UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

A PROJECT MANAGEMENT PLAN FOR THE CONSTRUCTION OF THE BRI-MEDICAL COMPLEX IN ST.VINCENT AND THE GRENADINES

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FINAL GRADUATION PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
MASTER IN PROJECT MANAGEMENT (MPM) DEGREE

KINGSTOWN, ST.VINCENT AND THE GRENADINES

NOVEMBER 2017

UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

This Final Graduation Project was approved by the University as partial fulfillment of the requirements to opt for the Master in Project Management (MPM) Degree

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DEDICATION

This project and all of my academic achievements are dedicated to my late mother Jacquleyn, whose example will forever inspire my human experience. I live by your words “the world is yours to conquer” in every aspect of my daily life. To my one and only princess, my daughter Jaea-Marie, you have made me stronger, better and more fulfilled than I could have ever imagined. I love you beyond words.

To my father Michael, you have been a pillar of strength and financial support throughout the duration of this course, I am eternally grateful for you.

“Let us be grateful to people who make us happy; they are the charming gardeners who make our souls blosson” (Marcel Proust)

ACKNOWLEDGMENTS

I would like to express my sincerest gratitude to the Government of St.Vincent and the Grenadines and Mr. Anthony Davis for their priceless assistance and unwavering support. To Miss Susan Lawrence and Mrs. Kay Martin-Jack, for their assistance in editing and constructive criticisms, which only propelled me to improve and put my best foot, forward.

I am truly grateful to and for all the individuals who guided me throughout the duration of this programme and project; including my tutor Mr. Luis Arguello, Angela Herrrera and Gabriela Zunga.I would like to thank my “Team 3” group members, you all are a blessing to me. I appreciate the knowledge and experiences gained from the UCI Project Management course.

God, I am so thankful for the blessings you continue to pour into my life, my cup has indeed runneth over. Thank you for giving me the faith and for seeing me through to the finishing line. I am forever indebted to you.

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ABBREVIATIONS AND ACRONYMS

- AVDC –Arnos Vale Development Cooperation
- BRI – Business Redevelopment Initiative
- CWSA-Central Water and Sewage Authority
- DSACC-Diamond Schmitt Architects and Constuction Company
- FAA-Federal Aviation Administratio
- FGP- Final Graduation Project
- KPMG-Klynveld Peat Marwick Goerdeler
- NIS-National Insurance Services
- NSCA- National Services Cooperative Agreement
- PMI- Project Management Institute
- POC- Project Oriented Company
- RFP- Request for Proposal
- RSVGFB-Royal St.Vincent and the Grenadines Fire Brigade
- SNT-ST.Vincent and the Grenadines National Trust
- SVG-DoL-St.Vincent and the Grenadines Department of Labour
- VAT-Value Added Tax
- WBS-Work Breakdown Structure
- UCI- Universidad para la Cooperación Internacional

EXECUTIVE SUMMARY (ABSTRACT)

Over the last decade, the Government of St. Vincent and the Grenadines has been involved in a series of developmental and infrastructural discussions, with international and local investors as well as partners with regards to the development of the island's infrastructural and international standing throughout the Caribbean region. Following the opening of the Island's new "Argyle International Airport" a referendum was held on approving the financing and assistance for the construction of the Business Redevelopment Initiative (BRI)- Medical Complex.As a result of this referendum the Government of SVG created the BRI Consortium and Steering Committee. This Consortium included the international sponsors and partners along with some of the island's top policy planners, designers, policy makers, construction and real estate development companies. To this end the Arnos Vale Development Cooperation (AVDC) was created; AVDC is a fairly new company and follows the "design-build" construction process, the first ever of this kind on the island. AVDC was charged with the responsibility of developing and managing the construction of the Business Redevelopment Initiative (BRI)- Medical Complex. The corresponding contract was signed on the 30th May, 2017.

The Government of St.Vincent and the Grenadines placed high expectations on the AVDC to gentrify and convert the decommissioned airport, its facilities and all associated real estate and transform it into a major state of the art medical complex specializing in the dialysis treatment and other major health services. These plans are consistent with the island's (10) year Global Infrastructure Development Programme (GIDP). This project will be the first of a series of local and international funded projects that are all geared towards the strategic development of the island.

Although experienced in architecture and construction management guidelines, The AVDC required the application of formal project management practices to successfully execute the BRI-Medical Complex Project. The Company utilizes some project management tools with construction management guidelines. However, after the charter was signed, execution was set to begin without a formal project management plan to guide all of the critical aspects of the project's lifecycle. To successfully deliver and construct the state of the art medical complex, a comprehensive Project Management Plan had to be developed.The BRI Consortium and AVDC worked closely with a major international design and construction company (DSACC), providing detailed design work for this massive project. This project is considered to be one of the biggest investments in the island's history.

The general objective was to produce a Project Management Plan, which integrates the standards and guidelines of the Project Management Institute, to assist in the effective management of the construction of the BRI (Medical Complex) by February 17, 2018. The specific objectives were: to create a project charter to establish an understanding of the expected deliverables for the project to provide guidance for the project manager and team in its management and completion of the project, to create a scope management plan to ensure the project includes all the tasks required to successfully complete the project,to create a cost management plan to detail the processes for managing project financial resources that are to be followed through all stages of the project,to develop a quality management plan to describe how quality will be managed throughout the project, and define how the project team will implement, support, and communicate project quality practices for use within the project,to create a human resource management plan to ensure that all human resources are identified and managed effectively to complete the project within time, cost and scope constraints,to create a schedule management plan to support, define and manage the approach the project (team) will use in creating the project schedule that ensures the project is completed within the time constraints,to develop a communications management plan to define the requirements for

the project and how information will be distributed and feedback received from all stakeholders,to create a risk management plan to establish the framework in which the project team will identify risk and develop strategies to mitigate or avoid risks as well as to define how risks associated with the project will be recorded and monitored throughout the project lifecycle,to develop a stakeholder management plan to identify and support all the project stakeholders as well as to analyze and develop strategies to ensure effective stakeholder engagement and expectations and to develop a procurement management plan to define the procurement requirements for the project and to determine how it will be managed from developing procurement documentation through contract closure.

