rotafix Structural Adhesive; refer to Caroe Architecture drawing number 099.4.1 CE 200.2 for location and photographs.	
6.9	Truss O: infill voids in top chord of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.2 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.10	Truss R: infill voids in top chord of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.3 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.11	Truss R: infill voids in bottom chord of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.3 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.12	Truss U: investigate and repair water leak; refer to Caroe Architecture drawing number 099.4.1 CE 200.3 for location and photographs.	
6.13	Truss V: infill void in top chord of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.3 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	

6.14	Truss V: infill void at end bearing of top chord of truss and post as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.3 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.15	Truss X: infill void at junction of top and bottom chords of truss as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.3 for location and photographs; refer to JM Structural Consultants drawing number 202053-07 for typical details.	
6.16	Purlin between trusses R and S, south side of ridge: infill voids in top of purlin as repair 1; refer to Caroe Architecture drawing number 099.4.1 CE 200.3 for location and photographs; refer to JM Structural Consultants drawing number 202053-06 for typical details.	
6.17	Rafters between trusses S and T, at ridge: fill gaps with cut wedges of new timber (seasoned English Oak as Specification), fixed in place with Rotafix Structural Adhesive; refer to Caroe Architecture drawing number 099.4.1 CE 200.3 for location and photographs.	
6.18	Provisional item: Wall plates alongside gutters, provisional repairs: cut out decayed timber and replace with rectangular pieces of new timber (seasoned English Oak as Specification), fixed in place with Rotafix Structural Adhesive; refer to JM Structural Consultants drawing number 202053-04 for typical details; allow for repairs in 10 locations, to be confirmed during contract.	
6.19	Provisional item: Purlins provisional repairs: cut out decayed timber and replace with rectangular pieces of new timber (seasoned English Oak as Specification), fixed in place with Rotafix Structural Adhesive; refer to JM Structural Consultants drawing number 202053-05 for typical details; allow for repairs in 20 locations, to be confirmed during contract.	
	Total Main Roof - Structural Repairs to Roof Structure	

7	**Main Roof - Roof Covering and Parapet Gutters**	
	B04, Drawings and Specifications by Caroe Architecture Ltd.	
7.1	1. Extent of repairs/replacement to existing roof deck and structure to be assessed following removals. Nominally allow for 10% replacement of existing sarking boards with new softwood boards to match existing. Subject to approved sample, new boards to be stained on the soffit and side edges to match in with existing.	
	2. Carefully take up a 2 board with strip of the existing sarking boards on both slopes (4 boards wide total) along the full length of the ridge, to expose the rafter: rafter connections at the ridge for inspection by the Architect and Structural Engineer. Store and reinstate following inspections.	
	3. Provisionally allow for opening-up 4m x 4m of existing roof boarding in 4no areas to effect structural repairs as directed by CA/Structural Engineer. Re-fix on completion.	
7.2	Re-fix all existing sarking boards with 2no wood screws above every supporting member (rafter/truss).	
	All fixings to be non-ferrous (passivated steel screws and fixings not permitted). Use of nail-guns to be agreed following demonstration for CA.	
7.3	**Provide and install new hollow core roll, lead roof covering with swept ridge in accordance with B04 RF.T1. Cost breakdown for:**	
	1. Existing substrate (as above)	**Priced above**
	2. New substrate	
	2.1 **Pattress boards in batten zone** Design intent, to provide: - No visible fixings on the underside of the existing sarking boards - No internal access requirements for installation The following will be subject to trial and optimising: Provisionally allow for installing 18mm thick x 150mm wide boards to form pattress plates in the batten zone, beneath each fixing point. Each plate to be min 300 x 300mm area although this will be sized/increased to suit location and to bridge to the nearest supporting members (beyond the base plate). Boarding to be slow grown whitewood to match specificiation of new sarking boards and to be fixed with wood screws to the Engineer's specifications. This will require careful co-ordination and sequencing, suggested below: Sequencing note 1. Strip existing lead. 2. Guided by existing fixings, mark rafter positions. 3. Complete timber repairs. 4. Set out fixing post positions. To be cooordinated with desired layout of leadwork for central fixing in the relevant lead bays. 5. Install pattressing at fixing point locations to span between rafters. 6. Install diagonal battening. Adjust to keep air path around pattressing. 7. Install new diagonally fixed over-boarding, recording fixing point locations. 8. Set lead out and install roof covering. 9. Install fixing points.	
