Turner & Townsend

Roof Refurbishment Works

National Oceanography Centre, Southampton

Cost plan

Formal Cost Plan 3 (Contractor Issue)

RIBA Stage 3

Final

making the **difference**

Project commentary

General commentary

This elemental cost plan has been produced by the project team and included under the 1st stage tender information. In accordance with the tender return criteria, the bidder is requested to provide a robust and detailed response on the quantities, rates and allowances included in the elemental breakdown of the cost plan with a view to 'buy-in' to the cost plan allowances including detailing any key areas of ambiguity and the evidence to support this.

Your response should include, but not be limited to:

• Demonstration and evidence that the Elemental Cost Plan adequately covers the scope of works and proposed methodology making specific reference to the allowances, quantities and rates used.

• Using your understanding of the requirement identify any deficiencies in the cost plan including any contractor identified items not specifically referenced and any implications that these would have.

• Provide confirmation that the rates in the cost plan reflect the "cost to completion" based on the Bidders programme and written evidence as to how this has been verified.

• Provide your understanding and methodology for Value Engineering and/or buildability advice on the current proposed design to achieve efficiencies including how you will actively contribute to the Value Engineering process during the second stage and development of the design to construction to assist NOC in achieving the project budget and maintaining the integrity of the design at the point of contract award.

In assessing this question, the evaluator will be looking for a detailed response from the bidder which evidences a robust understanding of the scope of works and a methodical and thorough validation of the cost plan quantities, rates and allowances. The bidders response should be supported by confirmation that a review of the drawings and specification has been undertaken.

Please note that Preliminaries (including access, scaffolding and temporary works), Design Fees, PCSA Fees and Contractor Fee Percentage have been excluded from the cost plan for the purposes of this question

Financial summary

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Ref	Element	Total *currency*	Element %	Cost unit	Benchmark - +
0	Facilitating works		*0.00%*		
1	Substructure		*0.00%*		
2	Superstructure	*2,808,530*	*81.60%*		
3	Internal finishes		*0.00%*		
4	Fittings, furnishings & equipment		*0.00%*		
5	Services	*145,000*	*4.21%*		
6	Prefab buildings and building units		*0.00%*		
7	Work to existing buildings	*488,458*	*14.19%*		
8	External works		*0.00%*		
	Subtotal building works	***3,441,988***	***100.00%***		
9	Main contractor preliminaries		*0.00%*		
	Subtotal building works inc preliminaries	***3,441,988***	***100.00%***		
10	Main contractors OHP		*0.00%*		
	Total : Building works estimate	***3,441,988***	***100.00%***		
11	Project / design team fees		*0.00%*		
12	Other development / project cost		*0.00%*		
	Base cost estimate	***3,441,988***	***100.00%***		
13	Risk		*0.00%*		
	Total construction cost (excl inflation)	***3,441,988***	***100.00%***		
14	Inflation		*0.00%*		
	Total construction cost (incl inflation)	***3,441,988***	***0.00%***		
15	VAT assessment		*0.00%*		
	Estimated overall asset cost	***3,441,988***	***100.00%***		

