Bermuda Hospitals Board

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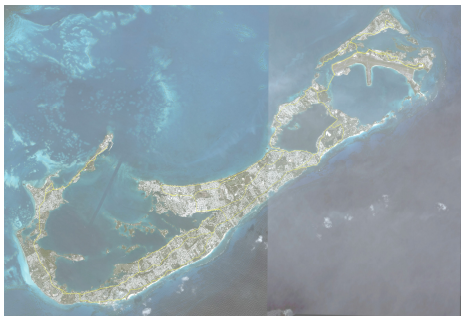
ESTATE MASTER PLAN REVIEW

PHASE II REPORT

August 27, 2008



JOHNS HOPKINS

MEDICINE

INTERNATIONAL

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EXECUTIVE SUMMARY

JHI's Phase 1 Report, published on August 27, 2007, recommended that planning should proceed with redevelopment of health service components on "same sites", including a replacement acute care hospital facility on the existing King Edward VII Memorial Hospital (KEMH) site, a replacement mental health facility on the existing Mid-Atlantic Wellness Institute (MWI) site, the relocation of continuing care facilities from the KEMH site to the MWI site, new sites at the east and west of the island, and the relocation of the Queen Elizabeth Nurses' Residence from the KEMH site to a new site across Berry Hill Road.

In general, the Phase II Review Team believes that the overall Estate Master Plan (EMP) space projections for the proposed facilities are in line with general planning criteria. Minor variation of roughly 11% has been projected for the KEMH facility and 6% overall for all program components. Considering the preliminary nature of this planning study and the EMP, Phase II Review Team would suggest that the EMP generally conforms to the benchmark data.

BUILDING PROGRAM SUMMARY	**Building Program Area**		Variance
	EMP	JHI / RTKL	
King Edward VII Memorial Hospital	451,717	503,977	52,260
KEMH Medical Office Building (60,000 SF Lease Space)	75,000	75,000	0
Mid-Atlantic Wellness Institute - Mental Health	114,656	165,888	51,233
Mid-Atlantic Wellness Institute - Geriatrics	14,580	Inc. Above	-14,580
Mid-Atlantic Wellness Institute - Learning Disability	36,653	Inc. Above	-36,653
Continuing Care West Campus (72 Beds w/ Primary Care)	58,600	58,600	0
Continuing Care Central Campus (60 Beds)	40,500	40,500	0
Continuing Care East Campus (60 Beds w/ Primary Care)	50,500	50,500	0
Staff Housing	58,966	58,966	0
Total	**901,171**	**953,431**	**52,260**

Note: KEMH EMP building program area includes administrative and support functions

EXECUTIVE SUMMARY (Continued)

Based upon the limited project scope variance between the Phase II Review Team projections and the EMP projections, the Phase II Review Team believes that the EMP project cost projections are proportionately in line with the planning team's estimates of probable project costs with the following exceptions:

- KEMH cost variance is based upon building area variance, not EMP unit costs and, therefore, the Phase II Review Team believes that overall EMP costs are accurate for the defined scope.
- MWI cost variance is based upon the Phase II Review Team's inclusion of geriatric and learning disability programs into the overall project costs to reflect the total costs associated with mental health services. In addition, the Phase II Review Team believes that EMP site development costs may not have adequately compensated for the scope of building demolition and topography impact to overall costs and the Phase II Review Team has, therefore, increased the allowances for site development.
- Campuses of Care project cost comparison analysis identifies that if JHI's Phase I Report recommendation to develop 120 continuing care beds on two sites vs. 191 beds on three sites is accepted, then the overall project costs would be within the overall EMP project budget for these components.

PROJECT COST SUMMARY	2005 Project Costs		2008 Project Costs	
	EMP	JHI / RTKL	EMP	JHI / RTKL
King Edward VII Memorial Hospital	$505,846,000	$526,873,048	$558,189,273	$577,514,043
KEMH Medical Office Building (60,000 SF Lease Space)	$40,968,000	$41,785,204	$44,654,510	$45,471,360
Mid-Atlantic Wellness Institute - Mental Health	$70,054,000	$112,485,395	$77,035,060	$125,911,483
Mid-Atlantic Wellness Institute - Geriatrics	$0	Inc. Above	$0	Inc. Above
Mid-Atlantic Wellness Institute - Learning Disability	$0	Inc. Above	$0	Inc. Above
Continuing Care West Campus (72 Beds w/ Primary Care)	$31,073,000	$32,980,139	$34,944,659	$36,687,527
Continuing Care Central Campus (60 Beds)	$16,677,000	$22,765,859	$18,761,063	$25,252,648
Continuing Care East Campus (60 Beds w/ Primary Care)	$27,767,000	$29,131,058	$28,577,495	$32,380,728
Staff Housing	$28,601,000	$28,629,779	$32,112,774	$32,016,988
	$720,986,000	**$794,650,482**	**$794,274,833**	**$875,234,776**
		11.02%		11.02%

Notes:

EMP 2005 capital equipment costs includes 20% duty tax - JHI / RTKL Technology Group costs exclude duty taxes
EMP 2008 project cost projections are based upon 4% annual inflation from 2005 baseline per PwC Business Case
JHI / RTKL 2008 construction cost projections are based upon RTKL area projections & Faithful Gould unit costs
JHI / RTKL 2008 soft cost projections are based upon the % of projected construction costs per the EMP
JHI / RTKL 2008 capital equipment cost projections are based upon RTKL Technology Group estimate

EXECUTIVE SUMMARY (Continued)

Phase II Review Team believes that the proposed development schedule accurately reflects the scope of work required. The overall sequence of development also accurately reflects the enabling actions required to replace the KEMH on the same site. If JHI's Phase I Report recommendation to develop 120 continuing care beds on two sites vs. 191 beds on three sites is accepted, and those facilities are developed on the West and East Campuses of Care, then redevelopment of the MWI facilities could be decoupled from the KEMH enabling actions and development. This change in approach could have a positive impact on the development schedule and cash flow projections.

The business plan developed by PricewaterhouseCoopers (PwC) projected a 4% annual inflation rate from 2005 through a project development period extending to 2014. The Phase II Review Team and the sub-consultants have confirmed that historical construction cost inflation on the island of Bermuda from 2005 to 2008 has remained within that range. It is interesting to note that recent U.S. national healthcare project construction cost inflation has averaged 8-12% per year for the past 4 years and, in some markets, has been as high as 25% per year during that period of time. Because of an increase in competitive pricing structures on the island, Bermuda has been shielded from excessive inflationary pressures during recent years and current 2008 costs appear to be in line with PwC business case projections. There is a risk, however, that future inflation rates may align more closely to international trends as island material cost adjustments are expended and pricing trends become driven by global material costs.

Overall, the review of the EMP is favorable and, the Phase II Review Team supports the general project scope and costs.

SCOPE OF WORK

RTKL has been engaged by Johns Hopkins Medicine International, LLC (JHI) to review and evaluate The Bermuda Hospitals Board (BHB) Estate Master Plan prepared by CannonDesign/OBM, dated July 2005. The Phase II Review Team included general evaluation of the proposed project scope in the context of both the EMP's proposed utilization and service organization and John Hopkins International's Phase I Report, dated August 2007. In addition, the review team evaluated the EMP proposed project costs, development sequence and implementation schedule.

The information contained within the published EMP is preliminary and summary in nature and, therefore, the Phase II Review Team has worked with Mr. Ray Moldenhauer, CannonDesign project representative, and their consultants Medequip International and BTY Group to gain additional insight and further the understanding of the EMP recommendations. Medequip International provided the review team with additional medical equipment cost information for the KEMH and the BTY Group provided the review team with detailed site and building construction cost estimates for the KEMH replacement facility. The Phase II Review Team relied on the general information provided within the EMP for the evaluation of the remainder of facilities.

Phase II Review Team specifically included the following scope of work:

- Evaluation of proposed program and scope of proposed new facilities
- Evaluation of proposed EMP Project Costs
- Evaluation of proposed EMP Sequence of Development
- Evaluation of proposed EMP Implementation Schedule
- Prepare Alternative Campus Planning Concept for KEMH Site

Proposed new facilities included within the review are:

- KEMH and Medical Office Building (MOB)
- Mid-Atlantic Wellness Institute (MWI)
- Continuing Care Facilities located at the Central, West and East Campuses of Care
- Primary Care Centers located at the West and East Campuses of Care
- Staff Housing

The purpose of the alternative campus planning study was to establish a broader understanding of the potential to reuse existing acute care hospital facilities and redevelop the hospital in phases vs. a comprehensive replacement facility in response to funding limitations. The JHI Phase II Review facilitated an interactive work session with BHB to quickly define opportunities and establish a preferred concept for further study. The alternative campus planning study did not engage project cost consultants, capital equipment planning consultants or financial planning consultants within the scope of services and therefore, does not include the following::

- Ranking of options in terms of benefits and identify the preferred option on the basis of benefits.
- Assessment of sensitivity to risk.
- Confirmation of whether the options are robust, or are subject to undue risk.
- Conceptual elevations, renderings or building design modeling.
- Project costing - construction and equipment costing for each phase.