	3. Underlay	
	4. Roof Covering. Note: Final setting out Lead works to main roof to be coordinated with PV design and fixing points.	
	4.1 Hollow core covering to both slopes (incl. all associated works; back gutters, sleeves to penetrations etc.)	
	4.2 Eaves flashings	

	4.3 Vertical cladding to gutter drops	
	5. Flashings, to include joint preparation, fixing and pointing to approved	
7.4	**Renew parapet gutter to modified form, incorporating ventilation detail at the roof upstand in accordance with B04 RF.T2. Cost breakdown for:**	
	1. Structure	
	2. Ventilation	
	3. Underlay	
	4. Lead lining	
	5. Flashings. Sheets sized to suit.	
	6. Sump traps	
	7. Sumps (allowance for adaptation AND renewal)	
	8. Include prime cost sum of £300 per outlet for new s/s sump inspection covers to all outlets.	
	9. Note: See Removals for provisional works to breakout concrete or masonry from each gutter base.	
	10. Provisionally allow for reforming levels of masonry in brick or tile set in lime mortar to achieve new falls to gutters as set out by contractor to CA approval.	
7.5	Provisionally replicate lead sill detail seen at the north-east turret door, on the other 3 doors to the roof.	
7.6	Repairs to existing hoppers and downpipes. Extent to be assessed following completion of scaffold installation. Include for taking down all lead hoppers, repairing as found necessary, adapting for overflows and reinstating.	
7.7	Provisional item: Include allowance to Apply SmartWater® (to be provided by the College free issue) to all new lead sheets. Supply and affix relevant warning notification.	
7.8	Replace existing ridge ladders with new, in material to match existing to new detail, with steps normal to ground.	
7.9	Replace duck-boarding in parapet gutters with new in material to match existing, to suit form of renewed gutters. Access points to sums to be de-marked and distinguished by different colour materials. Steps and edges all to be demarcated in visually contrasting board colour.	
	Total Main Roof - Roof Covering and Parapet Gutters	
8	**Main Roof - Integrated Fixing Points for PV Installation**	
	Drawings and Specifications by Caroe Architecture Ltd and JM Structural Consultants Ltd.	
8.1	Provide and install Nicholson Rooftrak Integrated Fixing Point for Metal Roofs (IFP-MR) suitable for pitches up to 30 deg. Note: This is a new product and may have to be requested specifically. Exact fixing numbers and locations to be coordinated with lead layout and agreed with CA and specialist installer on site, before commencement.	
8.2	Setting out: Coordinate setting out of lead sheets with integrated fixing points (IFP-MR). Following completed installation of new sarking boards and underlay, attend meeting with CA and PV installer to confirm exact locations of fixing points; mark-up agreed locations and setting out of the roof. Fixing point location markers to be accurately replicated on lead as the roof covering are installed.	
8.3	For each fixing point include to:	
	1. Cut out the lead and underlay to reveal the roof deck, leaving a margin to allow for expansion and contraction.	
	2. Neatly cut recess into new sarking boards to accommodate flush finish of the IFP-MR base plate.	

	3. Prepare the lead cap of the IFP-MR by removing excess material. Note: lead cap is supplied with the fixing points as standard, with options for code 4 or 5 lead. Please request code 5. Welt the ends of the lead around the supplied stainless steel former. All as shown in the Supplier's installation guides.	
	3.1 Extra-over for supply of code 8 sand-cast lead to Nicholsons factory for use in lieu of typical code 4 milled lead capping as above, allowing for 500 x 500mm per fixing. Nicholsons to cut and fit lead (adjusted price for fixings must be included for here). Contractor to dress down and weld after installation of lead upstand.	
