

SUSTAINABLE HOUSING ACTION PROGRAMME LTD.

Beyond Decent Homes

CASE STUDY COST ESTIMATES

October 2009

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1.00 INTRODUCTION

- 1.01 This report details Faithful+Gould's Cost Estimates for individual dwellings as contained within the URBED Beyond Decent Homes Case Study Specification.
- 1.02 The report also details all assumptions made when measuring and pricing the works and also lists all qualifications and exclusions to the estimated costs.

2.00 BASIS OF PRICING

- 2.01 The estimate is based on the following information:
- * URBED 'Case Study Specifications_Technical Sheets' dated 9th October 2009
 - * Faithful+Gould SAP Worksheets for each dwelling
- 2.02 The cost estimates are based on competitive tenders for a fixed price traditional contract, 3rd Quarter 2009 price levels.
- 2.03 The cost estimates have been prepared using the quantities detailed within the Faithful+Gould SAP Worksheets for each of the respective dwellings.

3.00 COST ESTIMATES

3.01 Summary of Costs

The table below summarises the total cost estimates of the works to each dwelling type. A detailed breakdown of each case study dwelling is provided in Appendix A.

Case Study	Location	Type	£ (property)
1(a)	33 Perry Street, Darlaston	Pre-1945 Terrace	25,718
1(b)	34 Perry Street, Darlaston	Pre-1945 Terrace	28,503
2	Buckley Road, Wolverhampton	Pre-1945 Semi Detached	32,171
3	Kerry Green, Bishops Gate	1945-64 Semi Detached	18,582
4	Pinfold Lane, Walsall	Post 1945 Low Rise Flats	24,474
5	Okement Drive, Walsall	Medium Rise Flats	22,602
6(a)	33 Parklands Road, Darlaston	Medium Rise Flats	22,320
6(b)	59 Parklands Road, Darlaston	Medium Rise Flats	21,320
7	Birchcroft, Smethwick	High Rise Flats	16,371
8	Cophall Street, Sandwell	Semi Detached	32,237

3.00 COST ESTIMATES (Cont'd)

3.02 To produce an estimate for each of the above dwelling types we have had to make a number of assumptions, and we detail within the section below all of the assumptions made and any exclusions to these costs for each individual dwelling type.

4.00 NOTES & EXCLUSIONS

4.01 We have priced for the upgrade of one house type at each location, save where two properties are included within the SAP worksheets. The specification at each location remains the same.

4.02 Despite our best endeavours we have been unable to source a price from UdiReco wood fibre insulation systems with modified polymer thin coat render. We have therefore contacted the alternative supplier Isover who informed us that although their Silatherm System was no longer available they referred us to a partner company Webber (Nick Eton – 07788 430 685) who provided us with a cost £65/m² for their equivalent system and this is the basis of our estimate.

4.03 We have assumed no preparatory works are required to the external walls prior to receiving the over cladding materials.

4.04 We have made no allowance for preparatory works for the top up loft insulation as we have assumed that the additional insulation is merely laid on the existing loft insulation.

4.05 As all of the finishes to individual dwellings will differ at each location we have assumed soft floor finishes (edge fixed carpet) and we have allowed for removing these, laying the 90 mm rigid glass wool insulation, overlaying with 18 mm flooring and then relaying the existing finish.

4.06 We do not have any quantities for removing and re-fixing the skirting boards and trimming bottoms off doors to suit the new floor levels and have therefore included a provisional allowance of £500.00 for these works.

4.07 We have excluded any works regarding making up levels on stair treads following the works as there will be an uneven final step. This issue should be reviewed with Building Control.

4.08 We have included an allowance of £450.00 for the purchase and installation of both A+ rated washing machine and fridge/freezer.

4.09 Where the SAP worksheet does not state the area of the roof we have utilised the floor area for the purposes of this estimate. This item refers to the following locations;

- 151 Pinfold Lane
- 33 Parklands Road
- 59 Parklands Road
- 36 Birchcroft

4.10 Where communal Mechanical and Electrical installations or fabric improvements have been specified these have been costed to satisfy the whole system and then apportioned to each individual dwelling at that location. The cost per dwelling will therefore only be applicable if all dwellings are upgraded.

4.11 The Wet Space Heating system for Parkland Road is based on a system to suit 6nr dwellings, and has been pro-rated to reflect an individual flat.

4.12 The Biomass district heating to the Perry Street and Parklands cases has been priced at £5,139.00 as requested by URBED. This cost was provided ready apportioned per dwelling.

4.00 NOTES & EXCLUSIONS (Cont'd)

- 4.13 We have extrapolated the number of doors based upon the area of door openings included within the SAP Reports.
- 4.14 We have made no allowance for upgrading incoming services, or payments to statutory undertakers for up rating supply.
- 4.15 We have excluded all costs associated with replacement of existing pipework to water fittings.
- 4.16 No allowance has been included for rewiring properties.
- 4.17 The cost for each location / dwelling type should not be taken in isolation, as the cost is based upon a large proportion of dwelling being upgraded in a rolling programme at each location.
- 4.18 We have not prepared a cost for Ecclestone Road, Wolverhampton as no Case Study has been produced for this location.
- 4.19 As our estimate is based upon outline information we have included a preliminary allowance of 20% and a contingency allowance of 15%.
- 4.20 The survey and removal of asbestos or other hazardous materials is excluded from our costs.
- 4.21 Based upon the level of detail upon which these costs were derived they should not be viewed as a definitive cost for the works, but rather as an order of cost for comparative purposes.
- 4.22 Professional Fees are excluded.
- 4.23 The costs are exclusive of VAT.

