



The Shrewsbury and Telford Hospital NHS Trust

Sustainable Services Programme

PRH Emergency and Acute/RSH Acute and Planned

High Level Cost Estimates

Potential Solution

March 2016

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The Shrewsbury and Telford Hospital NHS Trust
Sustainable Services Programme

PRH Hot Site/RSH Warm Site

Summary of Total Project Estimate for Potential Solution

Capital cost of Works at PRH	£82,212,468
Capital cost of works at RSH	£19,815,844
Total Capital Cost of Potential Solution	£102,028,312

Sustainable Services Programme

High Level Cost Estimate

NOTES AND CLARIFICATIONS

The estimated costs have been based on the AHR Schedules of Areas with current revisions for all options and the site wide implication drawings.

The estimates exclude the costs of multi-storey car parks and the helipads at both sites.

As confirmed by AHR the areas scheduled include an allowance for circulation and engineering within the department and Rider Hunt have added an allowance for main plant rooms and communication space between departments.

The rates per m2 are calculated mainly from DoH HPCGs and adjusted accordingly for storey height, location factor and inflation to current prices.

For refurbishment projects, a percentage of the new build rate has been taken based on the type of refurbishment indicated on the schedules.

The costs have been adjusted to current levels (PUBSEC 217) but **NO ALLOWANCE** is included for inflation up to start on site or during the construction period, as no programme information is currently available.

The estimates assume that the existing hospital engineering services infrastructure have the capacity to supply the new extensions and therefore **EXCLUDE** any upgrades (eg boilers, distribution, medical gases, sub-stations, back up generators etc etc), as we are unable to quantify at this stage. All services being connected into are assumed to be in good working order.

The new extensions are increasing the size of the overall hospital buildings at the "hot" site, which may lead to capacity issues with shared support services (eg catering, stores, IT, pathology, offices, mortuary, FM etc). All upgrades, amendments and increased capacity to these items **ARE EXCLUDED**, as we are unable to quantify at this stage.

It is assumed that the buildings are able to be constructed and areas can be refurbished as shown on the plans, and this has not been verified.

The costs assume that sufficient space is available to construct the new buildings/ carry out the refurbishments, suitable and sufficient access is available for construction activity, and there are no unusual or difficult working conditions or restrictions

Allowances for on-costs, abnormal, site specific costs are estimated lump sums based on similar recent projects and must be regarded as very approximate at this stage

An allowance of 15% for fees has been allowed for the project as HPCG guidance

An allowance of 15% for equipment costs has been included as HPCG guidance

The works costs have been adjusted by the location factor for 'Shropshire' as published by BCIS

An allowance has been made for Optimism Bias, based on the attached calculations totalling 22%

Recovery on VAT has been assumed based on fees only as similar schemes. It is suggested the Trust seek specialist advice in order to pursue further recovery.

We have excluded any costs for:

- Hire of temporary buildings, works associated with temporary accommodation, or temporary diagnostics
- Costs for decanting, moves, moving equipment, and items moved off site (eg medical records)
- Contaminated land and remediation
- Asbestos surveys and removal
- Land purchase/Site acquisition
- Exceptionally poor ground conditions (general allowance only for poor ground conditions)
- Legal fees
- Trust internal costs and fees
- Costs associated with establishing a procurement vehicle
- Medical equipment and diagnostic equipment (CT, MRI, Ultrasound etc.) Equipment allowance on HPCG guidance only.
- Energy costs and bringing into use
- Additional or replacement parking
- Additional or replacement offices (unless specifically identified)
- Significant external works
- Backlog maintenance and existing building defects
- Upgrades to shared support services
- Site infrastructure upgrades, repairs, and any additional infrastructure
- Unusual or difficult access or working conditions
- Remodelling of roads or access ways
- Prolongation or lengthened construction programme above a typical duration
- Unusual or restrictive planning conditions

