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**JERSEY FUTURE HOSPITAL  
CO025 – PROOF OF CONCEPT  
SITE OPTION ADDENDUM  
APPENDIX 28 DATA BOOK**

QUALITY ASSURANCE

Sign off: Terry Langdon

Position: Director

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### Main Body Report

Location	Subject	Source materials
1.6	Executive Summary - Findings	<ul style="list-style-type: none"> <li>GEM Feed V21 160707</li> <li>CO025 Scoring Matrix Moderated EY Version</li> <li>Indic Extg New Bld 160626 42000m2 Opt B</li> <li>SOJ Facil Wks 160626</li> </ul>
2.4	Brief	<ul style="list-style-type: none"> <li>Instruction provided by Project Board 13<sup>th</sup> April 2016 to review Option C+ as part of Ongoing Project Coordination</li> <li>Instruction provided by Project Board 23<sup>rd</sup> May 2016 to proceed with CR025</li> </ul>
3	Review process	<p>As per CR021 – source material previously used to support appraisal methodology referred herein:</p> <ul style="list-style-type: none"> <li>UK Treasury Green Book Guidance</li> <li>UK DoH Health Building Notes</li> <li>UK DoH Health Technical Memoranda</li> <li>Clinical Engagement data developed under CO003 by MJ Medical</li> <li>EY Modelling data, provided in final iteration 10.04.15, included in Appendix 9</li> <li>UK Department of Health Healthcare Premises Cost Guides, 2<sup>nd</sup> Edition</li> <li>UK Treasury recommended Generic Economic Model (GEM)</li> <li>Strategic Outline Case Refined Concept Addendum prepared by WS Atkins</li> <li>Appendices to Strategic Outline Case Refined Concept Addendum prepared by WS Atkins</li> <li>RICS Code of Measurement: A Guide for Property Professionals</li> <li>BCIS PUBSEC (Tender Price Index of Public Sector Building Non Housing)</li> </ul>

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		<ul style="list-style-type: none"> <li>• Site valuation data provided by BNP Paribas 23.03.15 and updated site valuation data provided by BNP Paribas 30.04.15</li> <li>• BCIS published location adjustment for Jersey (not Channel Islands) published 1Q15</li> <li>• Skills Review of Jersey’s Construction Sector dated September 14 published by Jersey Construction Council</li> <li>• Committee of Inquiry into Building Costs dated September 02 published by the States of Jersey</li> <li>• Gleeds in-house R&amp;D material</li> <li>• Priced Bills of Quantities for elemental analysis for Jersey Contracts</li> <li>• UK Office for National Statistics – Construction statistics median earnings 2013</li> <li>• UK recent trade advertisements for construction posts</li> <li>• Benefit criteria: ‘Appendix 1 to R Report’</li> <li>• Risk criteria: ‘Appendix 1 to R Report’</li> <li>• HM Treasury Green Book Guidance (Optimism Bias)</li> <li>• Mott Macdonald template for calculating Optimism Bias (as amended by Gleeds)</li> <li>• Consultations with stakeholders including: Jersey Fire Service (meeting record 18.02.15) Planning Authority (minutes of planning meetings 23.01.15 and 26.02.15)</li> <li>• Comments of Independent Evaluators attending Benefits and Risk Workshop 26.03.15</li> <li>• Programme assumptions based on UK healthcare and Jersey specific experience</li> </ul>
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		<ul style="list-style-type: none"> <li>Data provided in respect of current Bank of Canada build by Dandara for programme and m<sup>2</sup> delivery per month</li> </ul>
4	Approach to Site Design	<ul style="list-style-type: none"> <li>Findings from CR021</li> </ul>
5	Site release strategy	<ul style="list-style-type: none"> <li>Findings from CR021</li> <li>Augmented red line boundary (prepared by Hassell)</li> </ul>
5.12	Enabling Schemes	<ul style="list-style-type: none"> <li>CR025 – Confirmed option F enabling schemes references v5</li> </ul>
6	New hospital high level design	Please refer to Appendices 10, 11, 14 and 32 below
6.11 – 6.24	Spatial Testing	Please refer to Appendices 10 and 11 below
6.12	Functional Area Estimate	<ul style="list-style-type: none"> <li>160705_SOA_Disaggregated_Single Site_v1.6.3 (prepared by MJ Medical)</li> </ul>
6.25 – 6.32	Transport considerations	Please refer to Appendix 6 below
6.33	Structural and geotechnical issues	Please refer to Appendix 5 below
6.34	Relocation projects	Please refer to Appendix 5 below
7.1	Cost appraisal	<p>Previous work developed for CR021 in respect of Location Factor and Inflation:</p> <ul style="list-style-type: none"> <li>UK Treasury Green Book Guidance</li> <li>UK DoH Health Building Notes</li> <li>UK DoH Health Technical Memoranda</li> <li>Clinical Engagement data developed under CO003 by MJ Medical</li> <li>EY Modelling data, provided in final iteration 10.04.15, included in Appendix 9</li> <li>UK Department of Health Healthcare Premises Cost Guides, 2<sup>nd</sup> Edition</li> <li>UK Treasury recommended Generic Economic Model (GEM)</li> <li>Strategic Outline Case Refined Concept Addendum prepared by WS Atkins</li> </ul>