The methodology used for the research was analytical along with the opinions and recommendations from expert judgments . The main sources used to acquire and gather information included : A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Fifth Edition and interviews which were held with members from the client and AVDC. The information was analyzed to create each subcomponent of the subsidiary plans used to develop the Project Management Plan for the construction of the BRI- Medical Complex.

The Project Management Plan for the BRI-Medical Complex project was developed using the PMBOK® Guide 5th Edition , templates and other resources, birthed a new approach for the project team to compose a more detailed and effective project management plan for a project as significant as the Medical Complex, to enhance the approach the company would utilize to manage the project. It is recommended that the project team at AVDC take into consideration the use of the planning process and documents developed during the development of the Project Management Plan for the construction of the BRI -Medical Complex as instrumental for implementing a methodology for similar projects in the future. Additonally, the project team at AVDC should also seek to implement a functional PMO which would operate as the backbone of AVDC in ensuring successful project management approaches at the organization.

1. INTRODUCTION

1.1 Background

Over the last decade, the Government of St. Vincent and the Grenadines has been involved in a series of developmental and infrastructural discussions, with international and domestic investors as well as partners with regards to the development of the island's infrastructure and international standing throughout the Caribbean region.With the gentrification of the now decommissioned E.T Joshua Airport and it surrounding facilities , it is envisioned that with the creation of a state of the art medical facility specializing in the treatment of kidney diseases specifically dialysis and other medical procedures, there would be numerous benefits.

This project offers the following benefits:

1. The aging infrastructure of the island's existing hospital cannot facilitate any type of expansion, and it does not cater to the escalating medical issues of diabetes and dialysis specialties. This new medical facility will provide this service to the Islands citizens and to the neighboring islands. Economically, it will be a game changer for St.Vincent and the Grenadine's health service.

2. A better standard of living for the community and its surrounding parishes

3. Greater access to quality primary health services (dialysis treatment); no longer have to travel overseas for such.

4. Improved Health facility.

A thorough research and investigation of the current issues of medical access specifically to dialysis treatment in St Vincent and the Grenadines was conducted and revealed that the urgency for hemodialysis (commonly referred to as kidney dialysis) treatment is expected to increase drastically over the next few years.Due to this increased need for a dialysis treatment center, hospital administrators and

the Government of SVG have considered the option of adding a kidney dialysis treatment center to their current facilities on the island. In the short term, a kidney dialysis center would require a significant investment. Over the longer term (3 years or more), a kidney dialysis center will not only provide a much needed service to the residents but should support itself in a relatively short period of time and could provide a cost effective service to the hospital or the community. The 'selling point' of this initiative is that a center of this nature will provide medical treatment for end-stage renal disease (ESRD) caused primarily by the chronic diseases of diabetes and/or hypertension (high blood pressure), and will provide improvements in dialysis technologies, care, and related drugs which will enable patients to live longer on dialysis.

The Government of St.Vincent and the Grenadines went searching for a possible location; some prominent health policy administrators argued for an improvement to the main hospital 'The Milton Cato Memorial Hospital' (TMCMH). Technical evidence showed convincingly, that the hospital's development was severely constrained, both in terms of the location and capacity, and would be an uneconomical investment.There are also several natural obstacles at TMCMH that could not be eliminated. It is at this point the idea Business Redevelopment Initiative-Medical Complex at Arnos Vale was realized.

Following the opening of SVG's new ' Argyle International Airport', a referendum was held on March 12th, 2017 approving the loan and financial partnership with the 11th European Development Fund of One Hundred Million Eastern Caribbean Dollars ($100 Million XCD) for developing a Business Redevelopment Initiative(BRI) of a Medical Complex. Resulting from this referendum, the Government of SVG created the BRI consortium. The consortium included the international sponsors and partners along with some of the island's top planners, designers/architects, policy makers, construction and real estate development companies.

In an effort to avoid haphazard development after the E. T Joshua Airport (Arnos Vale) was decommissioned, the Government of St. Vincent and the Grenadines created the Arnos Vale Development Company (AVDC). The AVDC was charged with the responsibility of developing and managing the Business Redeveloplment Initiative (BRI)-Medical Complex Project.The AVDC is a private limited liability company wholly owned by the government of St. Vincent and the Grenadines. It was incorporated under the Companies Act of St Vincent and the Grenadines. The company's mandate is to spearhead and coordinate all matters relating to the financing, managing and construction of the BRI (Medical Complex) project and to make provisions for the effective management of the facility on its completion.

The Arnos Vale Development Corporation has collaborated with Diamond Schmitt Architects and Construction Company (DSACC) to undertake the construction and designing of the BRI-Medical

Complex. The DSACC is a leading Canadian full-service architectural practice that works throughout North America, the Caribbean and the Middle East; designs and implements a broad range of building types for cultural, civic, academic, healthcare, residential and commercial property clients. Jack Diamond of DSACC proposed a master plan for the 63 acres of land at the location, which was presented as a ‘gift’ to the government; DSACC subsequently won the bid to construct the BRI-Medical Complex in association with the AVDC.

The AVDC is desirous of building their business portfolio in project management expertise and seeking assistance for the development and formulation of a project management plan.This final graduate project’s aim is to realize this vision. The BRI-Medical Complex Project is the largest and only public project the AVDC has undertaken and by utilizing the resulting project management plan from this research project, the level of project success will see remarkable improvements.

1.2 Statement of the problem

The Arnos Vale Development Corporation (AVDC) is a newly established management company, which was created on April 29th 2015, which utilizes minor project management approaches. The BRI Medical Complex is the first public project afforded to the AVDC and due to the magnitude of this project, the minor project management approaches currently adopted by the AVDC are insufficient and would be ineffective in ensuring the project’s completion and success.

The size, location and complexity of the BRI-Medical Complex Project require a well-formulated and specially designed management tool i.e. a project management plan. This plan would require the inclusion of project management expertise at the inception and planning stages of the project to create a project management plan. This project management plan will outline the numerous tools, techniques, concepts, and activities that are necessary to ensure the successful and timely completion of the project according to PMI guidelines.