5.00 APPENDICES

APPENDIX A - COST ESTIMATES

APPENDIX A
COST ESTIMATES

30 Perry Street

Works Description	Quantity	Unit	Rate	Total
Building fabric				
<i>Walls</i>				
Complete over cladding using Weber mineral fibre insulation system (150mm) with modified polymer thin coat render on top of glass fibre reinforcement mesh bedded into render basecoat. The wood fibre sandwich boards are to be fixed with proprietary fixings. (Assumed no existing render to remove and new over cladding can be applied direct to current walls)	30.00	m2	£71.50	£2,145.00
<i>Roof</i>				
Top-up loft insulation with cellulose rolls (e.g. Warmcel) to reach target depth of 350mm.	51.00	m2	£4.00	£204.00
<i>Glazing</i>				
Remove existing windows	13.00	m2	£30.00	£390.00
Replacement of existing glazing units with high performance double glazing units e.g. Ntech low energy double glazed sealed units plus super spacer, 92mm insulated frame, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 1.26 W/m2K, PEFC timber framed.	13.00	m2	£200.00	£2,600.00
<i>Floors</i>				
Lifting and relaying Floor finish	58.00	m2	£10.00	£580.00
Lifting and relaying Floor boards	58.00	m2	£13.00	£754.00
Polyester mesh to support	58.00	m2	£10.00	£580.00
Insertion of insulation bats (200mm) between rafters of suspended timber floor (or alternatively redirection of underfloor ventilation with use of clay or glass beads to fill void space - not costed).	58.00	m2	£3.50	£203.00
<i>Doors</i>				
Remove existing doors	1.00	No	£21.00	£21.00
Solid timber (FSC certified) panel insulated doors. Simple specification: 44x25 softwood frame, doubled up around lock area, phenolic foam filling with 9mm FSC plywood glued to both sides.	1.00	No	£1,100.00	£1,100.00
Fit-out				
<i>Water Fittings</i>				
Replacement of all tap fittings with spray taps and/or flow restrictors, and the fitting of low flow shower heads as part of kitchen replacements.	1.00	Item	£225.00	£225.00
<i>Lighting</i>				
Switchover of all light bulbs to low energy compact fluorescent	1.00	Item	£20.00	£20.00
<i>Appliances</i>				
Provision of new A+ rated washing machines and fridge/freezers as part of kitchen works (subject to tenant agreement)	1.00	No	£450.00	£450.00
Energy supply				
<i>Solar thermal</i>				
Install 4m2 of evacuated solar thermal tubes - existing thermal store to be retained. Solar heat source to be supplemented by 4kW heating source - either electric immersion or gas boiler.	1.00	item	£4,000.00	£4,000.00
<i>Biomass heating</i>				
Installation of one communal biomass boiler, one backup gas condensing boiler and hot water accumulator tank to serve 51 properties and the Innovation Centre, sized to meet the heat load following Phase 2 improvements				£5,139.00
<i>District heating network</i>				

BEYOND DECENT HOMES

30 Perry Street

Works Description	Quantity	Unit	Rate	Total
Installation of a flow and return network to supply all properties with heat from the energy centre (see Biomass heating above)				Excluded
Energy management				
<i>Heat metering</i>				
Fitting of remotely read heat and power metering for the purpose of billing for district and solar heat, and to provide household access to energy use data.	1.00	item	£100.00	£100.00
<i>Internal heating systems</i>				
Fitting of thermostatic controls and timers for each heating zone in each home.	1.00	item	£125.00	£125.00
			Total	£18,636.00
Preliminaries		20%		£3,727.20
			Sub Total	£22,363.20
Contingency / Price & Design Risk		15%		£3,354.48
			TOTAL	£25,717.68