PRH Emergency and Acute

WORKS COSTS

<u>Area No</u>	<u>New Building Works (Based on DOH HPCGs)</u>		£	£
1	AEC (HBN 22)	722 m2 @	£2,280 / m2	1,646,160
2-3	Ward (HBN 04-01)	2,588 m2 @	£2,040 / m2	5,279,520
4	ED (HBN 22)	1,786 m2 @	£2,140 / m2	3,822,040
7	Main Entrance / Circulation	2,108 m2 @	£1,700 / m2	3,583,600
11	Critical Care (HBN 57 Supercost)	1,784 m2 @	£2,840 / m2	5,066,560
	Allowance for Main Plant Rooms	2,000 m2 @	£2,280 / m2	4,560,000
	Adjustment for single storey buildings	5,050 m2 @	£40 / m2	<u>202,000</u>
				24,159,880
	<u>Works To Existing Buildings</u>			
5	A+E to Urgent Care Centre Medium Refurbishment	1,155 m2 @	£1,500 / m2	1,732,500
12	Medium Refurbishment of Critical Care	1,017 m2 @	£1,500 / m2	<u>1,525,500</u>
				<u>3,258,000</u>
				27,417,880
	Adjust for inflation from PUBSEC 173 to PUBSEC 195 reporting level			<u>3,486,667</u>
				30,904,547
	Adjust for location factor 0.98 Shropshire as BCIS 26/01/2016			<u>-618,091</u>
				30,286,456
	<u>Site Wide Implications (current prices)</u>			
	New Bridge Link at 1st Floor Level	55 m2 @	£1,500 / m2	82,500
	Drop off and Entrance Canopies	2 nr	£100,000	200,000
	New Multi Storey Car Park			<u>Excluded</u>
				282,500
	<u>External Works</u>			
	Re-alignment of Entrance Road	item		500,000
	Hard Landscaping	3,500 m2 @	£50 / m2	175,000
	Soft Landscaping	10,700 m2 @	£10 / m2	107,000
	Retaining Wall 4m high	150 m2 @	£800 / m	120,000
	Allowance for Planting	item		50,000
	Allowance for Street Furniture	item		50,000
	Allowance for Building Drainage	item		<u>250,000</u>
				1,252,000
				<u>31,820,956</u>
			Carried Forward	31,820,956

The Shrewsbury and Telford Hospital NHS Trust - Sustainable Services Programme

PRH Emergency and Acute

			£	£
WORKS COSTS Continued			Brought Forward	31,820,956
 <u>Communications</u>				
New Build Hospital Street as AHR Schedule	624 m2 @	£1,500 / m2	936,000	
Vertical Circulation (say)	450 m2 @	£1,500 / m2	675,000	
Lifts	4 NO	£80,000 each	<u>320,000</u>	1,931,000
 <u>Undefined Allowances / Provisional Sums</u>				
Poor ground conditions			1,500,000	
Additional drainage, external works and external services			1,500,000	
Allowance for service and drainage, diversions and connections			250,000	
Connections / breakthroughs to existing buildings			<u>200,000</u>	<u>3,450,000</u>
				37,201,956
Adjust to current prices from PUBSEC 195 - 217				<u>4,197,144</u>
				41,399,100
 TRUST COSTS				
Fees at 15% of Works Cost- as HPCGs			6,209,900	
Non-works costs, including planning fees (allowance based on "typical" building)			200,000	
Equipment (say 15% of departmental costs) as HPCGs			5,055,500	
Planning Contingencies (10% of Works Cost)			<u>4,139,900</u>	<u>15,605,300</u>
				57,004,400
Add Optimism Bias - 22% of Capital Cost				<u>12,540,968</u>
				69,545,368
VALUE ADDED TAX - 20%				<u>13,909,100</u>
				83,454,468
Potential VAT Recovery				
Less: Fees (100% recovery assumed)			1,242,000	
Extensions (no recovery assumed)			0	
Refurbishment (no recovery assumed)			<u>0</u>	<u>-1,242,000</u>
				PRH EMERGENCY AND ACUTE TOTAL PROJECT ESTIMATE
			£	<u><u>82,212,468</u></u>

NOTES:

- Costs are at CURRENT LEVELS and EXCLUDE INFLATION
- Costs EXCLUDE ALL SITE ABNORMALS, SITE INFRASTRUCTURE UPGRADES and REPAIRS
- For full set of notes, clarifications, and basis of costs refer to attached Notes Sheet

The Shrewsbury and Telford Hospital NHS Trust - Sustainable Services Programme

PRH Emergency and Acute

Summary

WORKS COST (EXCL VAT)	£ 41,399,000
TOTAL CAPITAL (EXCL VAT)	£ 57,004,000
TOTAL CAPITAL (INCL OPTIMISM BIAS AND EXCL VAT)	£ 69,545,000
TOTAL CAPITAL (INCL VAT)	£ 83,454,000
TOTAL CAPITAL (INCL VAT AND POTENTIAL RECOVERY)	£ 82,212,000