1.3 Purpose

The purpose of the Project Management Plan is to establish uniform policies, guidelines and procedures that will be used by the project manager and team personnel to implement technical and administrative tasks for the contracts that encompass the BRI (Medical Complex) project. This management plan is a guidance document and is intended to be flexible in its applications. It is intended

that revisions and improvements be made to the plan as warranted. The Arnos Vale Development Corporation (AVDC) is responsible for implementing the plan and issuing updates as necessary.
This Project Management plan would be written to help uniformly direct and control activities during the construction of the BRI Medical Complex Project. This plan would be designed to cover most issues involved in large-scale construction projects. The size, scope and/or technical complexity of the contract (project) will determine the relevant procedures and guidelines in the plan to be utilized.

1.4 General objective

To produce a Project Management Plan that integrates the standards and guidelines of the Project Management Institute, to assist in the effective management of the construction of the BRI Medical Complex by February 17, 2018.

1.5 Specific objectives

1. To create a project charter to establish an understanding of the expected deliverables for the project, to provide guidance for the project manager and team in its management and completion of the project.

2. To create a scope management plan to ensure that the project includes all the tasks required to successfully complete the project.

3. To create a cost management plan to detail the processes for managing project financial resources that are to be followed through all stages of the project.

4. To develop a quality management plan to describe how quality will be managed throughout the project, and define how the project team will implement, support, and communicate project quality practices for use within the project.

5. To create a human resource management plan to ensure that all human resources are identified and managed effectively to complete the project within time, cost and scope constraints.

6. To create a schedule management plan to support, define and manage the approach the project (team) will use in creating the project schedule that ensures the project is completed within the time constraints.

7. To develop a communications management plan to define the requirements for the project and how information will be distributed and feedback received from all stakeholders

8. To create a risk management plan to establish the framework in which the project team will identify risk and develop strategies to mitigate or avoid risks as well as to define how risks associated with the project will be recorded and monitored throughout the project lifecycle.

9. To develop a stakeholder management plan to identify and support all the project stakeholders as well as to analyze and develop strategies to ensure effective stakeholder engagement and expectations.

10. To develop a procurement management plan to define the procurement requirements for the project and to determine how it will be managed from developing procurement documentation through contract closure.

2. THEORETICAL FRAMEWORK

2.1 Company/Enterprise framework

2.1.1 Company/Enterprise background

The Arnos Vale Development Corporation is a private limited liability company wholly owned by the Government of St. Vincent and the Grenadines, it is a diversified consultancy specializing in Strategic Planning, Project Management, Cost Planning and Engineering for the newly sanctioned BRI-Medical Complex project. It was created in March 2014 and began operational duties on April 29th, 2015. They are located at the now decommissioned E.T Joshua Airport in a pre-existing building, which previously housed the Meteorological Office and Headquarters with sub-offices throughout the island.

The success AVDC seeks to achieve is based on a leadership-driven management strategy that empowers high caliber, experienced professionals to leverage their potential skills and capabilities. AVDC applies leading practices that will differentiate the company in the marketplace. This company seeks clients and strategic partners who share the same commitment to performance, quality and success

As it relates to the construction of the BRI-Medical Complex facility the AVDC has subcontracted Diamond Schmitt Architects and Construction Compnay (DSACC) to undertake the construction and design aspect of the BRI (Medical Complex). DSACC is a leading Canadian full-service architectural and construction practice that works throughout North America, the Caribbean and the Middle East; designs and implements a broad range of building types for cultural, civic, academic, healthcare, residential and commercial property clients.

2.1.2 Mission and vision statements

Mission

AVDC's mission is to be a dynamic team, providing the highest quality of project management solutions and construction services available. (A. J. Davis, personal communication, 10 July, 2017).

The AVDC is dedicated to managing and providing solutions for client's highest priorities. From an operational perspective, AVDC's professionals are well grounded in their subject matter expertise, prepared to be successful and motivated to provide innovative solutions. (A. J. Davis, personal communication, 10 July, 2017)

AVDC's mission is honoured, each time a client's expectation is exceeded, each time an employee achieves his/her dreams as well as the company's goals and each time the company's efforts influence the society. In the case of the BRI-Medical Complex project; successful execution and completion would be an honour to the AVDC's mission as the entire island and neighboring countries would reap its benefits.

Vision

"Our vision is to establish a track record for being the most unique, cutting edge versatile project management services organisation that serves clients with clear goals and a positive attitude, delivering an unparalleled quality of service, with smart, innovative solutions sustaining our position as leaders in the industry." (A. J. Davis, personal communication, 10 July, 2017)

The AVDC's mandate is to spearhead and coordinate all matters relating to the financing, managing and construction of the BRI (Medical Complex) project and arranging for the effective management of the facility on its completion .

2.1.3 Organizational structure

The organizational DNA of the Arnos Vale Development Cooperation (AVDC) is international, professional and practical. AVDC prides itself on acquiring and attaining recognized experts and high achievers in their professional disciplines.The staff heralds from all corners of the globe; skillful in a diverse range of expertise, with operating experience at the top echelons of industry and government. The staff/team member's corporate expertise spans the range of commercial and residential developments, as well as major transportation and industrial projects. This translates into a commitment

on the company's behalf to deliver results that endure and enable clients to realize success in meeting their goals and objectives.

Currently, the AVDC is a relatively new company that was restructured to accommodate the acquisition of the BRI-Medical Complex project. The company is currently staffed with fifteen (15) full time employees, which can increase to sixty (60) operational and project management team members while executing the Medical Complex project. The numbers identified do not include subcontracted and site workers (A. J. Davis, personal communication, 10 July, 2017)

Below in **figure 1** the company's organizational structure is depicted. The company is lead by Mrs. Antoinette Jacquelyn Davis, the chief executive officer and project manager of the AVDC.