METHODOLOGY

JHI's Phase 1 Report, published on August 27, 2007, has recommended that planning should proceed with redevelopment of health service components on "same sites", including a replacement acute care hospital facility on the existing KEMH site, a replacement mental health facility on the existing MWI site, the relocation of continuing care facilities from the KEMH site to the MWI site and new sites at the east and west of the island, and the relocation of the Queen Elizabeth Nurses' Residence from the KEMH site to a new site across Berry Hill Road.

The evaluation of the EMP has included a diverse group of professionals to provide a range of information and comparison.

- The Phase II Review Team planning team reviewed the following during numerous work sessions:
  - EMP proposed utilization and key room demand vs. benchmark data
  - EMP proposed building component space demand vs. benchmark data
  - EMP proposed project construction, capital equipment and administrative costs
  - EMP proposed sequence of development and implementation schedule
- RTKL Healthcare Technology Group, as a sub-consultant to the review team provided a detailed review of medical equipment, Furniture, Fixture and Equipment (FF&E) and telecommunication systems by department and provided a comparison to Medequip International's baseline estimate
- Faithful Gould, as a sub-consultant to the review team provided a detailed review of BTY's 2005 baseline construction cost estimate and provided a current estimate of 2008 construction costs.

The Phase II Review Team presented the findings to the BHB, the Bermuda medical community and to CannonDesign/OBM. Feedback received was incorporated into the document.

ESTATE MASTER PLAN EVALUATION AND FINDINGS

Master Program Summary - General Comments

Inpatient Services:

The EMP report did not provide a projection of admissions or patient days for 2020 and, therefore, the review team has not evaluated the EMP bed demand assumptions. The comparison of inpatient services involved review of the EMP scope and JHI's proposed bed compliment as defined in the Phase I Report, Scenario 3. It should be noted that, overall, the bed projections identified within the EMP and JHI Phase I report generally align and, therefore, the scope of inpatient services is roughly the same for comparative purposes.

Ancillary Services:

The EMP volume projections for 2020 included detailed information by department and service for KEMH but excluded similar volume projections for the MWI or Primary Care Centers. Therefore, the evaluation of ancillary services for KEMH has been comprehensive but the review of the remaining facilities is general in nature.

Administrative and Support Services:

The EMP report provided program information by department for the various facilities generated after interviews with staff during the master plan process. The evaluation of administrative and support services is based upon the Phase II Review Team's experience with facilities of similar size and has been established without the benefit of detailed planning information. The Phase II Review Team believes that this comparative analysis is helpful to judge the overall adequacy of EMP projections but is not intended to reflect detailed program recommendations.

ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

Master Program Summary - General Comments (Continued)

In general, the review team believes that the overall EMP space projections for proposed facilities are in line with general planning criteria. Minor variation of roughly 11% has been projected for the KEMH facility and 6% overall for all program components. Considering the preliminary nature of this planning study and the EMP, the Phase II Review Team would suggest that the EMP generally conforms to the benchmark data.

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ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

Master Program Summary - BHB Inpatient Programs

The Phase II Review Team reviewed final EMP facility scope and beds provided for each service and compared them with JHI's Phase I Report Scenario 3 bed recommendations. Based upon the comparison below, the general scope of inpatient services for KEMH and MWI are similar. The primary variance between the EMP and JHI's Phase I Scenario 3 recommendations for future bed demand impacts proposed number of non-acute care services.

BED DEMAND SUMMARY	Proposed Beds	
	EMP	JHI / RTKL
King Edward VII Memorial Hospital		
Critical Care	10	10
General Acute Care / Rehabilitation	124	120
Pediatrics	6	10
Maternity	10	14
KEMH Subtotal	**150**	**154**
Mid-Atlantic Wellness Institute		
Acute Intake Unit	6	6
Acute Inpatient, Geriatric & Long-Term	42	34
Substance Abuse	10	8
Adult Disability / Learning Disabled	55	55
Mental Health Rehabilitation	0	25
MWI Subtotal	**113**	**128**
Continuing Care & Hospice		
Hospice	16	9
Continuing Care	191	111
CCU & Hospice Subtotal	**207**	**120**
Total	**470**	**402**

Note: The MWI EMP bed quantities listed above are based upon EMP beds included in the EMP cost model versus master program summary.

ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

King Edward VII Memorial Hospital

Diagnostic Services:

The Phase II Review Team reviewed the EMP utilization projections and key room demand and concurs with the EMP projections. Primary variance of programmatic space demand is based upon:

- Emergency Department: EMP is based upon 25,773 visits vs. JHI 34,400 visits in 2020
- Neurology: New program
- Surgical Suite: EMP @ 2,220 SF/Operatory, Phase II Review Team's recommendation @ 2,400 SF/Operatory
- Surgical Outpatient Services: EMP @ 15 stations, Phase II Review Team's recommendation @ 23 stations

Ambulatory Services - No significant variance.

Acute Inpatient Services:

Our building area and estimates of facility scope is based upon 154 total beds compared to 150 beds proposed in the EMP. Our benchmark data proposed roughly 732 SF/bed vs. EMP projections of 680 SF/bed. Numerous factors such as patient room size, patient focused care concepts, staff amenities and family amenities within patient care units can provide a wide range for projected space demand. In addition, the Phase II Review Team routinely sees pediatric and maternity inpatient units exceeding the average range of 650-700 SF/bed for inpatient services. Based upon those assumptions Phase II Review Team believes that 680 SF/bed may represent a minimum space projection for 100% private accommodation.

- Private Inpatient Accommodations

  The EMP has recommended 100% private accommodation for inpatient care and the issue of private vs. semi-private patient bedrooms needs to be reviewed within a larger context beyond just first cost and space. In situations such as with the EMP in which the magnitude of cost is a major concern, it can be argued that a mix of accommodations that favors semi-private rooms can accommodate the same volume of patients while reducing cost to build the necessary bed capacity.

ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

King Edward VII Memorial Hospital (Continued)

- Private Inpatient Accommodations (continued)

  Private accommodations have a significant advantage in reducing / avoiding the potential for hospital acquired infections and thus should be examined from both the clinical and ongoing financial perspective, not merely the first dollar cost perspective. Patient outcomes, length of stay and revenue, all benefit from private accommodations. With fewer infections, patients respond to treatment with fewer complications. Fewer complications lead to reduced overall length of stay. In addition, due to reimbursement methodology changing to case-based payments, reductions in average length of stay allows for more admissions and more revenue.

Administrative Services: Primary variance of programmatic space demand is based upon:

- Executive Administration: Our space demand includes a 30 seat board room
- Medical Staff: Our space demand includes On-Call facilities
- Information Services: Our space demand includes comprehensive data center, application staff and staff training facilities

Support Services: Primary variance is maintenance shops space.

ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

King Edward VII Memorial Hospital (Continued)

Space Comparison Summary

KING EDWARD IV MEMORIAL HOSPITAL BUILDING PROGRAM SUMMARY	Building Area EMP	 JHI / RTKL	 Variance
Diagnostic Services	89,435	104,860	15,425
Ambulatory Services	28,775	31,060	2,285
Acute Inpatient Services	107,210	112,740	5,530
Continuing Care Inpatient Services	0	0	0
Administrative Services	45,555	54,575	9,020
Support Services	63,630	70,081	6,451
Total Department Gross Square Feet	**334,605**	**373,316**	**38,711**
Bldg Grossing Factor	1.35	1.35	1.35
Total Building Gross Square Feet	**451,717**	**503,977**	**52,260**

Notes:

Programmed building area includes all administrative and support service hospital components
Cannon Inpatient Services includes a total of 166 beds (150 + 16 Hospice)
RTKL diagnostic variance is primarily due to increased ED and surgical same day space
RTKL Inpatient Services includes a total of 154 beds (124 + 30 Shell)
RTKL administrative variance is primarily due to IT data center, applications and training space
RTKL support variance is primarily due to maintenance shop space

Building Component Organization

Development phasing shown on the KEMH site acknowledges that the available site for the replacement facility is very tight. The review team would suggest a vertical building vs. proposed horizontal building organization to improve land utilization and provide adequate site circulation space. The EMP “Crescent Design” concept suggests a horizontal facility organization and, in our opinion, does not provide adequate site circulation space based upon the following:

- Emergency Department (ED) ambulance and visitors share a common entrance drive (not recommended by the Phase II Review Team)
- Vehicular circulation from the ED visitor entrance to the main visitor parking structure requires visitors to re-enter public roads, proceed to the main hospital entrance and then enter the main parking facility.
- Construction of the new main visitor vehicular entrance drive cannot proceed until after the existing hospital buildings are demolished. This is a serious flaw with the site development sequence but is due to an overall lack of adequate site for the new facility.

ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

King Edward VII Memorial Hospital (Continued)

Building Component Flexibility and Expansion:

The review team does not believe that adequate consideration has been given to the long-term facility expansion requirements such as:

- Central plant services will expand with future campus buildings yet the central plant, as shown, has limited future expansion capability.
- Emergency, radiology, cardiology and surgical services are the most volatile services within a hospital based upon future expansion needs. This may be especially important in Bermuda where a new facility and new patient care management may attract patients who now travel off island for these services. Given this possibility and the aging of the population, the growth of these services could be significant. These services are located in such a way without future ability to expand. Open site or “soft” internal adjacent space needs to be provided adjacent to these key services.