30 Perry Street

Works Description	Quantity	Unit	Rate	Total
Building fabric				
<i>Walls</i>				
Complete over cladding using Weber mineral fibre insulation system with modified polymer thin coat render on top of glass fibre reinforcement mesh bedded into render basecoat. The wood fibre sandwich boards are to be fixed with proprietary fixings. For flats the detailing should be extended 100mm past above the roof edge. (Assumed no existing render to remove and new over cladding can be applied direct to current walls)	57.00	m2	£71.50	£4,075.50
<i>Roof</i>				
Top-up loft insulation with cellulose rolls (e.g. Warmcel) to reach target depth of 350mm.	73.00	m2	£4.00	£292.00
<i>Glazing</i>				
Remove existing windows	13.00	m2	£30.00	£390.00
Replacement of existing glazing units with high performance double glazing units e.g. Ntech low energy double glazed sealed units plus super spacer, 92mm insulated frame, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 1.26 W/m2K, PEFC timber framed.	13.00	m2	£200.00	£2,600.00
<i>Floors</i>				
Lifting and relaying Floor finish	58.00	m2	£10.00	£580.00
Lifting and relaying Floor boards	58.00	m2	£13.00	£754.00
Polyester mesh to support	58.00	m2	£10.00	£580.00
Insertion of insulation bats (200mm) between rafters of suspended timber floor (or alternatively redirection of underfloor ventilation with use of clay or glass beads to fill void space - not costed).	58.00	m2	£3.50	£203.00
<i>Doors</i>				
Remove existing doors	1.00	No	£21.00	£21.00
Solid timber (FSC certified) panel insulated doors. Simple specification: 44x25 softwood frame, doubled up around lock area, phenolic foam filling with 9mm FSC plywood glued to both sides.	1.00	No	£1,100.00	£1,100.00
Fit-out				
<i>Water Fittings</i>				
Replacement of all tap fittings with spray taps and/or flow restrictors, and the fitting of low flow shower heads as part of kitchen replacements.	1.00	Item	£225.00	£225.00
<i>Lighting</i>				
Switchover of all light bulbs to low energy compact fluorescent	1.00	Item	£20.00	£20.00
<i>Appliances</i>				
Provision of new A+ rated washing machines and fridge/freezers as part of kitchen works (subject to tenant agreement)	1.00	No	£450.00	£450.00
Energy supply				
<i>Solar thermal</i>				
Install 4m2 of evacuated solar thermal tubes - existing thermal store to be retained. Solar heat source to be supplemented by 4kW heating source - either electric immersion or gas boiler.	1.00	item	£4,000.00	£4,000.00
<i>Biomass heating</i>				
Installation of one communal biomass boiler, one backup gas condensing boiler and hot water accumulator tank to serve 51 properties and the Innovation Centre, sized to meet the heat load following Phase 2 improvements				£5,139.00

BEYOND DECENT HOMES

30 Perry Street

Works Description	Quantity	Unit	Rate	Total
<i>District heating network</i>				
Installation of a flow and return network to supply all properties with heat from the energy centre (see Biomass heating above)				Excluded
Energy management				
<i>Heat metering</i>				
Fitting of remotely read heat and power metering for the purpose of billing for district and solar heat, and to provide household access to energy use data.	1.00	item	£100.00	£100.00
<i>Internal heating systems</i>				
Fitting of thermostatic controls and timers for each heating zone in each home.	1.00	item	£125.00	£125.00
			Total	£20,654.50
Preliminaries		20%		£4,130.90
			Sub Total	£24,785.40
Contingency / Price & Design Risk		15%		£3,717.81
			TOTAL	£28,503.21

14 Buckley Road

Works Description	Quantity	Unit	Rate	Total
Building Fabric				
<i>External Walls</i>				
Complete over cladding using Weber mineral fibre insulation system (150mm) with modified polymer thin coat render on top of glass fibre reinforcement mesh bedded into render basecoat. The wood fibre sandwich boards are to be fixed with proprietary fixings. To incorporate replacement windows (window costs excluded). (Assumed no existing render to remove and new over cladding can be applied direct to current walls)	64.00	m2	£71.50	£4,576.00
<i>Roof</i>				
Top-up loft insulation with cellulose rolls (e.g. Warmcel) to reach target depth of 350mm.	49.00	m2	£4.00	£196.00
<i>Glazing</i>				
Remove existing windows	15.00	m2	£30.00	£450.00
Replacement of existing frames and glazing units with high performance triple glazing e.g. Ntech Passive, triple glazed sealed units plus super spacer, 105mm insulated frame and sash, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 0.77 W/m2K, PEFC timber framed.	15.00	m2	£236.00	£3,540.00
<i>Floors</i>				
Remove and relay existing floor finishes	104.00	m2	£10.00	£1,040.00
Insulated timber flooring e.g. Aerogel (10mm insulation, 25mm overall) over existing concrete ground floor.	104.00	m2	£12.00	£1,248.00
Trim the bottoms of the doors and refit skirting boards upon completion	1.00	Item	£500.00	£500.00
Building Control's opinion would have to be sought as to whether the treads of the stairs would have to be covered with material of varying thickness to remove the uneven final step.				Excluded
<i>Doors</i>				
Remove existing doors	2.00	No.	£21.00	£42.00
Solid timber (FSC certified) panel insulated doors. Simple specification: 44x25 softwood frame, doubled up around lock area, phenolic foam filling with 9mm FSC plywood glued to both sides.	2.00	No.	£1,100.00	£2,200.00
Fit-out				
<i>Water Fittings</i>				
Replacement of all tap fittings with spray taps and/or flow restrictors, and the fitting of low flow shower heads as part of kitchen/ bathroom works.	1.00	Item	£225.00	£225.00
<i>Lighting</i>				
Switchover of all light bulbs to low energy compact fluorescent (subject to tenant agreement).	1.00	Item	£20.00	£20.00
<i>Appliances</i>				
Provision of new A+ rated washing machines and fridge/freezers as part of kitchen refurbishment (subject to tenant agreement).	1.00	No	£450.00	£450.00
Energy supply				
<i>Ventilation heat recovery</i>				
Installation of whole house system with heat recovery in the roof void, drawing warm air from kitchens and bathroom.	1.00	Item	£2,000.00	£2,000.00
<i>Solar Thermal</i>				