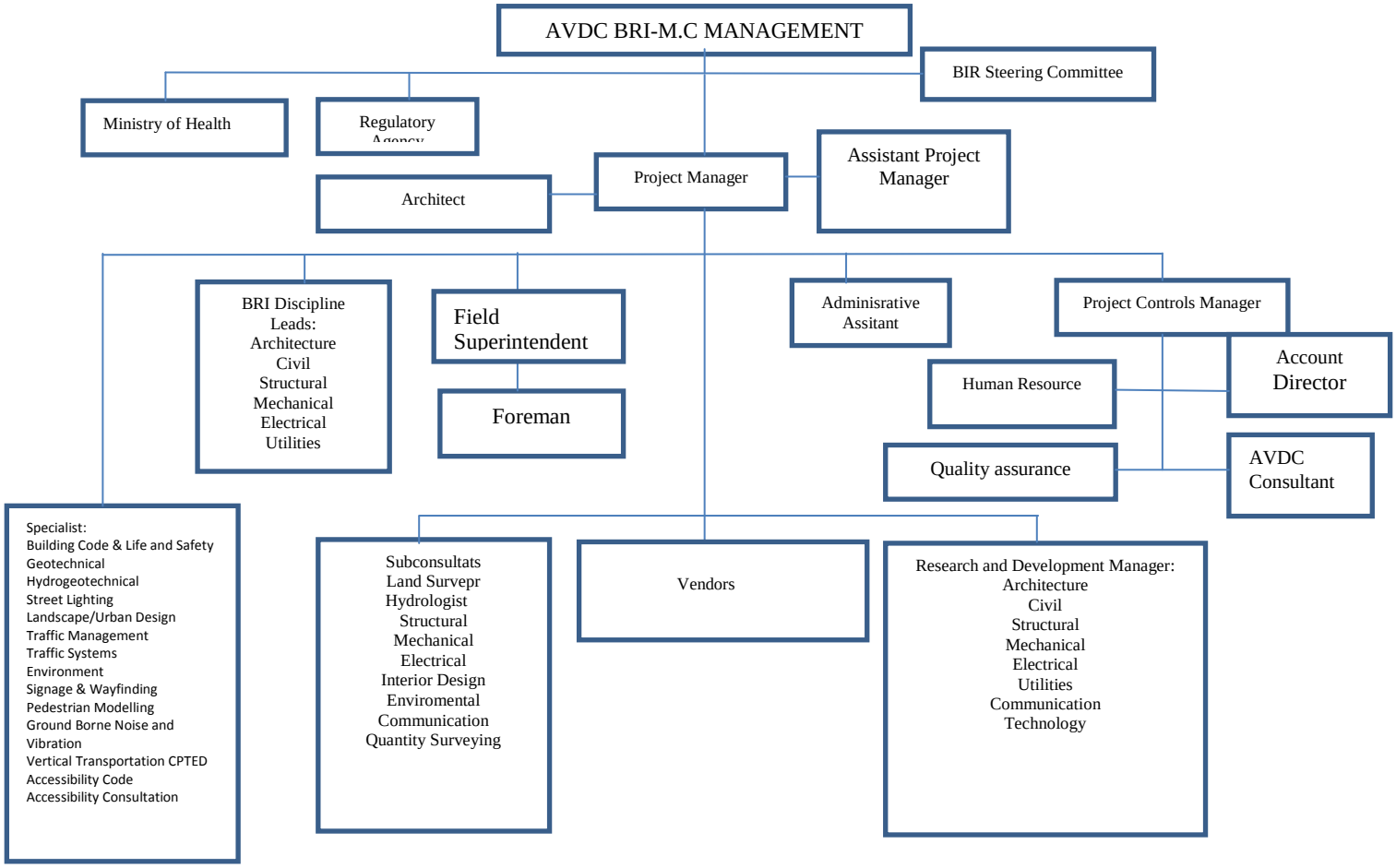

Figure 1 Organizational structure (Source: A. J. Davis, personal communication, 10 July, 2017)

2.1.4 Products offered

The AVDC offers the following services:

- **Engineering Solutions -** entails concept formulation, architectural and physical design of infrastructure and building works, as well as mechanical, electrical, civil and structural disciplines. (A. J. Davis, personal communication, 10 July, 2017)

1. **Sustainable Environment** – includes the implementation of clean and green best practices to the real estate development industry. (A. J. Davis, personal communication, 10 July, 2017)

- **Strategic Planning** -focuses on consultancy to senior-level executives in both industry and government – with an eye towards promoting transformational solutions that will have an enduring impact on the client's organization for years to come. (A. J. Davis, personal communication, 10 July, 2017)

- **Project Management services** -the natural extension of AVDC's Strategic Business Planning offering. AVDC's Project Management services include Master Planning and the full life cycle of Pre-Contract and Post-Contract planning, engineering management, and inspection for major design and construction projects. (A. J. Davis, personal communication, 10 July, 2017)

- **Construction Management** - provides a range of Post-Contract Services and high quality Client Representation for completion of projects on-time and within budget. (A. J. Davis, personal communication, 10 July, 2017)

2.2. Project Management Concepts

2.2.1 Project

According to A Guide to the Project Management Body of Knowledge (PMBOK) 5TH Edition, a project is defined as “a temporary endeavor undertaken to create a unique product, service or result” (Project Management Institute, 2016, p. 8).

While there are several definitions of projects in the literature, one of the best has been offered by Tuman (1983), who states:

“A project is an organization of people dedicated to a specific purpose or objective. Projects generally involve large, expensive, unique, or high-risk undertakings, which have to be completed by a certain date, for a certain amount of money, with some expected level of performance. At a minimum, all projects need to have well defined objectives and sufficient resources to carry out all the required tasks.”

Typically, most projects share most if not all of the five characteristics listed below.

(1) A start and a finish

(2) A time frame for completion

(3) An involvement of several people on an ad-hoc basis

(4) A limited set of resources

(5) A sequencing of activities and phases

The Arnos Vale Developmet Cooperation is fairly new and does not follow a projectized structure; their major aim is to mirror “ The Project –Oriented Company” (POC) which according to Gareis and Huemann (2000) “ is an organisation which defines “Management by Projects” as an organisational strategy, applies temporary organisations for the performance of complex processes, manages a project portfolio of different project types, has specific permanent organisations to provide integrative functions, applies a “New Management Paradigm”, has an explicit project management culture, and perceives itself as being project-oriented.”

Thus the AVDC seeks to have specific processes, such as assignments of projects and programmes, project management, programme management, quality management of projects and programmes, project portfolio co-ordination, networking between projects, personnel management by adapting this definition and model. (A. J. Davis, personal communication, 10 July, 2017)

2.2.2 Project Management

According to the *PMBOK® Guide,* Project Management is the “application of knowledge, skills, tools, and techniques to project activities to meet the project requirements”, and realized through meticulous application and incorporation of “47 logically grouped project management processes, which are categorized into five Process Groups.” (Project Management Institute, 2013, p, 5).