Constructability Review:

The review team recommends separation of various components of medical centers as a matter of affordability, constructability and overall building component efficiencies. The Phase II Review Team would not normally recommend co-mingling varied building and occupancy types unless absolutely necessary by site restrictions. While the Phase II Review Team understands that there is a current height restriction for this site, the Phase II Review Team would suggest asking for a variance based upon the following:

- Hospital Buildings, Central Plant Facilities and Parking Structures are each very different in nature with varied structural demands and building code construction requirements. Based upon these concerns, the review team would suggest a more “vertical” building design concept providing 3 separate buildings located on the site.
- Central plant will require boiler exhaust and other major (expensive) utility systems to be extended up through the roof; the Phase II Review Team normally would not burden central plant costs with the additional costs of extending up through 4 floors of hospital building above.
- Parking structures can be very efficient buildings but, when burdened with column spacing predetermined by buildings above, can become quite inefficient. In addition, additional costs will be incurred to provide fire protection systems and mechanical ventilation systems to support underground parking beneath the hospital.

ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

King Edward VII Memorial Hospital (Continued)

Parking:

The review team has a major concern related to separation of 3 distinct types of vehicular circulation and parking demand on hospital campuses. The Phase II Review Team understands the tight nature of the available site but would recommend that the following factors be considered:

- Staff peak period demand and impact to vehicular circulation on site are morning arrival periods for the majority of staff and day/evening change of shift. During these peak periods The Phase II Review Team does not want to inconvenience visitors to either the hospital or medical office buildings by co-mingling staff and visitor site circulation paths or parking if possible.
- Hospital visitors need convenient access and parking at the hospital main entrance and emergency entrance.
- MOB has a substantial volume of patients throughout the day and the Phase II Review Team would propose separate parking for these visitors. The Phase II Review Team believes that the EMP shows a separate parking area for the MOB but all staff, hospital visitors and MOB staff and visitors share a common site vehicular entrance.

ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

KEMH Medical Office Building

The Phase II Review Team has followed the anticipated demand for 60,000 SF of physician office lease space. Based upon a ratio of 1,500 SF per provider, the Phase II Review Team would anticipate that the proposed building can accommodate roughly 40 of the current 100 physicians on the medical staff. This appears adequate as the Phase II Review Team would expect only subspecialists and proceduralists to be located on-campus with primary care specialties to remain community based.

It may be desirable and cost effective to consider locating the following outpatient services in the medical office building versus hospital:

- Ambulatory Clinics
- Dialysis
- Diabetes
- Medical Oncology/Infusion
- Wound Care

If some of these services are located in the MOB, the MOB will have to increase in size and, conversely, the hospital building area will be reduced. In addition, a greater number of staff and visitor parking will be located convenient to the MOB.

ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

Mid-Atlantic Wellness Institute

Outpatient Services:

Workload volume projections and assumptions for outpatient and day programs were not provided in the EMP and, therefore, the review team did not evaluate space projections for these services.

Acute Inpatient Services:

The Phase II Review Team's building area and estimates of facility scope are based upon the 113 bed facility as proposed in the EMP. Based on the mix of mental health services provided; the benchmark range is 900 SF/bed to 1,000 SF/bed for inpatient services in addition to outpatient services and day programs.

Constructability Review:

The review team recommends separation of various components of medical centers as a matter of affordability, constructability and overall building component efficiencies. The Phase II Review Team would not normally recommend co-mingling varied building and occupancy types unless absolutely necessary by site restrictions.

- Central plant services are not shown on the preliminary conceptual block plans and the Phase II Review Team would recommend identifying this component as a separate building on the site to facilitate future site development flexibility.
- Parking structures can be very efficient buildings but, when burdened with column spacing predetermined by buildings above, can become quite inefficient. In addition, additional costs will be incurred to provide fire protection systems and mechanical ventilation systems to support parking beneath the hospital. Based upon these concerns, the Phase II Review Team would suggest not locating parking below the hospital building but to provide a separate accommodation for on-site parking.

ESTATE MASTER PLAN EVALUATION AND FINDINGS (Continued)

Campuses of Care

The campuses of care include:

- Central Campus: MWI site
- West Campus: Morgan's Point site
- East Campus: Southside St. David's site

Continuing Care Facilities:

Relocation of the Continuing Care Facilities from the King Edward VII Memorial campus is a critical path item to expedite development of the hospital replacement facility.

The EMP projected over 191 continuing care beds vs. JHI Phase 1 report demand projections for approximately 120 beds, including hospice. If, as an example, one of the three continuing care facilities was not developed, total project cost savings could be in the range of $28M per EMP 2005 cost projections.

The benchmark for similar facilities is 900-1000 SF/bed, within the range of the EMP.

Primary Care Centers

Two primary care centers have been proposed, one on the east campus of care and one on the west campus of care. The benchmark for primary care centers range from 6,000 SF to 10,000 SF based on the scope of services provided, such as laboratory testing, radiology and urgent care community-based primary care services.

Staff Housing

Relocation of the Queen Elizabeth Nurses Residence from the King Edward VII Memorial campus is a critical path item to expedite development of the hospital replacement facility.

PROJECT COST EVALUATION

General Comments

The review team has evaluated the information within the EMP reports prepared by CannonDesign/OBM and has reviewed additional, more detailed information, provided by CannonDesign's consultants BTY Group (Construction Cost Estimating) and Medequip International (Medical Equipment and FF&E Cost Estimating). The Phase II Review Team has had numerous conversations with CannonDesign/OBM and their consultants to gain an understanding of the scope of their work and the assumptions based within their cost estimates. Considering the preliminary nature of project development in 2005 and the limited basis of planning and design, the Phase II Review Team believes that the project cost estimating process was rigorous and thorough.

Evaluation of EMP costs has been reviewed by a diverse group of professionals to provide a range of information and comparison. Firms and methods included:

- RTKL Strategic Facility Planning Group reviewed benchmark data for total capital equipment, including items beyond basic medical equipment & FF&E such as:
  - Telephone Service and Primary Distribution Equipment
  - Voice & Data Network Systems (Data Center Equipment, Devices & Cabling)
  - Nurse Call, Intercom & Paging Systems (Systems & Cabling)
  - AV, TV & CCTV Systems (Systems & Cabling)
  - Access Control & Security Systems (Systems & Cabling)
  - Master Clock and Time & Attendance Systems (Systems & Cabling)
  - Pneumatic Tube System
  - Donor recognition Displays, Graphics, Signage and Artwork
- RTKL Healthcare Technology Group, as a sub-consultant to the review team provided a detailed review of medical equipment, FF&E and tele-communication systems by department and provided a comparison to Medequip International's baseline estimate
- Faithful Gould, as a sub-consultant to the review team provided a detailed review of BTY's 2005 baseline construction cost estimate and historical inflation rates from 2005 to 2008 to establish a current estimate of costs.

PROJECT COST EVALUATION (Continued)

Overall Cost Comparison - 2005 Baseline Project Area and Scope:

The planning team prepared a comparison of CannonDesign's 2005 EMP project program area to benchmark data to establish a comparative basis for cost analysis. The benchmark data supported the EMP proposed building scope, with an overall variance of roughly 6%.

Primary variance occurs within the program for the KEMH as the review team could provide a detailed assessment of this facility's space demand due to the detail provided by CannonDesign/OBM within the EMP.

Projections for the remaining development components were reviewed in a general manner as the EMP does not provide detailed utilization and planning criteria that would facilitate a more rigorous study. That said, the Phase II Review Team believes that the overall space projections for these facilities are in line with general planning criteria for those facilities.

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PROJECT COST EVALUATION (Continued)

Overall Cost Comparison - 2005 & 2008 Construction Costs:

Building and Site Construction Costs:

Faithfull Gould reviewed BTY's 2005 construction unit costs where provided to establish a baseline comparison of costs. Faithful & Gould's estimates indicate that BTY's projected construction costs include material import duty taxes and approximately 12% premium cost increase above local labor costs to compensate for anticipated foreign labor as required for a project of this scope and complexity. Phase II Review Team believes this premium cost is justified to expedite construction versus the additional project cost burden for increased overhead and inflation costs to compensate for extended construction durations. BTY's assumptions included in their base cost model appear appropriate.

Construction Cost Material Import Duty Taxes:

If BHB can negotiate duty-free status for the proposed construction projects, overall average construction cost savings would be approximately 6%.

Construction Cost Inflation 2005 to 2008:

PwC business plan projected a 4% annual inflation rate and Faithful Gould has confirmed that historical construction cost inflation on the island of Bermuda from 2005 to 2008 has remained within that range. It is interesting to note that recent US national healthcare project construction cost inflation has averaged 8-12% per year for the past 4 years and, in some markets, has been as high as 25% per year during that period of time. Because of an increase in competitive pricing structures on the island, Bermuda has been shielded from excessive inflationary pressures during recent years and current 2008 costs appear to be in line with PwC business case projections. There is a risk, however, that future inflation rates may align more closely to international trends as island material cost adjustments are expended and pricing trends become driven by global material costs.