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		<ul style="list-style-type: none"> <li>• Appendices to Strategic Outline Case Refined Concept Addendum prepared by WS Atkins</li> <li>• RICS Code of Measurement: A Guide for Property Professionals</li> <li>• BCIS PUBSEC (Tender Price Index of Public Sector Building Non Housing)</li> <li>• Site valuation data provided by BNP Paribas 23.03.15 and updated site valuation data provided by BNP Paribas 30.04.15</li> <li>• BCIS published location adjustment for Jersey (not Channel Islands) published 1Q15</li> <li>• Skills Review of Jersey's Construction Sector dated September 14 published by Jersey Construction Council</li> <li>• Committee of Inquiry into Building Costs dated September 02 published by the States of Jersey</li> <li>• Gleeds in-house R&amp;D material</li> <li>• Priced Bills of Quantities for elemental analysis for Jersey Contracts</li> <li>• UK Office for National Statistics – Construction statistics median earnings 2013</li> <li>• UK recent trade advertisements for construction posts</li> <li>• HM Treasury Green Book Guidance (Optimism Bias)</li> <li>• Mott Macdonald template for calculating Optimism Bias (as amended by Gleeds)</li> </ul>
7.8	Property Acquisition cost	Please refer to Appendix 20 below
7.14	Capital costs summary	Please refer to Appendix 15 below
7.15	Leasing costs	<ul style="list-style-type: none"> <li>• 160706 – CR025 Leasing options – Catering CPU</li> </ul>

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8.8	Benefits and Risks	<ul style="list-style-type: none"> <li>• CO025 Scoring Matrix Moderated EY Version</li> <li>• CR025 Benefits and risk appraisal process v2 – RH 29062016</li> <li>• Findings from Benefits and Risks workshop 27<sup>th</sup> June 2016</li> <li>• CO025 – Benefits clarifications and moderation 160704</li> </ul>
8.11	Capital cost	<ul style="list-style-type: none"> <li>• Indic Extg New Bld 160626 42000m2 Opt B</li> <li>• SOJ Facil Wks 160626</li> </ul>
8.12	NPV	<ul style="list-style-type: none"> <li>• GEM Feed V21 160707</li> </ul>
8 – Table 12	Switching Point Analysis	<ul style="list-style-type: none"> <li>• CO025 Scoring Matrix Moderated EY Version</li> </ul>
8 – Table 13	Sensitivity Analysis	<ul style="list-style-type: none"> <li>• CO025 Scoring Matrix Moderated EY Version</li> </ul>