Metrics

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Roof Refurbishment Works

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Detailed cost analysis

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Ref	Description	Qty	Unit	Rate	Total	Comments
2	**Superstructure**				**2,808,530**	
2.3	**Roof**				**2,338,020**	
	Roof coverings					
2.3.2.1	*Pressure impregnated softwood battens; 50 x 50mm fixed to rafters through membrane; additional to existing to form an even support*	*1*	*Item*	*10,000*	*10,000*	*Provisional allowance for batten replacement*
2.3.2.2	*40mm ASHGRID TH40 spacers running between existing battens; at 600mm centres*	*8,867*	*m2*	*20*	*177,340*	
2.3.2.3	*Vapour control layer; laid on existing roof felt and battens and new rail sections; dressed up sides*	*8,867*	*m2*	*5*	*44,335*	
2.3.2.4	*18mm WBP plywood sheathing to pitched roof including fire treatment to EuroClass B; secured with suitable non-corrosive screws to rail sections*	*8,867*	*m2*	*45*	*399,015*	
2.3.2.5	*40mm thick Rockwool mineral wool insulation packed under plywood sheathing at ridges; hips, valleys, eaves and verges*	*812*	*m2*	*40*	*32,480*	
2.3.2.6	*100mm thick Kingspan TR26 PIR insulation or similar; fitted to plywood sheathing*	*8,667*	*m2*	*45*	*390,015*	
2.3.2.7/1	*150mm thick Kingspan TR26 PIR insulation or similar; fitted to plywood sheathing*	*200*	*m2*	*65*	*13,000*	
2.3.2.8	*Roof coverings, non-structural screeds, thermal insulation, and surface treatments: VM Zinc Quartz 600mm standing seam roofing;*	*8,867*	*m2*	*105*	*931,035*	
2.3.2.9	*Extra over roof coverings for Verge detail: Marley Alutec Evoke Type B fascia; including VMZinc Quartz G3 Eaves strip pack, 18mm plywood sheathing, pre-treated timbers to support fascia and Marley Alutec Evoke unventilated soffit*	*70*	*m*	*95*	*6,650*	

Detailed cost analysis

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Ref	Description	Qty	Unit	Rate	Total	Comments
2.3.2.10	*Eaves, verge treatment to pitched roofs: Typical eaves detail (Drawing 62002) - Marley Alutec Evoke Type B fascia and unventilated soffit with mastic sealant (compatible with aluminium soffit); including 18mm WBP plywood sheathing with fire treatement to EuroClass B*	*896*	*m*	*155*	*138,880*	
2.3.2.11	*Eaves, verge treatment to pitched roofs: Eaves detail to Library Curtain Walling (Drawing 62007) - Marley Alutec Evoke Type B fascia and unventilated soffit; including 18mm WBP plywood sheathing with fire treatement to EuroClass B*	*26*	*m*	*120*	*3,120*	
2.3.2.12	*Eaves, verge treatment to pitched roofs: Eaves detail to Glassblock wall (Drawing 62013) - Marley Alutec Evoke Type B fascia and unventilated soffit; including 18mm WBP plywood sheathing with fire treatement to EuroClass B and 38 x 25mm timber fixing batten*	*10*	*m*	*125*	*1,250*	
2.3.2.13	*Eaves, verge treatment to pitched roofs: Cranked eaves detail (Drawing 620011) - Marley Alutec Evoke Type B fascia and unventilated soffit; including 18mm WBP plywood sheathing with fire treatement to EuroClass B and 38 x 25mm timber fixing batten*	*12*	*m*	*95*	*1,140*	
2.3.2.14	*Photovoltaic Panels; carefully remove and reinstate in new position as identified in the Project Scope*	*1*	*Item*	*15,000*	*15,000*	*Provisional allowance*
2.3.2.15	*Allow for solar reflective coating to existing flat roofs to Nodes*	*657*	*m2*	*40*	*26,280*	
	Roof drainage					
2.3.4.1	*Gutters: Marley Alutec Evolve box gutter; fixed to eaves*	*944*	*m*	*110*	*103,840*	
	Rooflights, skylights and openings					