RSH Acute and Planned

WORKS COSTS

<u>Area No</u>	<u>Work to Existing Buildings</u>		£	£
3	Convert short stay to UCC Medium Refurbishment	850 m2 @ £1,500 / m2	1,275,000	
4	Convert Escalation to UCC Medium Refurbishment	290 m2 @ £1,500 / m2	435,000	
5	Convert A+E into UCC Medium Refurbishment	660 m2 @ £1,500 / m2	990,000	
9	Ward to Training Ward Refresh	1,349 m2 @ £500 / m2	674,500	
11	Fracture Clinic to UCC Medium Refurbishment	390 m2 @ £1,500 / m2	585,000	
6	Demolition Offices	230 m2 @ £50 / m2	11,500	
	<u>New Building Works</u>			
11a	POPD/ANC/PANDA (HBN 09-02)	800 m2 @ £2,470 / m2	1,976,000	
15 (a)	MLU (HBN 09-02)	800 m2 @ £2,470 / m2	<u>1,976,000</u>	<u>7,923,000</u>
	Adjust for inflation from PUBSEC 173 to PUBSEC 195 reporting level			<u>1,007,549</u>
				8,930,549
	Adjust for location factor 0.98 Shropshire as BCIS 26/01/2016			<u>-178,611</u>
				8,751,938
	Adjust to current prices from PUBSEC 195 - 217			<u>987,398</u>
				9,739,336

TRUST COSTS

Fees at 15% of Works Cost- as HPCGs	1,460,900	
Non-works costs, including planning fees (allowance based on "typical" building)	100,000	
Equipment (say 15% of departmental costs) as HPCGs	1,460,900	
Planning Contingencies (10% of Works Cost)	<u>973,900</u>	<u>3,995,700</u>
		13,735,036
Add Optimism Bias - 22% of Capital Cost		<u>3,021,708</u>
		16,756,744

Carried Forward 16,756,744

The Shrewsbury and Telford Hospital NHS Trust - Sustainable Services Programme

RSH Acute and Planned

	£	£
	Brought Forward	16,756,744
VALUE ADDED TAX - 20%		<u>3,351,300</u>
		20,108,044
Potential VAT Recovery		
Less: Fees (100% recovery assumed)	292,200	
Extensions (no recovery assumed)	0	
Refurbishment (no recovery assumed)	<u>0</u>	<u>-292,200</u>
		<u>19,815,844</u>
	RHS ACUTE AND PLANNED TOTAL PROJECT ESTIMATE	£ <u>19,815,844</u>

NOTES:

- Costs are at CURRENT LEVELS and EXCLUDE INFLATION
- Costs EXCLUDE ALL SITE ABNORMALS, SITE INFRASTRUCTURE UPGRADES and REPAIRS
- For full set of notes, clarifications, and basis of costs refer to attached Notes Sheet

Summary

WORKS COST (EXCL VAT)	£ 8,752,000
TOTAL CAPITAL (EXCL VAT)	£ 13,735,000
TOTAL CAPITAL (INCL OPTIMISM BIAS AND EXCL VAT)	£ 16,757,000
TOTAL CAPITAL (INCL VAT)	£ 20,108,000
TOTAL CAPITAL (INCL VAT AND POTENTIAL RECOVERY)	£ 19,816,000

OPTIMISM BIAS: CONTRIBUTORY FACTORS AND MITIGATION

Contributory Factor to Upper Bound	% Factor Contributes	Stage	Mitigation Factor	% After Mitigation
Progress with Planning Approval	4%	SOC	Opened discussion with planning authority, some engagement	4%
		OBC	Outline consent in place, with any Planning Conditions and requirements for Section 106 or similar agreements established, including any specific requirements of e.g. Environmental Agency	
		FBC	Full Consent in place. Judicial Review period passed	
Other Regulatory	4%	SOC	Degree of sign off from Fire Authority, HSE, transport authority, local government etc	4%
		OBC		
		FBC		
Depth of surveying of site/ground information	3%	SOC	Desktop study undertaken of own site	3%
		OBC	Investigations undertaken, historical records examined	
		FBC	Full survey of conditions, site services and topographics	
Detail of design	4%	SOC	Concept/masterplan/DCP	4%
		OBC	1:500s agreed and selected 1:200s	
		FBC	All 1:200s in place, key 1:50s (depends on procurement route)	
Innovative project/design	3%	SOC	Yes/No	1%
		OBC		
		FBC		
Design complexity	4%	SOC	This might include complex M&E solutions (requires further development)	2%
		OBC		
		FBC		
Likely variations from Standard Contract	2%	SOC	No contract chosen	2%
		OBC	Yes/No with measurement of scale variations	
		FBC		
Design Team capabilities	3%	SOC	Previous relevant experience of individuals involved. Capacity	0%
		OBC		
		FBC		
Contractor's capabilities	2%	SOC	Previous relevant experience of individuals involved. Capacity. Track record of delivery	1%
		OBC		
		FBC		
Contractor involvement	2%	SOC	Buildability. Opportunity to influence design	1%
		OBC		
		FBC		
Client capability and capacity	6%	SOC	Degree of team in place with relevant experience	4%
		OBC	Full team in place for procurement	
		FBC	Robust implementation plan in place	
Robustness of Output Specification	25%	SOC	Definition of scope and extent of services. Degree of outstanding decisions	15%
		OBC		
		FBC		