BEYOND DECENT HOMES

14 Buckley Road

Works Description	Quantity	Unit	Rate	Total
Install 6m2 of evacuated solar thermal tubes with 560 litre twin coil thermal store with insulated jacket, expansion tank, 2 x 3 port divider valve, pump station and controller. Solar heat source to be supplemented by 4kW heating source - either electric immersion or gas boiler.	1.00	Item	£6,600.00	£6,600.00
Energy management <i>Internal heating systems</i> Fitting of thermostatic controls and timers for each heating zone in each home	1.00	Item	£125.00	£125.00
<i>Boiler controls</i> Upgrade of condensing boiler controls to feed solar accumulator tank.	1.00	Item	£100.00	£100.00
			Sub Total	£23,312.00
Preliminaries		20%		£4,662.40
			Sub Total	£27,974.40
Contingency / Price & Design Risk		15%		£4,196.16
			TOTAL	£32,170.56

19 Kerry Green

Works Description	Quantity	Unit	Rate	Total
Building Fabric				
<i>Roof</i>				
Top-up loft insulation with cellulose rolls (e.g. Warmcel) to reach target depth of 350mm.	38.00	m2	£4.00	£152.00
<i>Glazing</i>				
Remove existing windows	13.00	m2	£30.00	£390.00
Replacement of existing glazing units with high efficiency double glazing units e.g. Ntech low energy double glazed sealed units plus super spacer, 92mm insulated frame, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 1.26 W/m2K, PEFC timber framed.	13.00	m2	£200.00	£2,600.00
<i>Floors</i>				
Remove and relay existing floor finishes	38.00	m2	£10.00	£380.00
Insulated timber flooring e.g. Aerogel (10mm insulation, 25mm overall) over existing concrete ground floor.	38.00	m2	£12.00	£456.00
Trim the bottoms of the doors and refit skirting boards upon completion	1.00	Item	£500.00	£500.00
Building Control's opinion would have to be sought as to whether the treads of the stairs would have to be covered with material of varying thickness to remove the uneven final step.				Excluded
<i>Doors</i>				
Remove existing doors	2.00	No	£21.00	£42.00
FSC certified timber panel insulated doors. Proprietary products are currently expensive. To reduce costs it is proposed that the doors are designed and manufactured by a local joinery company. Simple specification: 44x25 softwood frame, doubled up around lock area, phenolic foam filling with 9mm FSC plywood glued to both sides.	2.00	No	£1,100.00	£2,200.00
Fit-out				
<i>Water Fittings</i>				
Replacement of all tap fittings with spray taps and/or flow restrictors, and the fitting of low flow shower heads as part of kitchen/bathroom works.	1.00	Item	£225.00	£225.00
<i>Lighting</i>				
Switchover of all light bulbs to low energy compact fluorescent (subject to tenant agreement).	1.00	Item	£20.00	£20.00
Energy supply				
<i>Solid fuel heating with back boiler</i>				
Installation of an efficient biomass fuelled heating stove with back boiler to provide hot water during the heating system. System to use existing flue, wet radiators and thermal storage cylinder with electric immersion.	1.00	Item	£2,000.00	£2,000.00
<i>Solar thermal</i>				
Install 4m2 of evacuated solar thermal tubes with 250 litre twin coil thermal store with insulated jacket, expansion tank, 2 x 3 port divider valve, pump station and controller. Solar heat source to be supplemented by 4kW heating source - either electric immersion or gas boiler.	1.00	Item	£4,500.00	£4,500.00
			Total	£13,465.00
Preliminaries		20%		£2,693.00
			Sub Total	£16,158.00
Contingency / Price & Design Risk		15%		£2,423.70
TOTAL				£18,581.70

151 Pinfold Lane**2 flats in building**

Works Description	Quantity	Unit	Rate per m2/item	Total	Total per dwelling
Building fabric					
<i>Roof</i>					
Top-up loft insulation with cellulose rolls (e.g. Warmcel) to reach target depth of 350mm. (Due to the absence of the roof area, the floor area has been used as the basis for calculation of roof area).	40.00	m2	£4.00	£160.00	£80.00
<i>Walls</i>					
In-situ rebuilt of timber stud walls using a timber cassette/ panel and cellulose insulation system (150mm) incorporating replacement windows. (Windows excluded from costs).	47.00	m2	£151.70	£7,129.90	£7,129.90
<i>Glazing</i>					
Remove existing windows	11.00	m2	£30.00	£330.00	£330.00
Replacement of existing frames and glazing units with high performance triple glazing e.g. Ntech Passive, triple glazed sealed units plus super spacer, 105mm insulated frame and sash, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 0.77 W/m2K, PEFC timber framed.	11.00	m2	£236.00	£2,596.00	£2,321.00
<i>Doors</i>					
Remove existing doors	1.00	No.	£21.00	£21.00	£21.00
Solid timber (FSC certified) panel insulated doors. Simple specification: 44x25 softwood frame, doubled up around lock area, phenolic foam filling with 9mm FSC plywood glued to both sides.	1.00	No	£1,100.00	£1,100.00	£1,100.00
Fit-out					
<i>Water fittings</i>					
Replacement of all tap fittings with spray taps and/or flow restrictors as part of kitchen/bathroom works. Hot fill to washing machine and the fitting of low flow shower heads.	1.00	Item	£225.00	£225.00	£225.00
<i>Lighting</i>					
Switchover of all light bulbs to low energy compact fluorescent	1.00	Item	£20.00	£20.00	£20.00
<i>Appliances</i>					
Provision of new A+ rated washing machines and fridge/freezers as part of kitchen refurbishment (subject to tenant agreement).	1.00	No	£450.00	£450.00	£450.00
Energy supply					
<i>Solar thermal</i>					
Installation of evacuated tube and/or high performance flat plate collectors supplying communal hot water accumulator tank and backup condensing gas boiler, supplying heat to each flat via insulated heat distribution mains and risers	1.00	item	£3,750.00	£3,750.00	£3,750.00
4.3m x 3.1m dedicated outhouse with pair of outward opening 1,110mm doors linked to the block of flats by service duct.	1.00	item	£833.00	£833.00	£833.00
2 x 2,200 litre thermal stores	1.00	Item	£1,250.00	£1,250.00	£1,250.00
<i>Heat metering</i>					
Fitting of remotely read heat and power metering for the purpose of billing for solar heat, and to provide household access to energy use data	1.00	item	£100.00	£100.00	£100.00
Energy management					
<i>Internal heating systems</i>					
Fitting of thermostatic controls and timers for each heating zone in each home.	1.00	item	£125.00	£125.00	£125.00
				Total	£18,089.90
					£17,734.90
Preliminaries		20%		£3,617.98	£3,546.98
				Sub Total	£21,707.88
					£21,281.88
Contingency / Price & Design Risk		15%		£3,256.18	£3,192.28
				TOTAL	£24,964.06
					£24,474.16