	4. Fix the IFP-MR down to the new sarking boards as Structural Engineer's specifications.	
	5. Supply and securely weld code 8 sand-cast lead and form an upstand around the steel post, leaving a 10mm gap around the post to allow for expansion and contraction, as shown in the Supplier's installation guide. Use timber former to shape in advance.	
	6. Using the supplied stainless steel former fold the lead cap sides down so that a 10mm gap is created around the lead up-stand and create neat vertical corner details ready for welding	
	7. Weld down the four corners to create a fully weathered cap detail.	
	8. All to supplier's specifications.	
8.4	**Rate per fixing**	
8.5	**Provide and install 224 fixings to the north slope.**	
8.6	**Provide and install 224 fixings to the south slope.**	
	Total Main Roof - Integrated Fixing Points for PV Installation	
9	**BWIC with PV Installation**	
	Drawing BW200 and Specifications by Caroe Architecture Ltd. Coordinate with works described on Drawings and Specifications by Max Fordham LLP.	
9.1	Generally throughout: Allow for all necessary supports to cabling. Electrical subcontractor to schedule out and agree necessary supports and other fixings all to be agreed in advance and carefully documented to minimise harm to this highly historic building.	
9.2	Generally throughout: Protections in association with builders' work and PV installation all to be priced here.	
9.3	SW turret upper landing: remove timber decking at upper landing.	
9.4	Include a provisional sum here of £1000 for removal or adaptation of existing electrical services to bell tolling mechanism and other minor works in turret.	
9.5	Take down, adapt and reinstate doorway at head of landing: Include for weather stripping and either adaptation or renewal of this door.	
9.6	Head of turret: Allow for 2no carefully drilled 50 diameter diamond drilled holes through stonework: drilled from inside to out in location agreed and subject to DAC approval.	
9.7	Forming cable route through stair turret:	
	1. Setting out: Process for setting out cabling internally: to be hand marked up by main-contractor with specialist electrical contractor with route and every fixing agreed in advance prior to installation to minimise disruption to stonework and permanent harm.	
	2. Allowance to be made for cable to drop vertically through turret staircases top to bottom subject to final setting out and quantification of cable run. (Contractor to alternatively to allow for cable to be run radially below step soffit - cost benefit analysis and methodology to be provided by contractor with return of tender confirming basis for pricing.	

	3. For costing purposes allow as a minimum 1no. 50dia diamond drilled holes through stair treads (thickness to be taken from site) with all associated temporary works. Include allowance for former to hold the drilling rig without damage to the stone work. For instance, a specially made jacked armature to brace the drilling rig between the stair newel and the stone wall.	
9.8	Forming cable route and penetration from stair to external trench:	
	1. Setting out: Base of stair. contractor to undertake a detailed metric survey to plot the inside and external face and levels and circulate to design team.	
	2. Allow to form an internal access pit at the base of the stair: lifting existing stone flags and, in the presence of an archaeologist, excavating down to a level beneath external paving: allow for pit 600x600x1000; assume that material to be removed is solid masonry as worse case to be stitch-drilled by specialist diamond driller, with mason to remove material for inspection by archaeologist.	
	3. Subject to above-mentioned setting out drawing externally, and also allowing for archaeological watching brief, to lift paving externally and create a drilling pit of suitable size (allow 1500x1500x600 deep) to drill from the outside inwards at an inclined angle through the masonry wall and to form 2no. 75mm diameter sleeved holes by specialist diamond driller. One penetration to be used for cable route and the other allowed provisionally to be a spare in case of core of stone wall being unstable.	
	4. To neatly manage cable radius, allow to cut out and form an inserted stone on the inside which has a sleeved bending radius: stone to be 200x250x150mm deep insert into Wall in hydraulic lime mortar by specialist Mason.	
9.9	Trenching work externally. All to be undertaken by a specialist archaeologist with contractor attendance: archaeologist costs to be instructed directly by College: main contractor to undertake RAMS:	
	1. Note: other underground services within the vicinity. Read with Utilities and Drainage information by Survey Operations. Provisionally allow for CAT scanning and hand dug trial holes before full excavation.	