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## Appendices

Location	Subject	Source materials
Appendix 2	Verification of previous site deselection	<ul style="list-style-type: none"> <li>Strategic Outline Case prepared by WS Atkins</li> <li>Appendices to Strategic Outline Case prepared by WS Atkins</li> <li>Strategic Outline Case Refined Concept Addendum prepared by WS Atkins</li> <li>Appendices to Strategic Outline Case Refined Concept Addendum prepared by WS Atkins</li> <li>2b-CoM-150429-R&amp;P-Hospital Site Outcome-Board Issue – NPV</li> <li>COM support for proposition to remove People's Park from short list – 23<sup>rd</sup> February 2016</li> </ul>
Appendix 3	Site Boundary 'Red Line Plans'	<p>Red line drawings prepared by Hassell based on:</p> <ul style="list-style-type: none"> <li>Digimap Jersey digital mapping data</li> <li>Ordnance Survey data</li> </ul>
Appendix 5	Local Infrastructure / Transport Plans	<p>Transport assessment drawings prepared by Arup based on:</p> <ul style="list-style-type: none"> <li>Primary review of accessibility</li> <li>Digital mapping data for St Helier</li> </ul> <p>Technical Note TN-TRA-CR025-001 prepared by Arup based on:</p> <ul style="list-style-type: none"> <li>Proposals developed under CR024</li> <li>Previous information utilised in CR021, namely: General Hospital Travel Plan prepared by Halcrow, March 2005 Esplanade Masterplan, States of Jersey, March 2011 Primary review of accessibility, taking account of the range of transport modes to</li> </ul>

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		<p>be accommodated Traffic Survey</p> <ul style="list-style-type: none"> <li>• 2015 DFI Parking Survey</li> <li>• SoJ multi storey car park availability checker: <a href="http://www.gov.je/travel/motoring/parking/pages/carparkspaces.aspx">http://www.gov.je/travel/motoring/parking/pages/carparkspaces.aspx</a></li> </ul>
Appendix 6	Civils, Structures and Geotechnical Technical Appraisals	<p>Technical Note TN-GEO/CIV/STR-CR025-001 prepared by Arup and Rothwells based on:</p> <ul style="list-style-type: none"> <li>• Historic ground investigations at General Hospital site</li> <li>• Health Technical Memorandum 08-01 Acoustic Design Requirements</li> </ul>
Appendix 6	MEP Technical Appraisals	<p>Technical Note TN-MEP-001 Overview of MEP Technical Notes for CO25 prepared by Arup based on:</p> <ul style="list-style-type: none"> <li>• Materials and sources prepared at CR021 (please refer to CR021 - Appendix 28)</li> </ul>
Appendix 6	Enabling Works Technical Appraisals	<p>Technical Note TN-MEP-CR025-001 Technical Note – Relocation Projects Engineering Impact Assessment, prepared by Arup based on:</p> <ul style="list-style-type: none"> <li>• CR025 – Confirmed option F enabling schemes references v5</li> <li>• Materials prepared by Hassell for Appendix 14 (phasing)</li> <li>• Historical data provided regarding temporary and permanent decant locations</li> <li>• FTE staffing data</li> <li>• TRICS trip generation for Healthcare – Clinics</li> <li>• HTM 02-01</li> <li>• HTM 05-01</li> </ul> <p>Technical Note TN-GEO-CO025-002 Westaway, prepared by Arup based on:</p>