42 Okement Drive**3 flats in building**

Works Description	Quantity	Unit	Rate	Total	Total per dwelling
Building fabric					
<i>Roof</i>					
Remove bitumen and apply new vapour barrier, 300mm rigid mineral wool slab insulation and then apply polyester fibre-based bitumen or equivalent waterproofing layer.	72.00	m2	£54.00	£3,888.00	£1,296.00
<i>Walls</i>					
Over cladding of external walls with rendered external insulation system (150mm)	63.00	m2	£71.50	£4,504.50	£4,504.50
<i>Glazing</i>					
Remove existing windows	9.00	m2	£30.00	£270.00	£270.00
Replacement of existing frames and glazing with high performance triple glazed units e.g. Ntech Passive, triple glazed sealed units plus super spacer, 105mm insulated frame and sash, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 0.77 W/m2K, PEFC timber framed.	9.00	m2	£236.00	£2,124.00	£1,899.00
<i>Floors</i>					
Remove and relay existing floor finishes	73.00	m2	£10.00	£730.00	£730.00
Insulated timber flooring e.g. Aerogel (10mm insulation, 25mm overall) over existing concrete ground floor.	73.00	m2	£12.00	£876.00	£876.00
Trim the bottoms of the doors and refit skirting boards upon completion	1.00	item	£500.00	£500.00	£500.00
Building Control's opinion would have to be sought as to whether the treads of the stairs would have to be covered with material of varying thickness to remove the uneven final step.				Excluded	Excluded
Fit-out					
<i>Water fittings</i>					
Replacement of all tap fittings with spray taps and/or flow restrictors, hot fill to washing machine and the fitting of low flow shower heads as part of kitchen/bathroom works.	1.00	item	£225.00	£225.00	£225.00
<i>Lighting</i>					
Switchover of all light bulbs to low energy compact fluorescent	1.00	item	£20.00	£20.00	£20.00
Energy supply					
<i>Solar thermal (Excludes Gas fired CHP)</i>					
Installation of evacuated tube and/or high performance flat plate collectors supplying communal hot water accumulator tank and backup condensing gas boiler, supplying heat to each flat via insulated heat distribution mains and risers	1.00	item	£3,750.00	£3,750.00	£3,750.00
4.3m x 3.1m dedicated outhouse with pair of outward opening 1,110mm doors linked to the block of flats by service duct.	1.00	item	£833.00	£833.00	£833.00
2 x 2,200 litre thermal stores	1.00	item	£1,250.00	£1,250.00	£1,250.00
Energy management					
<i>Internal heating systems</i>					
Fitting of thermostatic controls and timers for each heating zone in each home	1.00	item	£125.00	£125.00	£125.00
<i>Heat metering</i>					
Fitting of remotely read heat and power metering for the purpose of billing for solar heat or CHP heat, and household access to energy use data.	1.00	item	£100.00	£100.00	£100.00
			Total	£19,195.50	£16,378.50
Preliminaries		20%		£3,839.10	£3,275.70
			Sub Total	£23,034.60	£19,654.20
Contingency / Price & Design Risk		15%		£3,455.19	£2,948.13
			TOTAL	£26,489.79	£22,602.33