PROJECT COST EVALUATION (Continued)

Overall Cost Comparison - 2005 & 2008 Construction Costs: (Continued)

The Phase II Review Team's general assessment of CannonDesign's 2005 building and site construction costs estimates is as follows:

- KEMH Development

  Phase II Review Team has no significant issues or concerns with 2005 construction unit costs for either the hospital or MOB. Construction cost variance is limited to Phase II Review Team's building project scope increase of roughly 52,260 Gross Square Feet (GSF).
- MWI Development

  Roughly $65M construction cost appears to include only $1M of site related expenses. With the significant topography and building demolition expenses, site utility, water storage and waste water treatment costs associated with this site the Phase II Review Team would have expected site related costs to be roughly $8M. In addition, the current plan indicates a parking structure integrated with and under the proposed new building and the Phase II Review Team found no cost allocation for this parking structure.
- Campuses of Care

  Phase II Review Team has no significant concerns with building construction unit costs for the three campus of care although, without further detail, it is difficult to evaluate specific costs for each site. Significant cost reductions may occur as CannonDesign/OBM projected over 180 continuing care beds vs. JHI Phase 1 report demand projections for approximately 120 beds. If, as an example, one of the three continuing care facilities was not developed, total project cost savings could be in the range of $28M.
- Staff Housing

No significant issues or concerns with construction unit costs.

Overall Cost Comparison - Administrative and Soft Costs:

For the purpose of the baseline analysis the Phase II Review Team maintained the EMP percentage for project administrative costs and contingencies to provide a side-by-side cost comparison.

PROJECT COST EVALUATION (Continued)

Overall Cost Comparison - Capital Equipment Costs: (Continued)

The Phase II Review Team's assessment of CannonDesign's 2005 capital equipment cost estimate costs and planning criteria is as follows:

- King Edward VII Memorial Hospital Development

  Detailed medical equipment & FF&E planning and estimating has been completed for the KEMH replacement facility and baseline costs prepared by Medequip International appear adequate. It appears that 20% has been added to the 2005 baseline estimate and it is the Phase II Review Team's understanding that those import duties have been recently eliminated, therefore, additional cost reductions maybe achieved.

  Capital equipment costs have not been identified for the medical office building and, while individual tenants will be responsible for their own FF&E costs, the general office building will be burdened with costs associated with base building capital equipment costs such as:

  - Voice & Data Network Systems (Base Building Cabling)
  - Access Control & Security Systems (Systems & Cabling)
  - Graphics, Signage and Artwork

- MWI Development

  Capital equipment for this project has been calculated based upon 30% of estimated construction costs and totals $2.6M. The Phase II Review Team does not recommend using such rough order of magnitude to prepare estimates as they lack an adequate level of confidence. The Phase II Review Team believes that costs may be more in the range of $4-5M.

- Campuses of Care – West Campus

  Capital equipment for this project has been calculated based upon 30% of estimated construction costs and totals roughly $2.4M. The Phase II Review Team does not recommend using such rough order of magnitude to prepare estimates as they lack an adequate level of confidence. The Phase II Review Team believes that costs may be more in the range of $3.2M.

- Campuses of Care – Central Campus

  It does not appear that capital equipment costs have been included in the EMP budget estimate for this site. The Phase II Review Team believes that costs may be more in the range of $3M.

PROJECT COST EVALUATION (Continued)

Overall Cost Comparison - Capital Equipment Costs: (Continued)

- Campuses of Care – West Campus

  Capital equipment for this project has been calculated based upon 30% of estimated construction costs and totals roughly $2.4M. The Phase II Review Team does not recommend using such rough order of magnitude to prepare estimates as they lack an adequate level of confidence. The Phase II Review Team believes that costs may be in the range of $3M.

PROJECT COST EVALUATION (Continued)

Overall Cost Comparison – 2005 Project Contingencies:

Due to the preliminary nature of the EMP planning and design, the Phase II Review Team would expect significant contingencies to have been added to baseline costs. The Phase II Review Team feels that contingencies provided within the EMP report may have been higher than the Phase II Review Team would have initially recommended, but in light of the tenuous nature of approvals and the significant potential for delay, those contingencies appear to have been warranted. Contingencies included in the EMP are as follows:

- Building and Site Construction:
  - 10% Planning & Design Contingency
  - 10% Construction Period Contingency (Change Orders)
- Capital Equipment:
  - 10% Planning & Design Contingency
- Professional Fee, Management & Overhead Expenses, and Permit Charges
  - 10% Planning & Design Contingency

The 10% Construction Period Contingency has been included to cover contractor requested change orders for increases in project scope and cost after competitive bidding and contract negotiation. While a limited number of change orders are to be anticipated during any construction project, caution must be exercised in controlling project change orders because of their potential to severely stress the project budget and potentially lead to cost overruns. To avoid this, care must be exercised during the design phase to insure its completeness and reduce the potential for owner directed changes to be made at a later date. The involvement of the various project teams is critical as is a thorough review of the concept of operations to insure the design is appropriate prior to construction.

While it has not been possible to audit CannonDesign's detailed estimates of total project costs for all components it appears that total project contingencies are roughly $130M, or 22% of 2005 baseline costs. The review team would have projected 10% planning and design contingency and a separate 5% owner contingency to establish baseline costs. Risks associated with inflation and unanticipated project delay would have been carried separately.

PROJECT COST EVALUATION (Continued)

Overall Cost Comparison – 2005 Professional Fees:

At first glance professional fees, as a percentage of estimated construction costs with contingencies, appear rather low. This is due to the significantly higher cost of construction on the island of Bermuda than in the United States. Adjusting the proposed fees to compensate for Bermuda construction costs the professional fees appear to be equal to roughly 12% to 13% of 2005 average U.S. hospital replacement facility project costs. The Phase II Review Team would not consider that to be excessive considering comprehensive professional fees would include:

- Predesign programming, operational consulting and planning
- Full-Service traditional A/E design and construction observation services
- Medical equipment planning and procurement services
- Interior design and FF&E planning and procurement services
- Communication systems and other low-voltage system planning and design services
- Special consultants such as roofing & exterior wall design consultants to address hurricane force wind protection

Considering the extensive phasing of work on numerous campuses and facilities over a significant period of time these basic service fees may be considered average. A key concern that the Phase II Review Team has is consultant reimbursable expenses. Due to the anticipated extensive travel and lodging cost associated with this project, in addition to the phasing and extended project duration, the Phase II Review Team believes that total professional fees, including reimbursable expenses, could range as high as 15% of average U.S. replacement facility costs.

PROJECT COST EVALUATION (Continued)

Project Escalation:

PwC developed the business case for the EMP and projected a 4% annual inflation rate based upon the published 2004 U.S. Consumer Price Index (CPI) for an 8 year period of construction from 2006 through 2014. Faithful Gould has confirmed that historical construction cost inflation on the island of Bermuda from 2005 to 2008 has remained within the projected 4% range.

As previously stated, there is a risk that future inflation rates may exceed the projected 4% and align more closely to U.S. National trends as pricing trends are driven by global material costs.

PROJECT COST EVALUATION (Continued)

Overall Cost Comparison – Project Cost Summary:

A summary of project costs are as follows:

PROJECT COST SUMMARY	2005 Project Costs		2008 Project Costs	
	EMP	JHI / RTKL	EMP	JHI / RTKL
King Edward VII Memorial Hospital	$505,846,000	$526,873,048	$558,189,273	$577,514,043
KEMH Medical Office Building (60,000 SF Lease Space)	$40,968,000	$41,785,204	$44,654,510	$45,471,360
Mid-Atlantic Wellness Institute - Mental Health	$70,054,000	$112,485,395	$77,035,060	$125,911,483
Mid-Atlantic Wellness Institute - Geriatrics	$0	Inc. Above	$0	Inc. Above
Mid-Atlantic Wellness Institute - Learning Disability	$0	Inc. Above	$0	Inc. Above
Continuing Care West Campus (72 Beds w/ Primary Care)	$31,073,000	$32,980,139	$34,944,659	$36,687,527
Continuing Care Central Campus (60 Beds)	$16,677,000	$22,765,859	$18,761,063	$25,252,648
Continuing Care East Campus (60 Beds w/ Primary Care)	$27,767,000	$29,131,058	$28,577,495	$32,380,728
Staff Housing	$28,601,000	$28,629,779	$32,112,774	$32,016,988
	$720,986,000	**$794,650,482**	**$794,274,833**	**$875,234,776**
		11.02%		11.02%

Notes:

EMP 2005 capital equipment costs includes 20% duty tax - JHI / RTKL Technology Group costs exclude duty taxes
EMP 2008 project cost projections are based upon 4% annual inflation from 2005 baseline per PwC Business Case
JHI / RTKL 2008 construction cost projections are based upon RTKL area projections & Faithful Gould unit costs
JHI / RTKL 2008 soft cost projections are based upon the % of projected construction costs per the EMP
JHI / RTKL 2008 capital equipment cost projections are based upon RTKL Technology Group estimate

Note: Variance reports for each individual component are included on the following pages.