	2. Allow for taking up paving and cobbles, numbering and setting aside carefully.	
	3. Forming trench with archaeologist, with setting out agreed by civil engineer. Trench section min 700mm deep: width to suit. Hand-dug entirely.	
	4. Laying in sand, cable capping and/or conduit as specified. Capping with sand; warning marker tape	
	5. Trench fill and finish materials reinstating in accordance with directions from civil engineer	
	6. Reinstating paving/cobbles/edgings/turf to the requirements of the contract administrator.	
	7. Allow for all associated protections and temporary arrangements for public access to chapel for the duration.	
9.10	Cable entry into vestry:	
	1. Protect internally all surfaces and contents.	
	2. Decant for working space and making safe.	
	3. Lift and set aside carpeting and other fixtures.	
	4. Form opening in floor internally assumed that this is a masonry floor, taking back an area approximately 1.5m2 to form access pits internally.	
	5. Externally similarly form drilling access pit as described above	
	6. Forming 2no 75mm sleeved holes all under archaeological watching brief.	
9.11	Cable setting out internally: Cable entry and setting out to be managed with detailed setting out of the cable and its destination undertaken by the contractor with a detailed drawing to be submitted for comments prior to commencement of cable route: setting out of cable to be undertaken prior to installation and signed off by CA before any fixings or penetrations are made.	

	Total BWIC with PV Installation	
10	**Main Roof - Repairs to Parapets and Stair Turrets**	
	B04, Drawings and Specifications by Caroe Architecture Ltd.	
	North Parapet	
10.1	B04 Repair Type PR.T1 in locations shown:	
	1. Bay 1	
	2. Pinnacle 1	
	3. Pinnacle 2	
	4. Pinnacle 3	
	5. Bay 7	
	6. Pinnacle 10	
	7. Bay 12	
10.2	B04 Repair Type PR.T2 in locations shown:	
	1. Bay 1	
	2. Bay 7	
	3. Bay 11	
	4. Bay 12	
10.3	B04 Repair Type PR.T3 in locations shown:	
	1. Pinnacle 1. Note: pin, grout and point to conserve scaling stonework and retain extant fragments of graffiti.	
	2. Pinnacle 2 (west face)	
	3. Pinnacle 5	
	4. Pinnacle 10	
	5. Pinnacle 11	
	East Parapet	
10.4	B04 Repair Type PR.T1 in locations shown.	
10.5	B04 Repair Type PR.T2 in locations shown.	
10.6	B04 Repair Type PR.T3 to locations shown on the north-east stair turret.	
10.7	Provisionally allow for renewal of stones in the north-east stair turret, in lieu of Repair Type PR.T3, above.	
	South Parapet	
10.8	B04 Repair Type PR.T1 in locations shown:	
	1. Bay 2	
	2. Pinnacle 2	
	3. Bay 3	
	4. Bay 4	
	5. Bay 5	
	6. Bay 6	
	7. Pinnacle 6	
	8. Bay 7	
	9. Pinnacle 7	
	10. Bay 8	
	11. Pinnacle 8	
	12. Bay 9	
	13. Pinnacle 9	
	14. Bay 10	

	15. Bay 11	
	16. Bay 12	
10.9	B04 Repair Type PR.T2 in locations shown:	
	1. Bay 1	
	2. Bay 2	
	3. Bay 3	
10.10	B04 Repair Type PR.T3 in locations shown:	
	1. Pinnacle 2	
	2. Pinnacle 4	
	3. Pinnacle 8	
	4. Pinnacle 9	
	5. Pinnacle 10	
	West Parapet	
10.11	B04 Repair Type PR.T1 in locations shown.	
	Generally	
10.12	Upper and external faces of pinnacles and turrets to be assessed on completion of the scaffold. Provisionally allow for:	
	1. B04 Repair Type PR.T1: 20 linear metres	
	2. B04 Repair Type PR.T2: 5 linear metres	
	3. B04 Repair Type PR.T3: 5m2	
10.13	Protect stonework/surrounding surfaces. Clean back and redecorate all accessible ironwork - anti-climb spikes on each turret, parapet bracing etc. - with zinc primer and top coats to match existing colour.	