Detailed cost analysis

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Ref	Description	Qty	Unit	Rate	Total	Comments
2.3.5.1	*Rooflights, skylights and openings by Standard Patent Glazing Company Product Ref: Skyline Box; thermally enhanced monopitch rooflight, 28mm double glazed units, including frame. polyester powder coated finish. 26m long x 2.5m span*	*2*	*nr*	*22,320*	*44,640*	
2.5	**External walls**				**462,160**	
	External enclosing walls above ground level					
2.5.1.1	*External walls: VMZinc 430mm standing seam in VMZinc Quartz-Strat vertical rainscreen cladding to faces of nodes that abut with the pitched roofs; including VMZinc membrane, 40mm ASHGRID TH40 spacers at 600mm centres, head and foot details consisting of VMZinc fixing wedge, mastic sealant, insect mesh, capping piece, continuouse folded strip, folded clip and sheet clip*	*1,422*	*m2*	*210*	*298,620*	
2.5.1.2	*Extra over for 18mm WBP plywood sheathing with fire treatment to EuroClass B fixed to vertical ASHGRID spacers*	*1,422*	*m2*	*45*	*63,990*	
2.5.1.3	*Extra over external walls for forming openings for windows: 700 x 1300mm windows; including VMZinc Quartz-Strat folded clip, capping piece, continuous folded strap, mastic sealant, continuous welt piece and pre-treated timber batten*	*3*	*nr*	*245*	*735*	
2.5.1.4	*Extra over cladding or curtain walling system for integral opening vents and panels: Double bank storm vents (measured elsewhere);520 x 520mm; including ducting, VMZinc Quartz-Strat capping piece integrated into new vent frame, continuous folded strap, folded clips, welt piece and mastic sealant*	*16*	*nr*	*130*	*2,080*	

Detailed cost analysis

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Ref	Description	Qty	Unit	Rate	Total	Comments
2.5.1.5	*Extra over cladding or curtain walling system for integral opening vents and panels: Double bank storm vents (measured elsewhere); 1350 x 1700mm; including ducting, new lintels, VMZinc Quartz-Strat capping piece integrated into new vent frame, continous fold strap new fire rated cavity closures, mastic sealant and continuous welt piece*	*1*	*nr*	*245*	*245*	
2.5.1.6	*Extra over cladding or curtain walling system for integral opening vents and panels: Double bank storm vents (measured elsewhere); 2800 x 1700mm; including ducting, new lintels, VMZinc Quartz-Strat capping piece integrated into new vent frame, continous fold strap new fire rated cavity closures, mastic sealant and continuous welt piece*	*2*	*nr*	*245*	*490*	
2.5.1.7	*External walls: New half brick outer skin to match existing; replace wall ties as necessary; to heads of vertical cladding*	*76*	*m2*	*150*	*11,400*	*Asummed 0.7m high of outer skin brickwork to be installed post cavity tray installation*
2.5.1.8	*Extra over external walls for cavity trays: Install new cavity tray to existing cavity wall; sealed back to concrete; including installation of Rytweep Cavity Weep vents*	*303*	*m*	*55*	*16,665*	*To heads of vertical node cladding*
2.5.1.9	*Extra over external walls for inuslation: New cavity insulation to match existing; fixing*	*212*	*m2*	*25*	*5,300*	*Asummed 0.7m high of cavity insulation to be installed post cavity tray installation*
2.5.1.10	*External wall: 100mm block outer skin to match existing; replace missing wall ties as necessary; to corner of nodes to create flush finish*	*360*	*m2*	*150*	*54,000*	
2.5.1.11	*External wall: Install new brick courses (two courses high), weep holes, and fire rated cavity closers where openings have been moved/new flashing and cavity trays installed; to head verge to wall abustments*	*4*	*m2*	*150*	*600*	
2.5.1.12	*Extra over external walls for cavity trays: Install new Manthorpe Intermediate cavity tray to existing cavity wall*	*28*	*m*	*55*	*1,540*	

Detailed cost analysis

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Ref	Description	Qty	Unit	Rate	Total	Comments
2.5.1.13	*Extra over external walls for insulation: Replace previously set aside stone coping; make good waterproofing etc as required*	*29*	*nr*	*150*	*4,350*	
2.5.1.14	*Extra over external walls for insulation: Install new cavity tray above coping; complete with weep holes, etc.*	*39*	*m*	*55*	*2,145*	
2.6	**Windows and external doors**				**8,350**	
	External windows					
2.6.1.1	*Louvers: Double bank storm vents with inclined ducting, 520 x 520mm; including free area of vent as per M&E specification.*	*16*	*nr*	*275*	*4,400*	
2.6.1.2	*Louvers: Double bank storm vents with inclined ducting, 1350 x 1700mm;including free area of vent as per M&E specification.*	*1*	*nr*	*850*	*850*	
2.6.1.3	*Louvers: Double bank storm vents with inclined ducting, 2800 x 1700mm; including free area of vent as per M&E specification.*	*2*	*nr*	*1,550*	*3,100*	