PROJECT COST EVALUATION (Continued)

King Edward VII Memorial Hospital Cost Comparison - 2005 & 2008 Total Project Costs:

CannonDesign/OBM and their consultants provided a very thorough and rigorous projection of project costs for the King Edward VII Memorial Hospital replacement facility and MOB and, therefore, the Phase II Review Team's assessment is within 3% of their projected costs for these development components.

The Phase II Review Team 2005 and 2008 building and site construction cost variance is based upon building area variance, not EMP unit costs. Due to the general site development cost data provided in the EMP, the Phase II Review Team has not been able to provide a detailed review of site costs.

The Phase II Review Team 2005 and 2008 capital equipment costs exclude import duty taxes and, therefore, estimated costs are below EMP projections.

KING EDWARD IV MEMORIAL HOSPITAL PROJECT COST DETAIL	2005 Project Costs EMP	 JHI / RTKL	2008 Project Costs EMP	 JHI / RTKL
Building Area	**451,716**	**503,977**	**451,716**	**503,977**
Building Construction	$223,910,500	$249,404,861	$251,868,861	$280,546,550
Site Construction	$69,387,500	$69,387,500	$78,051,501	$78,051,501
Building & Site Construction Contingencies (22%)	$61,593,000	$66,946,396	$69,283,748	$75,305,591
Building & Site Construction Subtotal	**$354,891,000**	**$385,738,757**	**$399,204,110**	**$433,903,641**
Professional Fees	$19,328,000	$21,008,024	$19,328,000	$20,835,852
Connection Fees & Permits	$225,000	$244,557	$225,000	$242,553
Management & Overhead	$29,077,000	$31,604,425	$29,077,000	$31,345,409
Soft Cost Contingencies (10% Soft Costs Above)	$4,863,000	$5,285,701	$4,863,000	$5,242,381
Soft Cost Subtotal	**$53,493,000**	**$58,142,707**	**$53,493,000**	**$57,666,195**
Capital Equipment w/ 10% Contingencies	$97,462,000	$82,991,584	$105,492,163	$85,944,206
Project Development Cost	**$505,846,000**	**$526,873,048**	**$558,189,273**	**$577,514,043**

Notes:

EMP 2005 capital equipment costs includes 20% duty tax - JHI / RTKL Technology Group costs exclude duty taxes
EMP 2008 project cost projections are based upon 4% annual inflation from 2005 baseline per PwC Business Case
JHI / RTKL 2008 construction cost projections are based upon RTKL area projections & Faithful Gould unit costs
JHI / RTKL 2008 soft cost projections are based upon the % of projected construction costs per the EMP
JHI / RTKL 2008 capital equipment cost projections are based upon RTKL Technology Group estimate

PROJECT COST EVALUATION (Continued)

KEMH MOB Cost Comparison - 2005 & 2008 Total Project Costs:

The EMP projected costs have been confirmed and, we believe, accurately reflect overall project development costs for the medical office building. The Phase II Review Team 2005 and 2008 capital equipment costs include an allowance for base building capital equipment such as signage, security, tele/data systems, etc., but exclude tenant suite capital equipment or furnishings. We believe that the EMP may not have fully accounted for these project costs.

KEMH MEDICAL OFFICE BUILDING	2005 Project Costs		2008 Project Costs	
PROJECT COST DETAIL	EMP	JHI / RTKL	EMP	JHI / RTKL
Building Area	**75,000**	**75,000**	**75,000**	**75,000**
Building Construction	$25,500,000	$25,500,000	$28,122,144	$28,122,144
Site Construction	$4,560,000	$4,560,000	$5,129,380	$5,129,380
Building & Site Construction Contingencies (15.5%)	$4,659,000	$4,659,300	$5,153,986	$5,153,986
Building & Site Construction Subtotal	**$34,719,000**	**$34,719,300**	**$38,405,510**	**$38,405,510**
Professional Fees	$2,262,000	$2,262,020	$2,262,000	$2,262,000
Connection Fees & Permits	$25,000	$25,000	$25,000	$25,000
Management & Overhead	$3,394,000	$3,394,029	$3,394,000	$3,394,000
Soft Cost Contingencies (10% Soft Costs Above)	$568,000	$568,105	$568,000	$568,100
Soft Cost Subtotal	**$6,249,000**	**$6,249,154**	**$6,249,000**	**$6,249,100**
Capital Equipment (Excluding Tenant Spaces)	$0	$816,750	$0	$816,750
Project Development Cost	**$40,968,000**	**$41,785,204**	**$44,654,510**	**$45,471,360**

Notes:

EMP excluded capital equipment costs. JHI / RTKL Technology Group costs includes base building equipment costs only.
EMP 2008 project cost projections are based upon 4% annual inflation from 2005 baseline per PwC Business Case
JHI / RTKL 2008 construction cost projections are based upon RTKL area projections & Faithful Gould unit costs
JHI / RTKL 2008 soft cost projections are based upon the % of projected construction costs per the EMP
JHI / RTKL 2008 capital equipment cost projections are based upon RTKL Technology Group estimate

PROJECT COST EVALUATION (Continued)

Mid-Atlantic Wellness Institute Cost Comparison - 2005 & 2008 Total Project Costs:

MWI development cost variance is based upon the following primary items:

- Building cost variance is based upon the Phase II Review Team building area projections, not EMP unit costs.
- Site costs appear very low at roughly $1M considering the extent of topography, building demolition, site utility, water storage and waste water treatment scope of work.
- The current plan indicates a parking structure integrated with and under the proposed new building and the Phase II Review Team found no cost allocation for this parking structure.
- Capital equipment costs were calculated as a percentage of construction costs without detailed planning and the Phase II Review Team believes they may be low.

MID-ATLANTIC WELLNESS INSTITUTE PROJECT COST DETAIL	2005 Project Costs EMP	 JHI / RTKL	2008 Project Costs EMP	 JHI / RTKL
Building Area	**114,656**	**165,888**	**114,656**	**165,888**
Building Construction	$46,173,930	$67,229,386	$50,707,221	$75,623,916
Site Construction	$1,074,000	$8,124,000	$1,208,104	$9,138,395
Building & Site Construction Contingencies (21%)	$9,922,065	$15,824,211	$10,902,218	$17,800,085
Building & Site Construction Subtotal	**$57,169,995**	**$91,177,597**	**$62,817,543**	**$102,562,397**
Professional Fees	$3,716,050	$5,926,544	$4,083,140	$6,666,556
Connection Fees & Permits	$60,000	$95,691	$60,000	$97,962
Management & Overhead	$5,591,226	$8,917,169	$6,143,556	$10,030,602
Soft Cost Contingencies (10% Soft Costs Above)	$936,728	$1,493,940	$1,028,670	$1,679,512
Soft Cost Subtotal	**$10,304,003**	**$16,433,344**	**$11,315,366**	**$18,474,632**
Capital Equipment w/ 10% Contingencies	$2,580,002	$4,874,454	$2,902,151	$4,874,454
Project Development Cost	**$70,054,000**	**$112,485,395**	**$77,035,060**	**$125,911,483**

Notes:

EMP 2005 capital equipment cost detail not provided. JHI / RTKL Technology Group costs exclude duty taxes
EMP 2008 project cost projections are based upon 4% annual inflation from 2005 baseline per PwC Business Case
JHI / RTKL 2008 construction cost projections are based upon RTKL area projections & Faithful Gould unit costs
JHI / RTKL 2008 soft cost projections are based upon the % of projected construction costs per the EMP
JHI / RTKL 2008 capital equipment cost projections are based upon RTKL Technology Group estimate

PROJECT COST EVALUATION (Continued)

West Campus of Care Cost Comparison - 2005 Total Project Costs:

The Phase II Review Team could not find a detailed cost breakdown for the components included in the final EMP recommendations for this site. The Phase II Review Team believes that site costs and capital equipment costs could be higher than proposed by CannonDesign/OBM.

CONTINUING CARE - WEST CAMPUS	2005 Project Costs		2008 Project Costs	
PROJECT COST DETAIL	EMP	JHI / RTKL	EMP	JHI / RTKL
Building Area	**58,600**	**58,600**	**58,600**	**58,600**
Building Construction	$20,683,800	$20,683,800	$23,266,462	$23,266,462
Site Construction	$270,000	$1,074,000	$303,713	$1,208,104
Building & Site Construction Contingencies (15.5%)	$3,247,839	$3,372,459	$3,653,377	$3,793,558
Building & Site Construction Subtotal	**$24,201,639**	**$25,130,259**	**$27,223,552**	**$28,268,124**
Professional Fees	$1,573,107	$1,633,467	$1,769,531	$1,837,428
Connection Fees & Permits	$60,000	$62,302	$60,000	$62,302
Management & Overhead	$2,420,164	$2,513,026	$2,722,355	$2,826,812
Soft Cost Contingencies (10% Soft Costs Above)	$405,327	$420,879	$455,189	$472,654
Soft Cost Subtotal	**$4,458,597**	**$4,629,674**	**$5,007,075**	**$5,199,197**
Capital Equipment w/ 10% Contingencies	$2,412,764	$3,220,206	$2,714,031	$3,220,206
Project Development Cost	**$31,073,000**	**$32,980,139**	**$34,944,659**	**$36,687,527**

Notes:

EMP 2005 capital equipment cost detail not provided. JHI / RTKL Technology Group costs exclude duty taxes
EMP 2008 project cost projections are based upon 4% annual inflation from 2005 baseline per PwC Business Case
JHI / RTKL 2008 construction cost projections are based upon RTKL area projections & Faithful Gould unit costs
JHI / RTKL 2008 soft cost projections are based upon the % of projected construction costs per the EMP
JHI / RTKL 2008 capital equipment cost projections are based upon RTKL Technology Group estimate

PROJECT COST EVALUATION (Continued)

Central Campus of Care Cost Comparison - 2005 Total Project Costs:

Total project budget of roughly $16.7M is based upon construction cost only for 60 bed continuing care facility without allocation of costs for contingency, fees, management expense, capital equipment, etc. Page 3.11.17 of the EMP shows $27.6M total project cost for similar proposed scope.