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		<ul style="list-style-type: none"> <li>Historical ground investigations</li> </ul>
Appendix 7	Town Planning Assessment	Discussions with Planning Department June 2016
Appendix 8	Functional Area Estimate	<ul style="list-style-type: none"> <li>Previously developed material for CR021</li> <li>UK DoH Health Building Notes</li> <li>UK DoH Health Technical Memoranda</li> <li>Clinical Engagement data developed under CO003 by MJ Medical</li> <li>UK Department of Health Healthcare Premises Cost Guides, 2nd Edition</li> </ul>
Appendix 10	Health Planning and Stacking Diagrams	Drawings prepared by Hassell based on: <ul style="list-style-type: none"> <li>Historical information from similar sized healthcare projects</li> <li>160705_SOA_Disaggregated_Single Site_v1.6.3 (prepared by MJ Medical)</li> <li>Clinical Engagement data developed under CO003 by MJ Medical</li> <li>Responses to design commentary provided by SOJ</li> </ul>
Appendix 11	Site Massing Proposals	Drawings prepared by Hassell based on: <ul style="list-style-type: none"> <li>Historical information from similar sized healthcare projects</li> <li>160705_SOA_Disaggregated_Single Site_v1.6.3 (prepared by MJ Medical)</li> <li>Clinical Engagement data developed under CO003 by MJ Medical</li> </ul>
Appendix 12	Proposed Site engineering plans	Drawings prepared by Arup based on: <ul style="list-style-type: none"> <li>Application submitted to Jersey Electric Company 28.01.15 requesting maximum supplies for each site, for all-electric and conventional options</li> <li>Cost information provided by JEC 13.02.15</li> <li>Follow up information provided by JEC 03.03.15</li> </ul>

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		<ul style="list-style-type: none"> <li>• Application submitted to Jersey Telecom 30.01.15 requesting new communications supplies</li> <li>• Cost information provided by JT 27.02.15</li> <li>• Fire Hazard Classification</li> <li>• Medical Gases Health Technical Memorandum 02-01</li> <li>• BS 9990:2015 Non automatic fire-fighting systems in buildings - Code of practice</li> <li>• Jersey Water site pipework distribution layout for Jersey General Hospital</li> <li>• Jersey Gas site pipework distribution layout for Jersey General Hospital</li> <li>• Historical plant space information from similar sized healthcare projects</li> <li>• BSRIA Rules of Thumb – Guidelines for Building Services 5th Edition (BG9/2011)</li> <li>• Calculations based on estimated system capacity loads</li> <li>• Manufacturer physical plant and equipment sizes</li> <li>• Plant and equipment space guidance information</li> <li>• Maintenance and access space required as advised by manufacturers</li> <li>• Historical drawings and data provided by SOJ</li> </ul>
Appendix 13	Proposed Construction Programme	<p>Construction programme prepared by Gleeds Management Services based on:</p> <ul style="list-style-type: none"> <li>• Programme assumptions based on UK healthcare and Jersey specific experience</li> <li>• Data provided in respect of current Bank of Canada build by Dandara for programme and m<sup>2</sup> delivery per month</li> </ul>

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		<ul style="list-style-type: none"> <li>• Data provided in respect of Welsh healthcare projects: Specialist Critical Care Centre, Cwmbran and Ysbyty Ystrad Fawr</li> <li>• Data provided by Sir Robert McAlpine in respect of on-island experience on Jersey for programme and m<sup>2</sup> delivery per month</li> </ul>
Appendix 14	Proposed Construction Phasing / Enabling	Drawings prepared by Hassell based on: <ul style="list-style-type: none"> <li>• Massing and stacking drawings</li> <li>• Responses to design commentary provided by SOJ</li> <li>• Phasing assumptions based on UK healthcare specific experience</li> <li>• Gleeds Management Services' programme for Option F</li> <li>• CR025 – Confirmed option F enabling schemes references v5</li> </ul>
Appendix 15	Capital cost pricing	<ul style="list-style-type: none"> <li>• Strategic Outline Case prepared by WS Atkins</li> <li>• Appendices to Strategic Outline Case prepared by WS Atkins</li> <li>• Strategic Outline Case Refined Concept Addendum prepared by WS Atkins</li> <li>• Appendices to Strategic Outline Case Refined Concept Addendum prepared by WS Atkins</li> <li>• UK Department of Health Healthcare Premises Cost Guides, 2<sup>nd</sup> Edition</li> <li>• RICS Code of Measurement: A Guide for Property Professionals</li> <li>• BCIS PUBSEC (Tender Price Index of Public Sector Building Non Housing)</li> <li>• BCIS Building Height Index</li> <li>• BREEAM 2008 guidance</li> </ul>