Project management is accomplished through the use of these processes such as: initiating, planning, executing, controlling, and closing. The term Project management is sometimes used to describe an organizational approach to the management of ongoing operations also referred to as management by projects. In the same many aspects of ongoing operations are treated as projects so as to apply the project management practices easily to them.

Lock (2003) explains that a large industrial project involves numerous differentiated activities that must focus on one final target. From the commencement of the works to the completion and delivery of the plant, the organizational structure must run smoothly based on cooperation and interaction to meet the obligations undertaken towards the client. With this aim in view, the AVDC sees that it is essential for a company to possess great capability and experience in planning and optimizing the various project activities, as well as highly advanced management tools and methodologies to control time and cost constraints and to meet the challenging requirements of growing efficiency. (A. J. Davis, personal communication, 10 July, 2017)

This definition highlights the importance of a proper planning and use of management tools, which supports this research proposal with the creation of a project management plan to ensure the successful completion and execution of the medical complex.

2.2.3 Project life cycle

The project manager and project team have one shared goal: to carry out the work of the project, with the purpose of meeting the project’s objectives. Every project has a beginning, a middle period during which activities move the project toward completion, and an ending (either successful or unsuccessful). A standard project typically has the following four major phases (each with its own agenda of tasks and issues): initiation, planning, implementation, and closure. Taken together, these phases represent the

path a project takes from the beginning to end and are generally referred to as the project's "life cycle." (Wilson, 2004)

A project life cycle is a "series of phases that a project passes through from its initiation to its closure" (Project Management Institute, 2016, p. 9).

As it relates to the BRI- Medical Complex, the project life cycle generally defines:

- The tasks to be accomplished in each phase or sub- phase
- The team responsible of each of the phases defined
- As advocated by Archibald & Voropaev (2003), there is a general agreement that the four broad, generic project phases are (common alternative terms are shown in parentheses):
    - Concept (initiation, identification, selection.)
    - Definition (feasibility, development, demonstration, design prototype, quantification.)
    - Execution (implementation, realization, production and deployment, design/construct/ commission, installation and test.)
    - Closeout (termination, including post-completion evaluation.)

  (A. J. Davis, personal communication, 10 July, 2017)

The BRI-Medical Complex Project team with the assistance of the production of the project management plan would seek the following;. during the initiation phase of the project, the project manager will seek to focus on defining and finding a project leadership team with the knowledge, skills, and experience to manage this large complex project in the remote area Arnos Vale. The AVDC has already set up three sub-offices at strategic locations throughout the island, with offices in place, the project start-up team will begin developing procedures for getting work done, acquiring the appropriate permits, and developing relationships with the Canadian partners. (A. J. Davis, personal communication, 10 July, 2017)

During the planning phase, with the aid of the implementation of this project proposal the AVDC team would be able to develop an integrated project schedule that will coordinate the activities of the design, procurement, and construction teams. The project controls team would also be able to develop a detailed budget that would enable the project team to track project expenditures against the expected expenses. Although planning is a never-ending process on a project, the planning phase will focus on

developing sufficient details to allow various parts of the project team to coordinate their work and allow the project management team to make priority decisions. (A. J. Davis, personal communication, 10 July, 2017)

The implementation phase represents the work done to meet the requirements of the scope of work and fulfill the charter. During the implementation phase, the project team will aim to accomplish the work defined in the plan and made adjustments when the project factors changed. (A. J. Davis, personal communication, 10 July, 2017)

The closeout phase would include turning over the newly constructed BRI- Medical Complex to the operations team of the client. (A. J. Davis, personal communication, 10 July, 2017)

Figure 2 shows a depiciton that at AVDC, the project life-cycle takes on a “natural progression” in that there are clearly defined phases, where one progresses into another. At AVDC, each of the clearly defined progressive phases have a sequence of activities that are similar to the process groups seen in **figure 3** below. To this end each project life-cycle phase, contains four or five phases that will result in the product offered by the company.

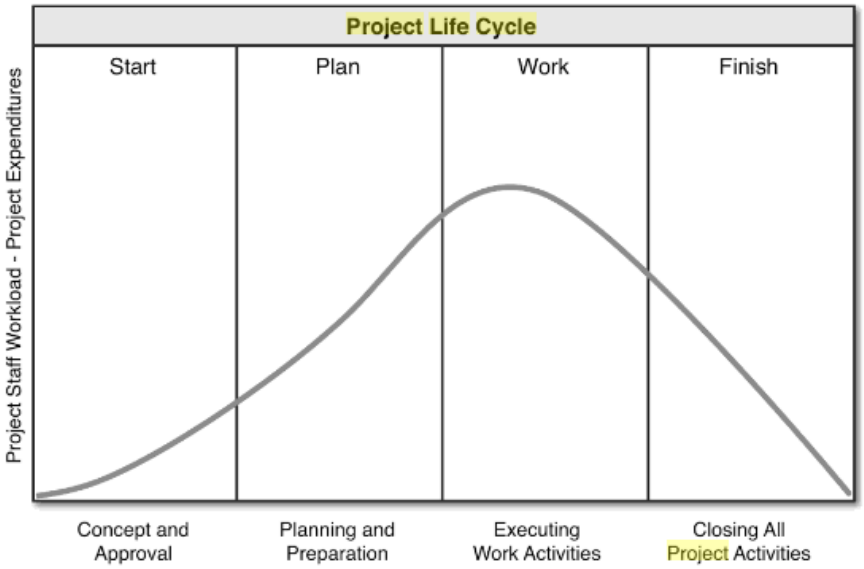

Figure 2 Project life cycle stages of progression. Reprinted from *Mastering Project Management Strategy and Processes* (p. 12), by R. Wilson, 2015, FT Press. Copyright 2015 by Randal Wilson.