CONTINUING CARE - CENTRAL CAMPUS	2005 Project Costs		2008 Project Costs	
PROJECT COST DETAIL	EMP	JHI / RTKL	EMP	JHI / RTKL
Building Area	**40,500**	**40,500**	**40,500**	**40,500**
Building Construction	$13,486,500	$13,486,500	$15,170,478	$15,170,478
Site Construction	$0	$1,074,000	$0	$1,208,104
Building & Site Construction Contingencies (15.5%)	$2,090,408	$2,256,878	$2,351,424	$2,538,680
Building & Site Construction Subtotal	**$15,576,908**	**$16,817,378**	**$17,521,902**	**$18,917,263**
Professional Fees	$1,012,499	$1,093,130	$1,138,924	$1,229,622
Connection Fees & Permits	$0	$42,043	$0	$47,293
Management & Overhead	$0	$1,681,738	$0	$1,891,726
Soft Cost Contingencies (10% Soft Costs Above)	$87,594	$281,691	$100,236	$316,864
Soft Cost Subtotal	**$1,100,093**	**$3,098,602**	**$1,239,160**	**$3,485,506**
Capital Equipment w/ 10% Contingencies	$0	$2,849,880	$0	$2,849,880
Project Development Cost	**$16,677,000**	**$22,765,859**	**$18,761,063**	**$25,252,648**

Notes:

EMP 2005 capital equipment cost detail not provided. JHI / RTKL Technology Group costs exclude duty taxes
EMP 2008 project cost projections are based upon 4% annual inflation from 2005 baseline per PwC Business Case
JHI / RTKL 2008 construction cost projections are based upon RTKL area projections & Faithful Gould unit costs
JHI / RTKL 2008 soft cost projections are based upon the % of projected construction costs per the EMP
JHI / RTKL 2008 capital equipment cost projections are based upon RTKL Technology Group estimate

PROJECT COST EVALUATION (Continued)

East Campus of Care Cost Comparison - 2005 Total Project Costs:

The Phase II Review Team could not find a detailed cost breakdown for the components included in the final EMP recommendations for this site. The Phase II Review Team believes that site costs and capital equipment costs could be higher than proposed by CannonDesign/OBM.

CONTINUING CARE - EAST CAMPUS	2005 Project Costs		2008 Project Costs	
PROJECT COST DETAIL	EMP	JHI / RTKL	EMP	JHI / RTKL
Building Area	**50,500**	**50,500**	**50,500**	**50,500**
Building Construction	$17,986,500	$17,986,500	$20,232,366	$20,232,366
Site Construction	$544,670	$1,074,000	$612,679	$1,208,104
Building & Site Construction Contingencies (15.5%)	$2,872,331	$2,954,378	$3,230,982	$3,323,273
Building & Site Construction Subtotal	**$21,403,501**	**$22,014,878**	**$24,076,027**	**$24,763,743**
Professional Fees	$1,391,228	$1,430,967	$1,564,942	$1,609,643
Connection Fees & Permits	$60,000	$60,000	$60,000	$61,714
Management & Overhead	$2,140,350	$2,201,488	$0	$2,476,374
Soft Cost Contingencies (10% Soft Costs Above)	$359,158	$369,245	$162,494	$414,773
Soft Cost Subtotal	**$3,950,735**	**$4,061,700**	**$1,787,436**	**$4,562,505**
Capital Equipment w/ 10% Contingencies	$2,412,764	$3,054,480	$2,714,031	$3,054,480
Project Development Cost	**$27,767,000**	**$29,131,058**	**$28,577,495**	**$32,380,728**

Notes:

EMP 2005 capital equipment cost detail not provided. JHI / RTKL Technology Group costs exclude duty taxes
EMP 2008 project cost projections are based upon 4% annual inflation from 2005 baseline per PwC Business Case
JHI / RTKL 2008 construction cost projections are based upon RTKL area projections & Faithful Gould unit costs
JHI / RTKL 2008 soft cost projections are based upon the % of projected construction costs per the EMP
JHI / RTKL 2008 capital equipment cost projections are based upon RTKL Technology Group estimate

PROJECT COST EVALUATION (Continued)

Staff Housing Cost Comparison - 2005 Total Project Costs:

No significant issues or concerns with construction costs.

PROJECT SEQUENCE AND SCHEDULE EVALUATION

EMP Proposed Development Task Schedule

The review team evaluated the EMP proposed sequence of construction and project implementation schedule and would anticipate the following implementation schedule:

- Predesign:
  - The proposed predesign schedule of 6 months is adequate considering the numerous sites and complexity of the project.
- Continuing Care and Staff Housing Projects
  - The proposed schedule for project design through delivery of bidding documents is 12 months and the Phase II Review Team feels that is adequate.
  - The construction schedule appears to be roughly 15-18 months which is adequate based upon a traditional design-bid-build delivery process. If a design-build delivery process is implemented the schedule may be reduced by roughly 3 months.
- KEMH
  - The proposed schedule project design through delivery of bidding documents is roughly 15 months and the Phase II Review Team feels that is adequate.
  - The construction schedule appears to be roughly 30 months which is adequate for a 500,000 SF building based upon a traditional design-bid-build delivery process. If a design-build delivery process is implemented the schedule may be reduced by roughly 6 months.
- MWI
  - The proposed schedule project design through delivery of bidding documents is roughly 15 months and the Phase II Review Team feels that is adequate.
  - The construction schedule appears to be roughly 18 months which is adequate based upon a traditional design-bid-build delivery process. If a design-build delivery process is implemented the schedule may be reduced by roughly 3 months.

PROJECT SEQUENCE AND SCHEDULE EVALUATION (Continued)

EMP Proposed Development Sequence

The review team evaluated the EMP proposed sequence of development and offers the following comments:

KEMH Site

- The EMP proposes that continuing care facilities and staff housing needs to be relocated off-site to facilitate redevelopment of the KEMH. Construction of the KEMH replacement facility is, therefore, dependent upon completing these development projects in a timely manner, based upon the EMP proposed campus plan.
- The EMP suggests that the continuing care facilities be located at the MWI site and either the east or west campuses of care. Due to phasing concerns for development on the MWI site, the Phase II Review Team would recommend that continuing care replacement facilities not be located on that campus.
- Development phasing shown on the KEMH site acknowledges that the available site for step one development is very tight. The Phase II Review Team would suggest a vertical building vs. proposed horizontal building organization to improve land utilization and provide adequate site circulation space. In the opinion of the Phase II Review Team, the EMP “Crescent Design” concept does not provide adequate site circulation space based upon the following:
  - ED ambulance and visitors shares a common entrance drive (not recommended)
  - Vehicular circulation from the ED visitor entrance to the main visitor parking structure requires visitors to re-enter public roads, proceed to the main hospital entrance and then enter the main parking facility.
  - Construction of the new main visitor vehicular entrance drive cannot proceed until after the existing hospital buildings are demolished. This is a serious flaw with the site development sequence but is due to an overall lack of adequate site for the new facility.
- The MWI site development should, therefore, be decoupled from the sequence and phasing of the KEMH site and improvements at this site can begin as funding is approved.

Campuses of Care Site Development

- Based upon the proposed EMP, it is imperative that development on both campuses of care be approved expeditiously to reduce delay of KEMH redevelopment.

PROJECT SEQUENCE AND SCHEDULE EVALUATION (Continued)

EMP Proposed Development Sequence

- MWI Development
  - The MWI replacement facility will have to be constructed on the only non-developed open area on the campus, located on the northern portion of the campus. The EMP conceptual site plan shows the replacement facility sited on top of existing buildings currently in-use, including the substance abuse center. The Phase II Review Team believes that the replacement facility may have to be constructed on the area shown to be “terraced slope and community park” and then other proposed facilities shown on the site such as continuing care facilities, community services and parks will have to be constructed after the new MWI replacement facility is occupied and existing buildings are demolished.

  - Because of this phasing issue the Phase II Review Team would suggest that continuing care facilities be developed at the east and west campuses, not on this site, to avoid further delay of KEMH facility replacement. This also means that MWI improvements are “decoupled” from KEMH and continuing care improvements and can be scheduled/funded separately.