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		<ul style="list-style-type: none"> <li>• BRE report titled 'Delivering Sustainable Buildings – Savings and Payback' published 2014 for Community Health Buildings</li> <li>• HM Treasury Green Book Guidance (Optimism Bias)</li> </ul>
Appendix 16	Inflation Methodology	<ul style="list-style-type: none"> <li>• BCIS All-in Tender Price Index All-in TPI</li> <li>• BCIS PUBSEC (Tender Price Index of Public Sector Building Non Housing)</li> <li>• BCIS General Building Cost Index (GBCI)</li> <li>• MIPS index (median index pricing study)</li> <li>• UK Consumer Price Index (CPI)</li> <li>• UK Retail Price Index (RPI)</li> <li>• UK Retail Price Index Jevons (RPIJ)</li> <li>• UK Department of Health Healthcare Premises Cost Guides, 2<sup>nd</sup> Edition</li> </ul>
Appendix 17	Location Factor estimate	<ul style="list-style-type: none"> <li>• BCIS published location adjustment for Jersey (not Channel Islands) published 1Q15</li> <li>• Skills Review of Jersey's Construction Sector dated September 2014 published by Jersey Construction Council</li> <li>• Committee of Inquiry into Building Costs dated September 2002 published by the States of Jersey</li> <li>• Gleeds in-house R&amp;D material</li> <li>• Priced Bills of Quantities for elemental analysis for Jersey Contracts</li> <li>• UK Office for National Statistics – Construction statistics median earnings 2013</li> <li>• UK recent trade advertisements for construction posts</li> <li>• UK Department of Health Healthcare Premises Cost Guides, 2<sup>nd</sup> Edition</li> </ul>

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Appendix 18	Optimism Bias methodology and outcomes	<ul style="list-style-type: none"> <li>• HM Treasury Green Book Guidance (Optimism Bias)</li> <li>• Mott Macdonald template for calculating Optimism Bias (as amended by Gleeds)</li> <li>• Comments of Independent Evaluators attending Benefits and Risk Workshop 27.06.16</li> </ul>
Appendix 19	Investment Summary	<ul style="list-style-type: none"> <li>• GEM Feed V21 160707</li> </ul>
Appendix 20	Site Valuations	<ul style="list-style-type: none"> <li>• BNP Paribas valuation information provided 23.03.15</li> <li>• Updated BNP Paribas valuation information provided 30.04.15</li> <li>• BNP Paribas valuation information dated 130313</li> <li>• Email 'Re: Commercial and residential asset valuation 202100772-B' dated 26<sup>th</sup> April 2016</li> </ul>
Appendix 21	Site Reuse proposals	<p>Drawing prepared by Hassell based on:</p> <ul style="list-style-type: none"> <li>• Assessment of partial site release of General Hospital site</li> </ul>
Appendix 22	Benefits and Risk Analysis	<ul style="list-style-type: none"> <li>• Benefit criteria: 'Appendix 1 to R Report'</li> <li>• Risk criteria: 'Appendix 1 to R Report'</li> <li>• CO025 Scoring Matrix Moderated EY Version</li> <li>• CR025 Benefits and risk appraisal process v2 – RH 29062016</li> <li>• Findings from Benefits and Risks workshop 27<sup>th</sup> June 2016</li> <li>• CO025 – Benefits clarifications and moderation 160704</li> </ul>
Appendix 23	Residual Risk Registers	<ul style="list-style-type: none"> <li>• Technical Advisor assessment of residual option risks</li> </ul>
Appendix 28	Databook	<ul style="list-style-type: none"> <li>• Site Option Report and Appendices prepared by Technical Advisor</li> </ul>

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Appendix 31	Future Flexibility	Drawing prepared by Hassell based on: <ul style="list-style-type: none"><li>• Assessment of partial site release of General Hospital site</li></ul>
Appendix 32	Discounted variants	Material prepared by Hassell during massing study