Detailed cost analysis

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Ref	Description	Qty	Unit	Rate	Total	Comments
5	**Services**				**145,000**	
5.6	**Space heating and air conditioning**				**50,000**	
	Central air conditioning					
5.6.7.1	*Central air conditioning system: relocate existing ductwork and plant to accommodate new vent and grille locations (Provisional Sum)*	*1*	*Sum*	*50,000*	*50,000*	
5.11	**Fire and lightning protection**				**45,000**	
	Lightning protection					
5.11.3.1	*Lightning protection installations: Provisional sum pending design*	*1*	*item*	*45,000*	*45,000*	
5.12	**Communication, security and control systems**				**50,000**	
	Communication systems					
5.12.1.1	*Fire detection and alarm systems: Provisional allowance*	*1*	*item*	*25,000*	*25,000*	
	Central control/building management systems					
5.12.3.1	*Central control/building management systems: Provisional allowance*	*1*	*item*	*25,000*	*25,000*	

Detailed cost analysis

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Ref	Description	Qty	Unit	Rate	Total	Comments
7	**Work to existing buildings**				**488,458**	
7.1	**Minor demolition and alteration works**				**387,298**	
	Minor demolition and alteration works					
7.1.1.1	*Removal: existing slate roof finish on battens and underlay; dispose off site*	*8,867*	*m2*	*15*	*133,005*	*Including netting; battens and felt to remain; use of goods hoist over chutes*
7.1.1.2	*Removal: existing 75mm thick Rockwool insulation laid between rafters; dispose off site*	*8,867*	*m2*	*8*	*66,503*	
7.1.1.3	*Removal: existing continuous double glazed rooflights and dispose off site*	*135*	*m2*	*45*	*6,075*	*Main Roof*
7.1.1.4	*Removal: existing Lightning protection from roof area being replaced; dispose off site*	*1*	*item*	*4,900*	*4,900*	*Main Roof*
7.1.1.5	*Removal: existing fascia and guttering and dispose off site*	*860*	*m2*	*40*	*34,400*	
7.1.1.6	*Removal: half brick thick outer skin of cavity wall to heads of vertical cladding; for installation of new cavity tray; including cutting out existing wall ties*	*76*	*m2*	*215*	*16,340*	*Assume 700mm high strip of outer skin to be removed*
7.1.1.7	*Removal: cavity tray and any residual insulation as necessary and dispose off site*	*303*	*m*	*15*	*4,545*	*Node*
7.1.1.8	*Removal: Carefully remove existing stone feature coping within brick areas*	*58*	*m*	*200*	*11,600*	*Node*
7.1.1.9	*Removal: half brick thick outer skin of cavity wall; to reveals of nodes; for installation of flush brickwork*	*320*	*m2*	*215*	*68,800*	
7.1.1.10	*Removal: existing windows and infill opening with blockwork to create flush finish ready for ASHGRID spacer installation*	*46*	*nr*	*500*	*23,000*	
7.1.1.11	*Removal: Localised ceiling removal and reinstatement to gain access to the loft space*	*259*	*m2*	*70*	*18,130*	*Provisional Allowance*
7.6	**Renovation works**				**101,160**	

Detailed cost analysis

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Ref	Description	Qty	Unit	Rate	Total	Comments
	Masonry repairs					
7.6.1.1	*Masonry repairs: Allow for masonry repairs following removal of scaffolding*	*843*	*m2*	*120*	*101,160*	*Provisional allowance*