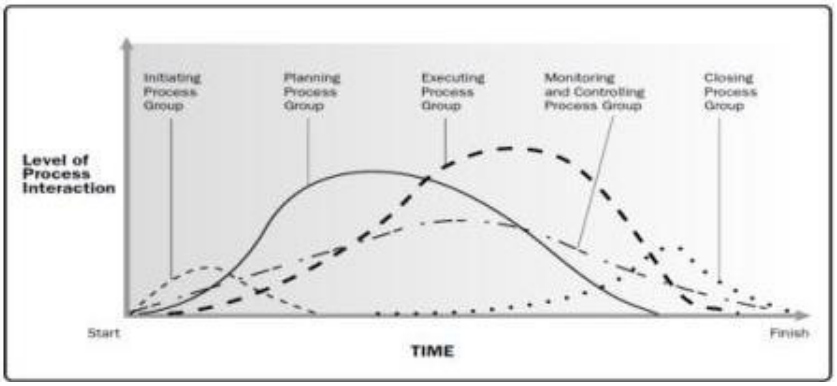

Figure 3. Interaction of Process Groups at different Phases (source: PMI, 2013)

2.2.4 Project management processes

The development of the Project Management Plan for the construction of the BRI-Medical Complex will only utilize the processes involved in the initiating and planning of a project. The Project Management Plan will be a compilation of subsidiary documents created as a result of each initiating and planning process activity.

The subsidiary plans include:

1. Integration management plan (project charter)
2. Scope management plan
3. Time management plan
4. Cost management plan
5. Quality management plan
6. Human Resources management plan
7. Communication management plan
8. Risk management plan
9. Procurement management plan
10. Stakeholder management plan

In addition to the subsidiary plans, the Project Management Plan will also integrate and consolidate all the baselines from the planning processes. *See* **figure 4** *below*, detailing the processes to be applied during this project.

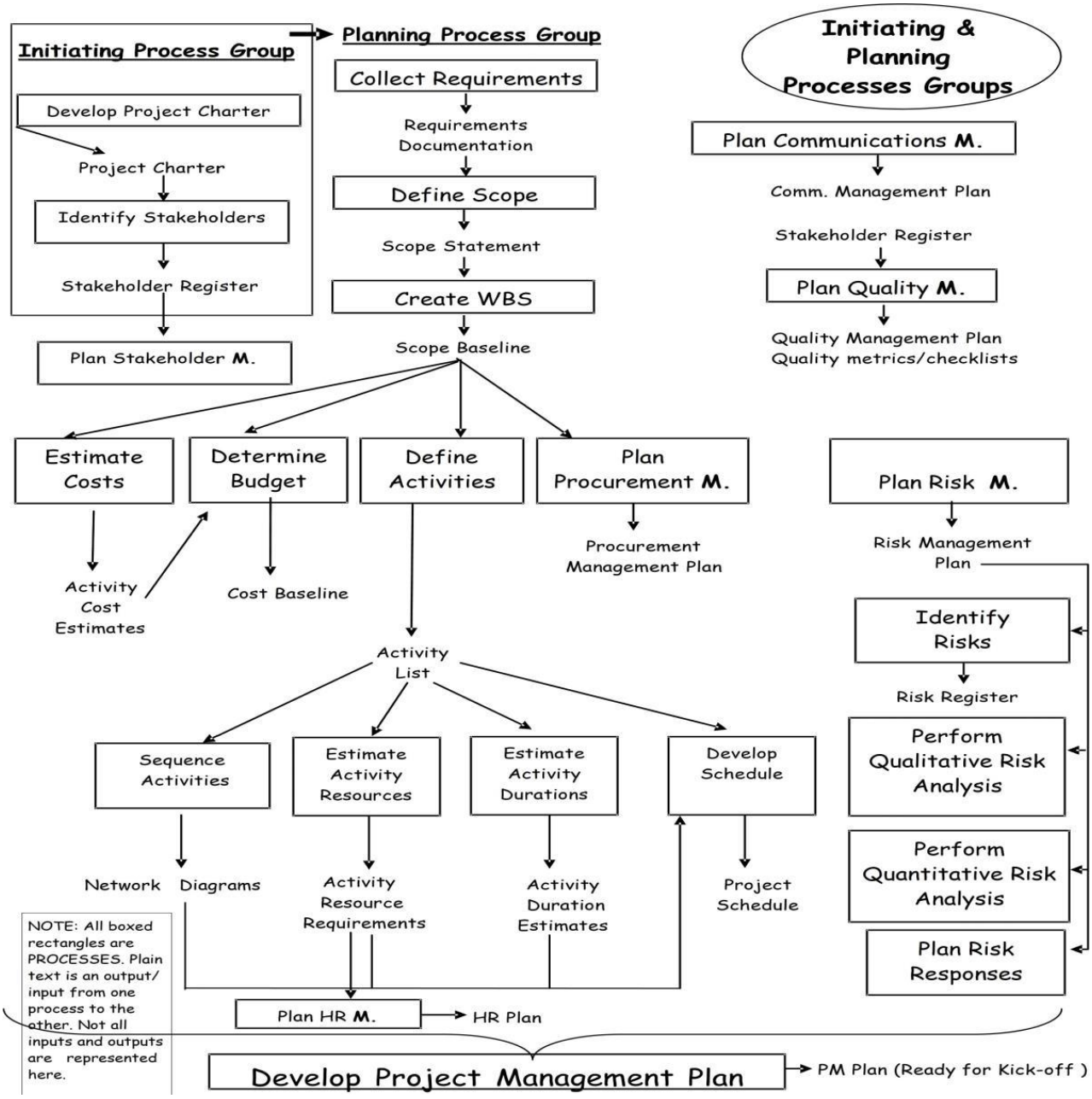

Figure 4 Initiating and Planning Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 51), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.