10.14	Replace turret doors in air dried, seasoned oak and new ironmongery, all to match existing.	
10.15	Internally, replace corroding mesh across all piercings of the 4 turrets in accordance with B04 Repair Type PR.T4. Include for high-level internal access scaffolds.	
	Total Main Roof - Repairs to Parapets and Stair Turrets	
11	**South Side Chapels and Porch Roofs - Removals**	
	Drawing DEM 200 and Specifications by Caroe Architecture Ltd.	
11.1	To be undertaken sequentially with scaffold to be installed to max two bays at any one time. Protection to windows (side chapel and main chapel windows) to be in place prior to scaffold installation in each bay. One full bay to be completed as trial, for approval, before commencement others. Price per roof:	
11.2	Roof removals:	
	1. Refer to Specifications by Max Fordham LLP. Detach lightning conductor from the existing lead roof covering and earth for the duration of the works. On completion, re-attach to the new lead roof covering in accordance with current regulations.	
	2. Remove fixing for electrical cables running along the north abutments. Temporarily clip back to allow works to be undertaken and re-fix with new clips on completion.	
	3. Provisionally allow for removal of bottom sections of main downpipes to facilitate access for works. Re-fix with new st/sl fixings on completion.	
	4. Fit Temporary downpipe extensions to discharge rainwater from main chapel downpipes to side chapel downpipes. Remove on completion.	

	5. Take up existing solid core roll lead roof coverings, parapet gutter linings and point ventilators; retain lead plaques and store in location agreed with the CotW. Transport all remaining lead for recasting. Take up and cart away batten rolls, sarking boards, modern sub-structure and associated fixings for the current roof form. Remove or drive home any remaining fixings. Clear debris any dust/debris from the roof void for inspection by the CA.	
	6. Include extra-over make-up, programme and chain of custody costs for recycling of lead, as above.	
11.3	1. Take up existing lead lining from each parapet gutter. Remove lead flashings from all associated abutments and transport for recasting. Take up and cart away existing sub-structure.	
	2. Include extra-over make-up, programme and chain of custody costs for recycling of lead, as above.	
	3. Include provisional item for breaking out and removing concrete or masonry in each gutter base, to a depth of up to 150mm, if required following opening-up. This is to include formation of new sump levels if required.	
	4. Include provisional item for reforming levels of masonry in brick or tile set in lime mortar to achieve new falls to gutters as set out by contractor to CA approval.	
11.4	Lift overcloaks of passageway linings to facilitate roofing works. These are to be taken up with associated flashing following removal of the scaffold beams and recast for replacement. Include programme and chain of custody costs as above.	
11.5	**Extra-over for the remaining 8 south side Chapel roofs.**	
11.6	**Extra-over for the South Porch roof.**	
	Total South Side Chapels and Porch Roof Removals	
12	**South Side Chapels and Porch Roofs - Repair Works**	
	B04, Drawings and Specifications by Caroe Architecture Ltd; drawings and Specifications by JM Structural Consultants Ltd.	
12.1	To be undertaken sequentially based on priorities agreed with the CA. Scaffold to be installed to max two bays at any one time. One full bay to be completed as trial, for approval, before commencement others.	
12.2	Timber repairs to existing structure to be assessed following removals. Allow for attendance and inspection with CA and Structural Engineer.	
	1. Provisional allowance for careful vacuuming of dust/debris from the void. Retain for analysis if deemed of archaeological significance.	
	2. Provisional rafter replacement. Allow for 20 new rafters (seasoned English Oak as Specification) to match existing; cut/scribed to suit.	
	3. Provisional rafter repairs: cut out decayed timber and replace with rectangular pieces of new timber (seasoned English Oak as Specification), fixed in place with Rotafix Structural Adhesive. Refer to structural specification for typical details. Allow for repairs in 20 locations.	