Involvement of Stakeholders, including Public and Patient Involvement	5%	SOC	Scope of stakeholders to be involved. Plan in place to engage	5%
		OBC	Implementation of Plan	
		FBC	Involvement demonstrated	
Agreement to Output Specification by stakeholders	5%	SOC	Letters of support from clinicians, Trade Unions, staff groups, patient representatives/groups	5%
		OBC		
		FBC		
New service or traditional	3%	SOC	Assessment of how innovative/new service model is at national/regional/local level. Has this ever been tried before?	2%
		OBC		
		FBC		
Local community consent	3%	SOC	Consideration of traffic noise/existence of protestors or pressure groups	2%
		OBC		
		FBC		
Stable policy environment	20%	SOC	Degree to which new policy/standards are applicable depending upon which stage is reached	15%
		OBC		
		FBC		
Likely competition in the market for the project	2%	SOC	Degree project has been marketed	0%
		OBC	Evidence of market interest	
		FBC	Mitigated	
TOTAL	100%			70%

Note: Across all contributory factors, mitigation would be expected to be greater the greater the extent of risk quantification and risk management (including the extent to which it is captured in contingencies)

OPTIMISM BIAS - UPPER BOUND CALCULATION

Lowest & Upper Bound	13%
Mid %	40%
Upper %	76%
Actual % Upper Bound for this project	31%

Build complexity			
<i>Choose 1 category</i>			
<i>Length of Build</i>	< 2 years	0.50%	0.50%
	2 to 4 years	1.00%	
	Over 4 years	4.00%	
<i>Choose 1 category</i>			
<i>Number of phases</i>	1 or 2 phases	0.50%	0.50%
	3 or 4 phases	2.00%	
	More than 4 Phases	5.00%	
<i>Choose 1 category</i>			
<i>Number of sites involved (i.e. before and after change)</i>	Single site	2.00%	
	2 sites	2.00%	2.00%
	More than 2 sites	5.00%	
Location			
<i>Green field</i>	New build	3%	
	<i>Brown field</i> New build	8%	
<i>Existing site</i>	New build	5%	
	Less than 15% refurb	6%	
	15% - 50% refurb	10%	10.00%
	Over 50% refurb	15%	
Scope of scheme			
<i>Choose 1 category</i>			
<i>Facilities Management</i>	Hard FM only	0.00%	0.00%
	TUPE whole service	2.00%	
	RoE whole service	2.00%	
<i>Choose 1 category</i>			
<i>Equipment</i>	Group 1&2 only	0.50%	0.50%
	Major medical equipment	1.50%	
	All equipment included	5.00%	
<i>Choose 1 category</i>			
<i>IT</i>	No IT implications	0.00%	
	Infrastructure	1.50%	1.50%
	Infrastructure & systems	5.00%	

<i>Choose more than 1 category if applicable</i>			
External stakeholders	Local NHS economy (e.g. DGH)	1.00%	1.00%
	Wider NHS economy (e.g. teaching DGH)	2.00%	
	NHS/Universities/Private/Vol sector	5.00%	
Service changes			
Stable environment, i.e. no change to service		5%	
Identified changes not quantified		10%	10%
Longer time frame service changes		20%	
Gateway			
<i>Choose 1 category</i>			
RPA Score	Low	0%	
	Medium	5%	5%
	High	10%	
TOTAL		31.000%	

CONTRIBUTION FACTORS AND MITIGATION	70%
UPPER BOUND CALCULATION	31%
TOTAL FACTOR TO APPLY TO ESTIMATE	22%