59 Parklands Road

3 flats in building

Works Description	Quantity	Unit	Rate	Total	Total per dwelling
Building fabric					
<i>Roof</i> Remove bitumen and apply new vapour barrier, 350mm rigid mineral wool slab insulation and then apply polyester fibre-based bitumen or equivalent waterproofing layer. (Due to the absence of the roof area, the floor area has been used as the basis for the calculation).	84.00	m2	£54.00	£4,536.00	£1,512.00
<i>Walls</i> Over cladding of external walls (including communal areas) with rendered external insulation system (100mm)	35.00	m2	£71.50	£2,502.50	£3,217.50
<i>Glazing</i> Remove existing windows	10.00	m2	£30.00	£300.00	£210.00
Replacement of existing glazing units with high performance double glazing e.g. Ntech low energy double glazed sealed units plus super spacer, 92mm insulated frame, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 1.26 W/m2K, PEFC timber framed.	10.00	m2	£200.00	£2,000.00	£1,225.00
<i>Floors</i> Remove existing floor finishes	84.00	m2	£2.00	£168.00	£90.00
Insulated timber flooring e.g. Aerogel (10mm insulation, 25mm overall) over existing concrete ground floor.	84.00	m2	£12.00	£1,008.00	£540.00
Trim the bottoms of the doors and refit skirting boards upon completion Building Control's opinion would have to be sought as to whether the treads of the stairs would have to be covered with material of varying thickness to remove the uneven final step.	1.00	item	£500.00	£500.00	£500.00
				Excluded	Excluded
Fit-out					
<i>Water fittings</i> Replacement of all tap and fittings with spray taps and/or flow restrictors, hot fill to washing machine and the fitting of low flow shower heads as part of kitchen/ bathroom works.	1.00	Item	£225.00	£225.00	£225.00
<i>Lighting</i> Switchover of all light bulbs to low energy compact fluorescent (subject to tenant agreement).	1.00	Item	£20.00	£20.00	£20.00
<i>Appliances</i> Provision of new A+ rated washing machines and fridge/freezers as part of kitchen refurbishment (subject to tenant agreement).	1.00	No	£450.00	£450.00	450
Energy supply					
<i>Biomass heating</i> Installation of two communal biomass boilers, one backup gas condensing boiler and hot water accumulator tank to serve 157 properties, sized to meet heat load following Phase 2 improvements.				£5,139.00	£5,139.00
<i>District heating network</i> Installation of a flow and return network to supply all properties with heat from the energy centre.				Exc	Exc
<i>Wet space heating systems</i> Connection to incoming distribution heating mains pipework (generating source and external distribution mains excluded) internal risers. Strip out existing electric heating and replace with boiler / exchanger units together with pipework and radiators to 6 flats (costed per flat).	1.00	Item	£2,820.75	£2,820.75	£2,820.75
Energy management					
<i>Internal heating systems</i> Fitting of thermostatic controls and timers for each heating zone in each home	1.00	item	£125.00	£125.00	£125.00
<i>Heat metering</i> Fitting of remotely read heat and power metering for the purpose of billing for district and solar heat, and to provide household access to energy use data	1.00	item	£100.00	£100.00	£100.00
			Total	£19,894.25	£16,174.25
Preliminaries		20%		£3,978.85	£3,234.85
			Sub Total	£23,873.10	£19,409.10
Contingency / Price & Design Risk		15%		£3,580.97	£2,911.37
			TOTAL	£27,454.07	£22,320.47

59 Parklands Road**3 flats in building**

Works Description	Quantity	Unit	Rate	Total	Total per dwelling
Building fabric					
<i>Roof</i> Remove bitumen and apply new vapour barrier, 350mm rigid mineral wool slab insulation and then apply polyester fibre-based bitumen or equivalent waterproofing layer. (Due to the absence of the roof area, the floor area has been used as the basis for the calculation).	45.00	m2	£54.00	£2,430.00	£810.00
<i>Walls</i> Over cladding of external walls and communal areas with rendered external insulation system (100mm)	45.00	m2	£71.50	£3,217.50	£3,217.50
<i>Glazing</i> Remove existing windows	7.00	m2	£30.00	£210.00	£210.00
Replacement of existing glazing units with high performance double glazing e.g. Ntech low energy double glazed sealed units plus super spacer, 92mm insulated frame, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 1.26 W/m2K, PEFC timber framed.	7.00	m2	£200.00	£1,400.00	£1,225.00
<i>Floors</i> Remove existing floor finishes	45.00	m2	£2.00	£90.00	£90.00
Insulated timber flooring e.g. Aerogel (10mm insulation, 25mm overall) over existing concrete ground floor.	45.00	m2	£12.00	£540.00	£540.00
Trim the bottoms of the doors and refit skirting boards upon completion	1.00	item	£500.00	£500.00	£500.00
Building Control's opinion would have to be sought as to whether the treads of the stairs would have to be covered with material of varying thickness to remove the uneven final step.				Excluded	Excluded
Fit-out					
<i>Water fittings</i> Replacement of all tap and fittings with spray taps and/or flow restrictors, hot fill to washing machine and the fitting of low flow shower heads as part of kitchen/ bathroom works.	1.00	Item	£225.00	£225.00	£225.00
<i>Lighting</i> Switchover of all light bulbs to low energy compact fluorescent (subject to tenant agreement).	1.00	Item	£20.00	£20.00	£20.00
<i>Appliances</i> Provision of new A+ rated washing machines and fridge/freezers as part of kitchen refurbishment (subject to tenant agreement).	1.00	No	£450.00	£450.00	£450.00
Energy supply					
<i>Biomass heating</i> Installation of two communal biomass boilers, one backup gas condensing boiler and hot water accumulator tank to serve 157 properties, sized to meet heat load following Phase 2 improvements.				£5,139.00	£5,139.00
<i>District heating network</i> Installation of a flow and return network to supply all properties with heat from the energy centre.				Exc	Exc
<i>Wet space heating systems</i> Connection to incoming distribution heating mains pipework (generating source and external distribution mains excluded) internal risers. Strip out existing electric heating and replace with boiler / exchanger units together with pipework and radiators to 6 flats (costed per flat).	1.00	Item	£2,820.75	£2,820.75	£2,820.75
Energy management					
<i>Internal heating systems</i> Fitting of thermostatic controls and timers for each heating zone in each home	1.00	item	£125.00	£125.00	£125.00
<i>Heat metering</i> Fitting of remotely read heat and power metering for the purpose of billing for district and solar heat, and to provide household access to energy use data	1.00	item	£100.00	£100.00	£100.00
			Total	£17,267.25	£15,472.25
Preliminaries		20%		£3,453.45	£3,094.45
			Sub Total	£20,720.70	£18,566.70
Contingency / Price & Design Risk		15%		£3,108.11	£2,785.01
			TOTAL	£23,828.81	£21,351.71