	4. Provisional repairs wall plate repairs: cut out decayed timber and replace with rectangular pieces of new timber (seasoned English Oak as Specification), fixed in place with Rotafix Structural Adhesive. Refer to structural specification for typical details. Allow for repairs in 10 locations.	
	Price the following per roof:	
12.3	**Provide and install new solid core roll lead roof covering to modified form, incorporating continuous ventilation in accordance with B04 RF.T3. Cost breakdown for:**	
	1. New Structure	
	2. Substrate	

	3. Ventilation	
	4. Underlay	
	5. Roof covering	
	6. Cover flashing to all abutments	
	7. Provisional item: Allow for re-cutting flashing chase at each abutment.	
12.4	Replace linings and associated cover flashings in buttress openings with new sand-cast lead. Include for re-cutting existing flashing chase at each abutment.	
12.5	**Renew parapet gutter to modified form in accordance with B04 RF.T4. Cost breakdown for:**	
	1. Structure	
	2. Substrate	
	3. (Ventilation included with roofing above)	
	4. Underlay	
	5. Lead Lining	
	6. Flashings. Sheets sized to suit and dressed over existing string course/sill stones.	
	7. In conjunction with the above, provisionally allow for re-cutting existing joints.	
	8. Sump traps	
	9. Sumps (allowance for adaptation AND renewal)	
	10. Include prime cost sum of £300 per outlet for new sump inspection covers to all outlets.	
	11. See Removals for provisional works to breakout concrete or masonry from each gutter base.	
	12. Provisionally allow for reforming levels of masonry in brick or tile set in lime mortar to achieve new falls to gutters as set out by contractor to CA approval.	
12..6	Include for taking down all lead hoppers, adapting for overflows and reinstating. This will require local access following removal of scaffolding.	
12.7	Provisional item: Apply SmartWater® (to be provided by the College) to all new lead sheets. Supply and affix relevant warning notification.	
12.8	**Extra-over for the remaining 8 south side Chapel roofs.**	
12.9	**Extra-over for the South Porch roof.**	
12.10	West Elevation strong course: Replace missing section of flashing at sill-level with new code 6 sand-cast lead. Redress/re-fix adjacent flashings. Include for local scaffolding to facilitate the repairs.	
	South Side Chapels and Porch Roofs - Repair Works	
13	**Mechanical Electrical & Public Health (MEP) Installations**	**Cost**
	Drawings and Specifications by Max Fordham LLP	
	A full breakdown of materials and labour rates for MEP works as reflected in costings will be supplied within 2 weeks of forming contract. No MEP works will be valued or certified unless rates are provided to the satisfaction of the PQS.	
	SPEC-200	
13.1	MEP Preliminaries Generally	
13.2	Section 3.8 Provisional sums (Total of Appendix B)	
13.3	3.11 Modelling responsibilities of the Contractor	
13.4	4.0 Design Responsibilities	

13.5	7.1 Surveys	
13.6	7.6 Maintenance of existing services	
13.7	11.1 Record Information	
13.8	11.2 Operation and Maintenance Manuals	
13.9	11.3 Building User Guide	
13.10	11.4 Testing and Commissioning - Demonstration	
13.11	12.1 Training of employer's staff	
13.12	12.3 Seasonal Commissioning	
13.13	12.4 Maintenance during rectification period	
13.14	Identification, decommissioning and strip out of existing services – Electrical	
13.15	Builder's work	
13.16	Ss_70_10_70_35 Electricity Generation – PV	
13.17	*Panels*	
13.18	*Inverters*	
13.19	*DC cabling*	
13.20	*LV switchgear and cabling*	
13.21	*G99 installations*	
13.22	*Export limiter*	
13.23	*Other*	
13.24	SS_75_50_28_29 Fire Detection and Alarm	
13.25	SS_75_50_45_45 Lightning Protection	
	Total Mechanical Electrical & Public Health (MEP) Installations	
14	**Surface Water Drainage and Rainwater Harvesting Installation**	
	Drawings by Conisbee; Drawings and Specifications by Caroe Architecture Ltd.	