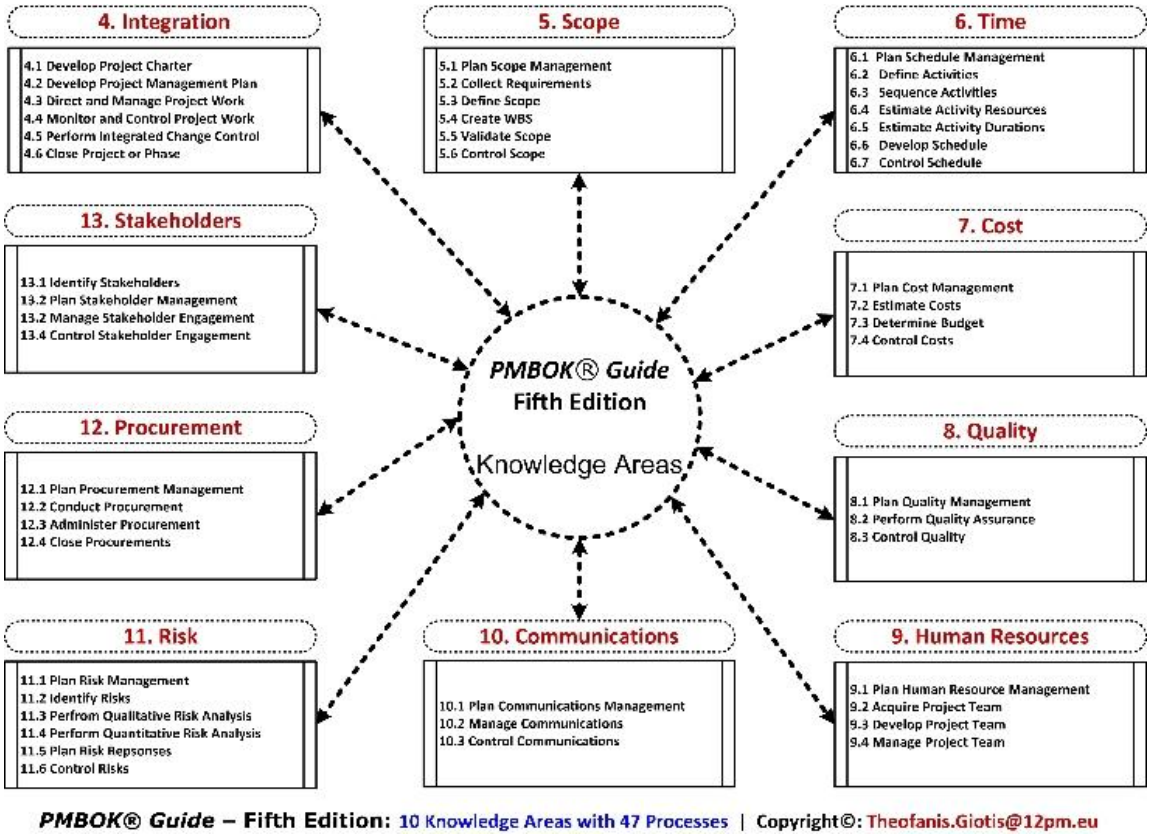

Figure 5 Project Management Knowlede Areas :Reprinted from "*A Guide to the Project Management Body of Knowledge* ", Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.

2.2.5 Project management knowledge areas

There are "47 project management processes identified in the *PMBOK® Guide* … [that have been] … grouped into ten separate knowledge areas (Project Management Institute, 2013, p. 422). All of which will be used during the lifecycle of the FGP.

The ten knowledge areas of project management (Project Management Institute, 2013), as identified **figure 5** above, are as follows:

1. Integration management
2. Scope management
3. Time management
4. Cost management

5. Quality management
6. Human Resources management
7. Communication management
8. Risk management
9. Procurement management
10. Stakeholder management

2.2.5.1 Project Integration Management

Project Integration Management "includes the processes and activities to identify, define, combine, unify and coordinate the various processes and project management activities within the Project Mangement Process Groups" (Project Management Institute, 2013, p. 63).

Figure 6 below provides an overview of the PMI's Project Integration Management Processes which include:

- **4.1 Develop Project Charter**- The process of developing a document that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities. (Project Management Institute, 2013, p. 63)

- **4.2 Develop Project Management Plan-** The process of defining, preparing, and coordinating all subsidary plans and integrating them into a comprehensive project management plan. The project's integrated baselines and subsidary plans may be included within the project management plan. (Project Management Institute, 2013, p. 63)

- **4.3 Direct and Manange Project Work** – The process of leading and performing the work defined in the project management plan and implementing approved changes to achieve the project's objectives. (Project Management Institute, 2013, p. 63)

- **4.4 Monitor and Control Project Work-** The process of tracking, reviewing, and reporting project progress against the performance objectives defined in the project management plan. (Project Management Institute, 2013, p. 63)

- **4.5 Perform Integrated Change Control** – The process of reviewing all change requests; approving changes and managing changes to deliverables, organizational process assets, project documents, and the project management plan; and communicating their disposition. (Project Management Institute, 2013, p. 63)

- **4.6 Close Project or Phase** – The process of finalizing all activities across all of the Project Management Process Groups to formally complet the phase or project. (Project Management Institute, 2013, p. 63)

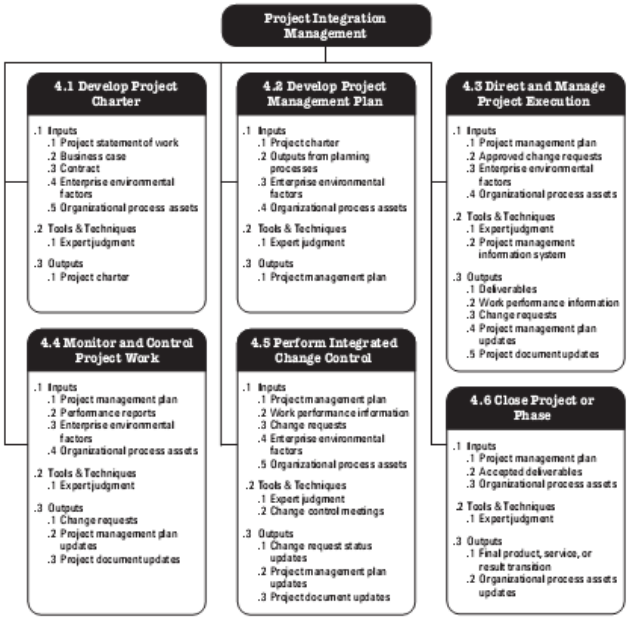

Figure 6 *PMBOK® Guide* Project Integration Management Overview. Reprinted from "*A Guide to the Project Management Body of Knowledge"* (p. 65), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc

2.2.5.2 Project Scope Management

"Project Scope Management includes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully" (Project Management Institute, 2013, p.105).