56 Birchcroft

Works Description	Quantity	Unit	Rate	Total
Building fabric				
<i>Walls</i> Over cladding of external walls with rendered external insulation system (100mm)	38.00	m2	£71.50	£2,717.00
<i>Windows</i> Remove existing windows	10.00	m2	£30.00	£300.00
Replacement of existing frames and glazing with high performance triple glazed units e.g. Ntech Passive, triple glazed sealed units plus super spacer, 105mm insulated frame and sash, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 0.77 W/m2K, PEFC timber framed.	10.00	m2	£236.00	£2,360.00
Fit-out				
<i>Water fittings</i> Replacement of all tap fittings with spray taps and/or flow restrictors, hot fill to washing machine and the fitting of low flow shower heads as part of kitchen/ bathroom works.	1.00	Item	£225.00	£225.00
<i>Lighting</i> Switchover of all light bulbs to low energy compact fluorescent (subject to tenant agreement).	1.00	Item	£20.00	£20.00
<i>Appliances</i> Provision of new A+ rated washing machines and fridge/freezers as part of kitchen refurbishment (subject to tenant agreement).	1.00	No	£450.00	£450.00
Energy Supply				
<i>Gas-fired communal boilers</i> Installation of gas-fired communal heating system on the roof of the block to supply heat to all flats via insulated flow / return risers	1.00	Item	£1,970.58	£1,970.58
<i>Solar thermal</i> 75m2 evacuated solar thermal tubes or flat plate collectors, installed on the roof of the block, linked together as one array, with insulated flow and return distribution pipework, expansion tank, 2 x 3 port diverter valve, pump station and controller.	1.00	item	£1,261.54	£1,261.54
<i>Mechanical Ventilation with Heat Recovery (MVHR)</i> Installation of two MVHR units, each serving 45 flats, utilising existing ventilation ducts for the routing of air extract / supply. The MVHR unit is to be located on the roof together with the boiler house. To provide 57 cubic m/ hour (16 litres/ second) air handling capacity per property.	1.00	Item	£2,334.11	£2,334.11
Energy Management				
<i>Internal heating systems</i> Fitting of thermostatic controls and timer for a warm air heating coil which will condition the fresh air inlet to each flat.	1.00	item	£125.00	£125.00
<i>Heat metering</i> Fitting of remotely read heat and power metering for the purpose of billing for district and solar heat, and to provide household access to energy use data	1.00	item	£100.00	£100.00
			Total	£11,863.23
Preliminaries		20%		£2,372.65
			Sub Total	£14,235.88
Contingency / Price & Design Risk		15%		£2,135.38
			TOTAL	£16,371.26

108 Cophall Street

Works Description	Quantity	Unit	Rate	Total
<i>Walls</i> Mechanically fixed glass fibre insulation structural insulation system with polymer thin coat render system. Long blocks rather than panels to be used for prefabricated external walls such as the Smiths system in order to provide additional stabilisation. NB: Sillatherm is an alternative product suitable for this application but is not available in the UK (available from Germany).	78.00	m2	£51.99	£4,055.22
<i>Roof</i> Top-up loft insulation with cellulose rolls (e.g. Warmcel) to reach target depth of 350mm. (Due to the absence of the roof area, the floor area has been used instead).	42.00	m2	£4.00	£168.00
<i>Glazing</i> Remove existing windows	13.00	m2	£30.00	£390.00
Replacement of existing frames and glazing units with high performance triple glazing e.g. Ntech Passive, triple glazed sealed units plus super spacer, 105mm insulated frame and sash, low emissivity coated glass, 4mm glass-16mm Argon filled, ES4mm glass, u-value 0.77 W/m2K, PEFC timber framed.	13.00	m2	£236.00	£3,068.00
<i>Floors</i> Remove and relay existing floor finishes	42.00	m2	£10.00	£420.00
Insulated timber flooring e.g. Aerogel (10mm insulation, 25mm overall) over existing concrete ground floor.	42.00	m2	£26.11	£1,096.62
Trim the bottoms of the doors and refit skirting boards upon completion	1.00	Item	£500.00	£500.00
Building Control's opinion would have to be sought as to whether the treads of the stairs would have to be covered with material of varying thickness to remove the uneven final step.				Excluded
<i>Doors</i> Remove existing doors	2.00	No.	£21.00	£42.00
Solid timber (FSC certified) panel insulated doors. Proprietary products are currently expensive. To reduce costs it is proposed that the doors are designed and manufactured by a local joinery company. Simple specification: 44x25 softwood frame, doubled up around lock area, phenolic foam filling with 9mm FSC plywood glued to both sides.	2.00	No	£1,100.00	£2,200.00
Fit-out <i>Water fittings</i> Replacement of all tap fittings with spray taps and/or flow restrictors, hot fill to washing machine and the fitting of low flow shower heads as part of kitchen/bathroom works.	1.00	Item	£225.00	£225.00
<i>Lighting</i> Switchover of all light bulbs to low energy compact fluorescent (subject to tenant agreement).	1.00	Item	£20.00	£20.00
<i>Appliances</i> Provision of new A+ rated washing machines and fridge/freezers as part of kitchen refurbishment (subject to tenant agreement).	1.00	No	£450.00	£450.00
Energy Supply <i>Gas Boiler</i> Replacement of the existing boiler with an efficient condensing gas boiler (24kw) to supply space heating and hot water	1.00	Item	£2,500.00	£2,500.00
<i>Solar thermal</i>				