14.1	All excavations must allow for an archaeological watching brief. Archaeologist costs to be paid direct by College. Main contractor to programme and prepare RAMS.	
	Investigation and repair of existing	
	Drawing 200996-CON-XX-XX-DR-C-1000 by Conisbee.	
14.2	Jet wash to remove settled deposits as shown on drawing. Photograph on completion and provide to CA.	
14.3	Repair fractures in existing pipework as shown on drawing. Photograph on completion and provide to CA.	
14.4	SE corner of Chapel building: External casting of RWP to be removed and diameter of internal channel confirmed. RWP to be made good.	
14.5	1.0 x 1.0m trial pit to be dug by hand to expose pipe/culvert. Pipe/culvert to be broken into and CCTV survey completed downstream to record condition. Depth and route to be recorded and provided to CA for review. Pipe and trial pit to be made	

14.6	Allow for remediation works within culvert. Final works to be confirmed following review of CCTV Survey: 1. Repairing 3 fractures 2. Repairing 3 cracks 3. Relining 3 disjointed sections 4. Complete jet washing/cleaning.	
	North Elevation	
	Drawings and Specifications by Caroe Architecture Ltd.	
14.7	Re-fix downpipes above side chapel roofs B,C and G. Allow for renewal of fixings at each collar, over the full height of the downpipes. Include for MEWP access and landscape protections to facilitate the repairs. Max ground bearing pressures, as defined by Harrison Geotechnical Engineering, must not be exceeded. Confirmation of this must be provided to the CA prior to commencement.	
14.8	North Porch: From local access, take down both rainwater downpipes and hoppers. Repair, adapt hopper for overflow and re-fix.	
	Rainwater Harvesting Installation	
	Drawings 200996-CON-XX-XX-DR-C-1000, 1300 & 1301 by Conisbee.	
14.9	Location of SWMH01-03 and rainwater harvesting tank is indicative, to be confirmed by CA after consulting with archaeology. Contractor pricing to allow for providing similar rainwater harvesting arrangement elsewhere within the site.	
14.10	Valve Chamber - housing for stop clock and hose compatible tap. All associated works/connections.	
14.11	During construction, Contractor is to undertake a CCTV survey of culvert upstream and downstream to assess condition, route and depth. Results and recordings to be provided to CA for review.	
14.12	Location and route of brick culvert shown on drawing is not exact. Contractor to undertaken investigations to find location of culvert prior to works.	
14.13	Connections to existing culvert. Provide and install SWMH01. Include associated temporary works to maintain SW drainage whilst installations are completed.	
14.14	Provide and install SWMH02. All associated works/connections.	
14.15	Provide and install SWMH03. All associated works/connections.	
14.16	Connecting drainage runs.	
14.17	Provide and install rainwater Harvesting Tank formed of 300 Wavin Aquacell Eco Crates or similar approved. All associated works/connections.	
14.18	Provide and install electric supply to pump and pump controls. Location of controls TBC. For pricing assume within the Gibbs Building basement.	
14.19	Associated excavations, infill and making good of landscaping/lawn.	
	Total Surface Water Drainage and Rainwater Harvesting Installation	
15	**Summary**	**Cost**
1	**Additional Notes on Preliminaries**	
2	**Samples**	
3	**Main Roof - Removals**	
4	**Main Roof - Enabling Works and Sequencing**	
5	**Main Roof - Roof Space Repairs**	
6	**Main Roof - Structural Repairs to Roof Structure**	

7	**Main Roof - Roof Covering and Parapet Gutters**	
8	**Main Roof - Integrated Fixing Points for PV Installation**	
9	**BWIC with PV Installation**	
10	**Main Roof - Repairs to Parapets and Stair Turrets**	
11	**South Side Chapels and Porch Roofs - Removals**	
12	**South Side Chapels and Porch Roofs - Repair Works**	
13	**Mechanical Electrical & Public Health (MEP) Installations**	
14	**Surface Water Drainage and Rainwater Harvesting Installation**	