PROJECT SEQUENCE AND SCHEDULE EVALUATION (Continued)

Alternative Approach to Project Delivery

The Phase II Review Team understands that governmental agency review and approval is required before proceeding with public works projects of this magnitude. That said, the Phase II Review Team believes that it may serve the BHB best to follow a less-linear implementation plan to expedite the project. The Phase II Review Team would suggest that the BHB consider the following approach to expedite the project. This approach would also define the scope of work in greater detail, provide a more detailed estimate of cost and provide a greater level of confidence before requesting final government approval to proceed.

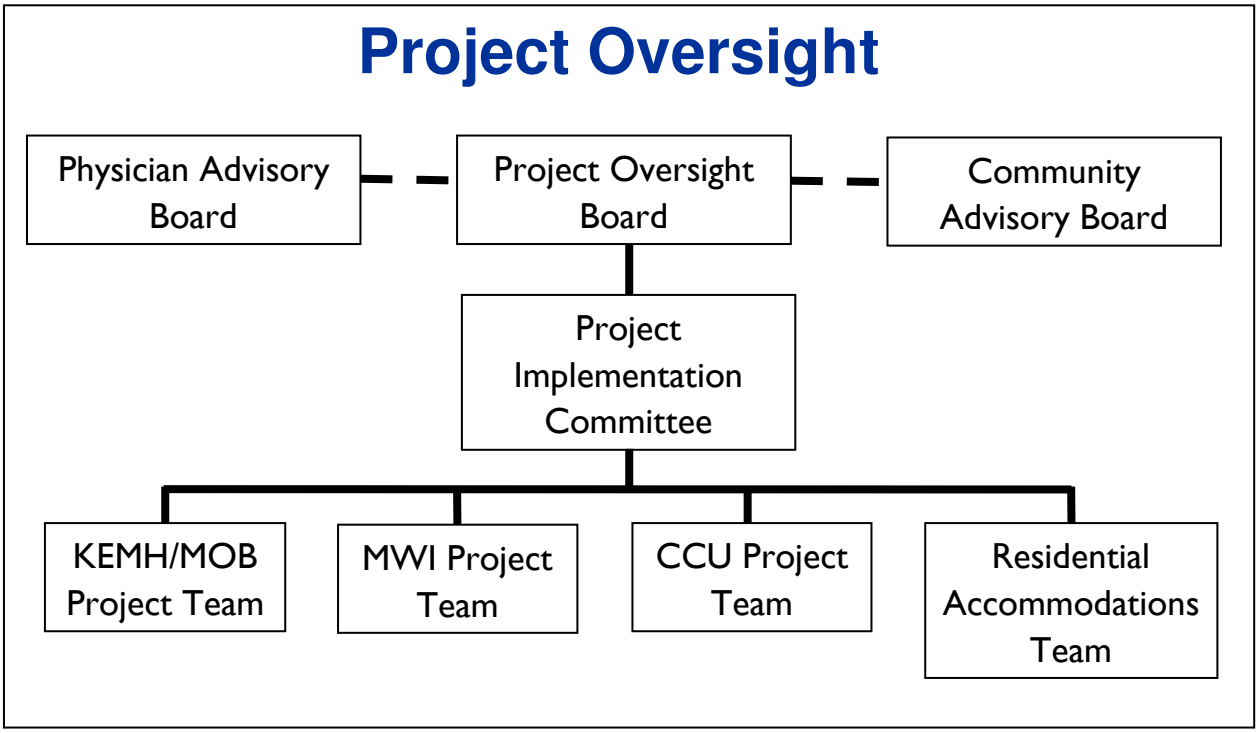
1. Proceed “at-risk” with predesign programming and planning for the KEMH & MOB, MWI, east continuing care, west continuing care and staff housing projects. Predesign services would include:
    - Concept of Operations Planning and Departmental Programming
    - Site development detailed planning, including civil engineering
    - Building conceptual block planning, engineering studies and preliminary design studies
    - Detailed project cost estimating with escalation to mid-point of construction

    Proceeding with these services is, overall, a minimum expenditure and risk to the BHB and allows for the development of the project to proceed while consensus can be reached on socio-political issues.
2. Concurrent with the “facility” planning activities, establish preferred methods for project delivery, business case and financing for each component of the EMP and work toward gaining public consensus and confidence.
3. At the completion of predesign activities, request government approval of detailed component scope and cost, project delivery methods and funding for the KEMH & MOB, MWI, east continuing care, west continuing care and staff housing projects.
4. Prepare RFP for implementation of approved EMP components

PROJECT MANAGEMENT

Estate Master Plan Oversight

Given the significance of the cost of this project, it is essential that appropriate levels of oversight be in place. Because of the magnitude of the project, oversight and direction should take place at three different levels as seen in the illustration. At the individual project level, teams should be assembled to provide guidance, coordination and decision-making for the three components of the overall Estate Master Plan. These four Project Teams should report up to the Project Implementation Committee which, in turn, should report to a Project Oversight Board. In addition, two Advisory Boards (i.e., Physician and Community) should be formed to provide oversight from the community to be served and, as well, from the physicians who will use or refer to the facilities.



PROJECT MANAGEMENT (Continued)

Project Oversight

While not dealing with the day-to-day decisions associated with a project such as this, a Board comprised of senior health officials in Bermuda should be empanelled to provide oversight. This Project Oversight Board should be composed of representatives from the following:

- Ministry of Health
- Ministry of Finance
- Bermuda Hospitals Charitable Trust
- Bermuda Hospitals Board
- Physicians and Community

Physician representatives should consist of community-based physicians who will practice at the new facilities or whose patients will be admitted for care there. Similarly, Community representatives should be made up of those in the community who have a vested interest in the facilities such as former patients, families of current or former patients, community leaders, and so on.

PROJECT MANAGEMENT (Continued)

Project Implementation

The redevelopment work should be overseen by a committee comprised of the senior operational and clinical leadership which meets on a weekly basis to review progress, deal with design and construction issues and make decisions necessary to keep the redevelopment on its timeline to completion.

This Committee should be chaired by the CEO and include representatives of the hospital senior management team. An agenda should be used for the conduct of meetings and should include the following items:

- design development progress (later becoming construction progress),
- overall redevelopment timetable and subsidiary timetables
- design/construction issues,
- operational issues (e.g., changes in work process either driven by or driving design),
- operationalization of the facility and move from old to new,
- environmental issues (e.g., reimbursement changes, ALC resolution, etc.),
- budget tracking, and
- other issues which require the attention or action of the committee.

To be effective, the Committee should be decision oriented and the role of the Committee Chair should be to facilitate necessary decision-making by assuring that the committee has advance notice of issues needing resolution along with the requisite information to make an appropriate decision.

<u>Individual Project Teams</u>

Because of the complex and very different natures of the components of the Estate Master Plan, individual Project Teams should focus on each of those components. These Teams should be chaired by a member of senior management team. These teams should meet on a weekly basis to review progress, deal with design and construction issues and make necessary programmatic decisions.

ALTERNATIVE KEMH CAMPUS PLANNING CONCEPT STUDY

The Estate Master Plan prepared by CannonDesign/OBM provided a conceptual study for the redevelopment of King Edward VII Memorial Hospital campus. The EMP conceptual design plan recommended relocation of the Continuing Care Facility and the Queen Elizabeth Nursing Residence off-campus prior development of new hospital facilities with the following inflation updated 2008 total project costs. Excluding MWI:

Continuing Care Facilities	$82,282,217
Queen Elizabeth Nursing Residence	$32,112,774
King Edward VII Memorial Hospital	$558,189,273
Medical Office Building	$44,654,510
Total Proposed KEMH 2008 Redevelopment Cost	$717,239,773

The Phase II Review Team reviewed EMP development recommendations and prepared an alternative campus planning study showing phased redevelopment of hospital acute care and ambulatory care services in response to concerns related to available funds, project complexity and affordability. The alternative planning approach was centered on deferring phasing the relocation of the Continuing Care Facility and the Queen Elizabeth Nursing Residence facilities while proceeding with the phased improvement of hospital and ambulatory care facilities to reduce initial funding obligations.

The detailed campus planning study is attached to this report as “Attachment A”.

ALTERNATIVE KEMH CAMPUS PLANNING CONCEPT STUDY (Continued)

Priorities and Guiding Principles

The Phase II Review Team and KEMH leadership identified strategic priorities and planning framework to establish the following guiding principles for campus development.

- Compelling Strategic Planning Priorities with significant impact to operations, financial return and or strategic objectives
  - Ambulatory care services
  - International office space for visiting international specialists
  - Private accommodations for general acute patient care services
  - Emergency services to improve access and quality of outpatient services
  - Imaging services to support new technology
  - Surgical same-day services to provide private accommodation
  - On-site visitor and staff parking
- Necessary Planning Priorities that are key enabling actions of implementation
  - Pediatric Care Services (to improve Surgical Same-day Services on same floor)
  - Relocation of hospital services located in the existing CCU building
  - Relocation of hospital services located in the existing Queen Elizabeth Residence
  - IT/IS and Telecommunication services to support improvements
- Desirable Improvements if Funding Permits
  - Anatomic Pathology Laboratory Services (Cytology & Histology)

These priorities established the scope of services to be included in initial hospital and ambulatory care new facilities and defined services to remain in the existing hospital facility until additional funding becomes available to complete facility replacement objectives.