BEYOND DECENT HOMES

108 Cophall Street

Works Description	Quantity	Unit	Rate	Total
Install 6m2 of evacuated solar thermal tubes or flat plate collectors with an oversized (560 litre) hot water accumulator tank, supplementing the primary heating system. <i>Heating distribution</i>	1.00	item	£6,600.00	£6,600.00
Replacement of existing radiators with smaller skirting radiators (utilising existing pipework).	1.00	item	£1,500.00	£1,500.00
Energy Management <i>Internal heating systems</i> Fitting of thermostatic controls and timers for each heating zone in each home	1.00	Item	£125.00	£125.00
			Total	£23,359.84
Preliminaries		20%		£4,671.97
			Sub Total	£28,031.81
Contingency / Price & Design Risk		15%		£4,204.77
			TOTAL	£32,236.58

BEYOND DECENT HOMES

47 Ecclestone Road

Works Description	Quantity	Unit	Rate	Total
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Notes

We have priced for the upgrade of one house type at each location, save where two properties are included within the SAP worksheets. The specification at each location remains the same.

Despite our best endeavours we have been unable to source a price from UdiReco wood fibre insulation systems with modified polymer thin coat render. We have therefore contacted the

We have assumed no preparatory works are required to the external walls prior to receiving the over

We have made no allowance for preparatory works for the top up loft insulation as we have assumed that the additional insulation is merely laid on the existing loft insulation.

As all of the finishes to individual dwellings will differ at each location we have assumed soft floor finishes (edge fixed carpet) and we have allowed for removing these, laying the 90 mm rigid glass wool insulation, overlaying with 18 mm flooring and then relaying the existing finish.

We do not have any quantities for removing and re-fixing the skirting boards and trimming bottoms off doors to suit the new floor levels and have therefore included a provisional allowance of £500.00 for these works.

We have excluded any works regarding making up levels on stair treads following the works as there will be an uneven final step. This issue should be reviewed with Building Control.

We have included an allowance of £450.00 for the purchase and installation of both A+ rated washing machine and fridge/freezer.

Where the SAP worksheet does not state the area of the roof we have utilised the floor area for the purposes of this estimate. This item refers to the following locations;

- 151 Pinfold Lane
- 33 Parklands Road
- 59 Parklands Road
- 36 Birchcroft

Where communal Mechanical and Electrical installations or fabric improvements have been specified these have been costed to satisfy the whole system and then apportioned to each individual dwelling at that location. The cost per dwelling will therefore only be applicable if all dwellings are upgraded.

The Wet Space Heating system for Parkland Road is based on a system to suit 6nr dwellings, and has been pro-rated to reflect an individual flat.

The Biomass district heating to the Perry Street and Parklands cases has been priced at £5,139.00 as requested by URBED.

We have extrapolated the number of doors based upon the area of door openings included within the SAP Reports.

We have made no allowance for upgrading incoming services, or payments to statutory undertakers for up rating supply.

We have excluded all costs associated with replacement of existing pipework to water fittings.

No allowance has been included for rewiring properties.

The cost for each location / dwelling type should not be taken in isolation, as the cost is based upon a large proportion of dwelling being upgraded in a rolling programme at each location.

We have not prepared a cost for Ecclestone Road, Wolverhampton as no Case Study has been produced for this location.

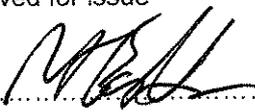
As our estimate is based upon outline information we have include a preliminary allowance of 20% and a contingency allowance of 15%.

The survey and removal of asbestos or other hazardous materials is excluded from our costs.

Based upon the level of detail upon which these costs were derived they should not be viewed as a definitive cost for the works, but rather as an order of cost for comparative purposes.

Professional Fees are excluded.

The costs are exclusive of VAT.

VERIFICATION	
Approved for issue	
	
Job Manager	
Date	14/10/9.

Faithful+Gould

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