ALTERNATIVE KEMH CAMPUS PLANNING CONCEPT STUDY (Continued)

Hospital Planning Flexibility

The EMP defined a reduction in overall bed capacity over time as length of stay is reduced and private accommodation allows for an increase in bed occupancy rates. JHI evaluated the EMP and, in general, supported future bed reduction. The proposed alternate planning concept allows for phased implementation of recommended improvements in bed utilization vs. EMP requirements that improvements be implemented within the next 5 years. This new strategy provides a greater degree of flexibility and responsiveness to current practice patterns and culture and allows for changes to be implemented over time.

The Phase II Review Team proposed total long-range acute care bed capacity at 154 beds, excluding nurseries. The following provides the acute care bed capacity at KEMH through the proposed phased development:

Bed Summary	Existing	Phase 1	Final
Critical Care	8	8	10
General Acute Care	141	144	120
Pediatrics	15	15	10
Maternity	22	22	14
Subtotal	**186**	**189**	**154**
Nurseries	25	25	18
Total Beds	**211**	**214**	**172**

The proposed alternative hospital development plan provides 90 new private rooms in Phase 1 and majority private rooms in existing wards during the initial development period.

ALTERNATIVE KEMH CAMPUS PLANNING CONCEPT STUDY (Continued)

Acute Care Facility Program Demands

The EMP program defined an overall hospital building area shortfall of 131,000 sf. The Phase II Review Team's evaluation showed a shortfall of 185,000 sf to meet contemporary healthcare standards. In addition, the EMP recommended development of a medical office building designed to provide physician office space on campus. The Phase II Review Team recommends changing the use of this building to an Ambulatory Care Center, housing hospital outpatient services and offices for international specialists.

With the shift of hospital outpatient services to the Ambulatory Care Center the overall hospital building area shortfall is reduced to 96,784 and 151,200 sf respectively. For KEMH to meet contemporary facility standards, the planning team believes that a minimum of 150,000 sf additional area will be required and should be developed within the initial 0-5 Year Development Period funding scope. The proposed alternative planning concept reflects this scope.

Proposed Alternative Planning Concept Sequence of Development

The planning team would anticipate the sequence of development to be generally organized in 5-year increments to meet funding cycles. The proposed alternate campus plan is roughly organized as follows to support a 20 year vision.

0-5 Year Development Period:

- Phase 1 Ambulatory Care Centre
- Phase 2 Hospital Expansion
- Phase 2 Hospital Renovations

5-10 Year Development Period:

- Relocation of Continuing Care and QE Nurses' Residence
- On-Site Parking Expansion to meet demand projections

15+ Year Development Period:

- Phase 3 Hospital Replacement

ALTERNATIVE KEMH CAMPUS PLANNING CONCEPT STUDY (Continued)

Proposed Funding Obligations and Sources

Phase 1- Ambulatory Care Centre (ACC):

- 75,500 SF for visiting international specialists and hospital outpatient services
- Funding Obligation: $67M total estimated 2009 Project cost
- Funding Source: Public Sector Financing / Bermuda Hospital Charitable Trust

Phase 2 Hospital Expansion:

- 145,000 SF vs. 150,000 to 185,000 SF projected need
- Funding Obligation: $194M total estimated 2010 Project cost
- Funding Source: Public Sector Financing / Bermuda Hospital Charitable Trust

Phase 2 Hospital Renovations:

- 59,000 SF
- Funding Obligation: $53M total estimated 2012 Project cost
- Funding Source: Bermuda Hospital Board

ALTERNATIVE KEMH CAMPUS PLANNING CONCEPT STUDY (Continued)

Site Analysis and Campus Planning Criteria

Land Utilization:

Viable growth zones and opportunities on the existing campus were identified to expedite campus development through effective land utilization, minimizing disruption of campus services, site availability with relatively minimum relocations.

- Phase 1 ACC at existing Springfield Site
- Phase 1 CUP at existing Staff parking along Berry Hill Road
- Phase 2 Hospital Expansion at existing Gladwin Site / M.O.H. building site
- Future Phase 3 QE Nursing Residences (Staff Housing) at existing Harbor Vista site
- Future Phase 3 Hospital Visitor Parking structure at existing QE Building site
- Future Phase 3 Hospital Replacement Facility at existing CCU and CUP Building sites

Site Orientation:

- Harbor and Ocean views are the most desirable and the proposed orientation of the new bed towers maximize views in both of these directions.
- Proposed bed tower orientation along the north/south axis also provides east/west window orientation which is the most favorable orientation for energy conservation and sustainability.

Constructability and Affordability:

- Proposed planning concept has identified three building occupancy types on campus and has located services by occupancy type to reduce construction costs.
- Hospital outpatient services have been located in the Ambulatory Care Center
- Hospital acute care services remain in expensive institutional occupancy buildings
- Administrative services have been located in a business occupancy office building
- Parking, for the most part, has been located in separate parking structures

Response to Botanical Gardens and Neighbors:

- Sensitive and engaging response to the Botanical Gardens and the Show Arena as community amenities.

ALTERNATIVE KEMH CAMPUS PLANNING CONCEPT STUDY (Continued)

Remaining Hospital Existing Facilities

The EMP's evaluation of the existing KEMH facility documented limited useful life due to aging building systems, infrastructure, medical equipment and maintenance. While the Phase II Review Team agrees, in general, with this initial assessment as related to ideal investment strategies and life cycle cost analysis, it is apparent that the EMP recommendation for complete replacement of the entire hospital within the near future is unaffordable, and not a viable option. Based upon this current understanding, the planning team developed a strategy for continued reuse of existing facilities for a significant period of time. The existing aging hospital buildings can not adequately support contemporary hospital high-intensity clinical services but, in the planning team's opinion, can continue to support low-intensity, a more limited range of clinical services, administrative services and support services well into the future as the overall super structure is sound.

The Phase II Review Team acknowledges the higher cost of development over time due to inflation and is also concerned about maintaining prudent investment in aging facilities. The Phase II Review Team would recommend limiting investment within the existing hospital building to those required to support patient care, quality improvement goals and customer expectations. Where possible, investments in existing facilities should be limited to aesthetic upgrades as required to support ongoing operations and quality initiatives. Comprehensive renovations should be limited to those departments where the costs of improvements are supported by a business case.

ALTERNATIVE KEMH CAMPUS PLANNING CONCEPT STUDY (Continued)

Existing KEMH Facilities Useful Life

The findings of the Comprehensive Strategic Review of our Acute Care Hospital undertaken by CannonDesign/OBM International indicated that King Edward VII Memorial Hospital

"…… exhibit many of the characteristics that would be expected to be found in health facilities that are in excess of forty years old".

The general conclusion of the evaluation was that the Hospital is

"…… at the very end of its useful life. Maintenance has now reached the point where only reactive maintenance to address the immediate needs of the facilities is possible. The situation will potentially reach the critical stage in a maximum of eight years (from 2004), when much of the physical infrastructure, building systems and medical equipment will reach the failure point or be extremely difficult/costly to maintain".

The new Board, in conjunction with JHI and RTKL, has reviewed this conclusion together with the original options and additional information that is now available. Specifically the comprehensive 'backlog maintenance' survey 2008", and the use of a risk-based methodology for establishing and managing backlog, are available to enable a review of the estate in conjunction with the revised Estate Master Plan. This identifies immediate and future investment requirements relating to the 1965 acute wing and the 1925/1990 continuing care wing. The process takes into account the different levels of risk to patients, visitors and staff arising from deficiencies in statutory safety and physical condition of the built environment and is able to prioritize where investment is needed.

With the identification of $30M in 'backlog maintenance' at King Edward VII Memorial Hospital, the Board has for instance, the opportunity to develop and execute a remedial action plan over a period of five to six years that has the potential to prolong the 2012 date by 10 to 15 years following the five year backlog implementation programme. As part of the programme an additional requirement would be to increase the estates & facilities operational budget at year two to account for an increase in the preventative maintenance programme.

ALTERNATIVE KEMH CAMPUS PLANNING CONCEPT STUDY (Continued)

Existing KEMH Facilities Useful Life (Continued)

Moreover, with the development of the Ambulatory Care Centre and the 1st Patient Tower, components of the service infrastructure, which are questionable at the present, will in part or whole be replaced during this phase of the new hospital development. Medical equipment will similarly be a part of this phase leaving only residual and select new equipment in the 1965 acute care wing.

As a result of these initiatives the 2012 date can potentially move out to 2024 - 2029.

The detailed campus planning study is attached to this report as "Attachment A".

KING EDWARD VII MEMORIAL HOSPITAL

Bermuda Hospitals Board
CARING FOR OUR COMMUNITY

ALTERNATIVE CAMPUS PLANNING

PHASE 2 CONCEPT STUDY

ATTACHMENT A

AUGUST 27, 2008

JOHNS HOPKINS
MEDICINE
INTERNATIONAL