Figure 7 below provides an overview of the PMI's Project Scope Management Processes which include:

- **5.1 Plan Scope Management**- The process of creating a scope management plan that documents how the project scope will be defined, validated and controlled. (Project Management Institute, 2013, p.105).

- **5.2 Collect Requirements –** The process of determining, documenting, and managing stakeholder needs and requirements to meet project objectives. (Project Management Institute, 2013, p.105).

- **5.3 Define Scope** – The process of developing a detailed description of the project and product. (Project Management Institute, 2013, p.105).

- **5.4 Create WBS** – The process of subdividing project deliverables and project work into smaller more manageable components. (Project Management Institute, 2013, p.105).

- **5.5 Validate Scope**- The process of formalizing acceptance of the completed project deliverables. (Project Management Institute, 2013, p.105).

- **5.6 Control Scope** – The process of monitoring the status of the project and product scope and managing changes to the scope baseline. (Project Management Institute, 2013, p.105).

In an effort to accurately capture the necessary scope to successfully complete the construction of the BRI- Medical Complex project, processes 5.1, 5.2, 5.3, and 5.4 will be applied when developing the Project Management Plan.

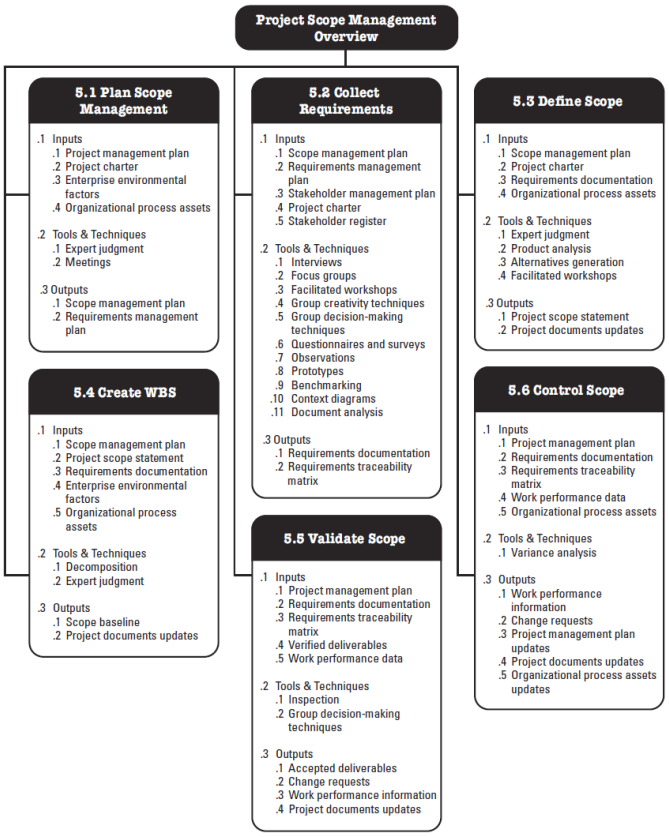

Figure 7 ***PMBOK® Guide*** **Project Scope Management Overview. Reprinted from "*A Guide to the Project Management Body of Knowledge*" (p. 106), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.**

2.2.5.3 Project Time Management

Project Time Management "includes the processes required to manage the timely completion of the project "(Project Management Institute, 2013, p. 141).

Figure 8 below provides an overview of the PMI's Project Time Management Processes which include:

- **6.1 Plan Schedule Management** - The process of establishing the policies,procedures, and documentation for planning, developing, managing , executing and controlling the project schedule. (Project Management Institute, 2013, p. 141).

- **6.2 Define Activities-** The process of identifying and documenting the specific actions to be performed to produce the project deliverables,(Project Management Institute, 2013, p. 141).

- **6.3 Sequence Activities**- The process of identifying and documenting relationships among the projec activities. (Project Management Institute, 2013, p. 141).

- **6.4 Estimate Activity Resources-** The process of estimating the type and quantities of material, human resources, equipment, or supplies required to perform each activity. (Project Management Institute, 2013, p. 141).

- **6.5 Estimate Activity Durations**- The process of estimating the number of work periods needed to complete individual activities with estimated resources. (Project Management Institute, 2013, p. 141).

- **6.6 Develop Schedule-** The process of analyzing acivity sequences, durations, resource requirements, and Schedule contraints to create the project Schedule model. (Project Management Institute, 2013, p. 141).

- **6.7 Control Schedule-** The process of monitoring the status of project activities to update project progress and manage changes to the schedule baseline to achieve the plan. (Project Management Institute, 2013, p. 141).

Processes **6.1, 6.2, 6.3, 6.4, 6.5,** and **6.6** will be applied to create the Schedule Management Plan.

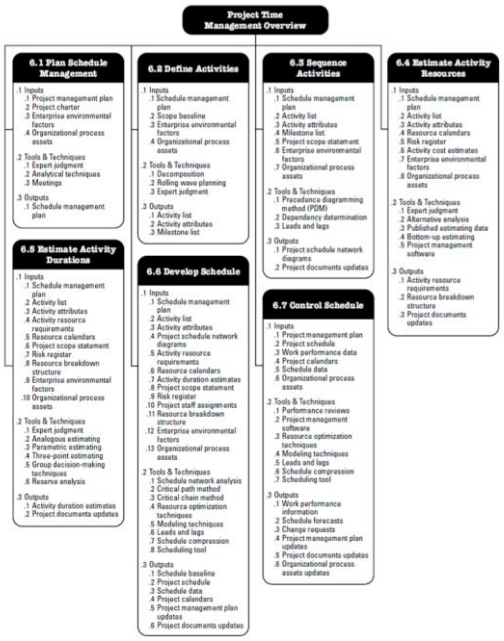

Figure 8 ***PMBOK® Guide*** **Project Time Management Overview Reprinted from"** ***A Guide to the Project Management Body of Knowledge*** **"(p. 143), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.**

2.2.5.4 Project Cost Management

"Project Cost Management includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project can be completed within the approved budget" (Project Management Institute, 2013, p. 193).

Figure 9 below provides an overview of the PMI's Project Cost Management Processes which include:

- **7.1 Plan Cost Mangement**- The process that establishes the policies, procedures, and documentation for planning,managing, expending and controlling project costs. (Project Management Institute, 2013, p. 193).

- **7.2 Estimate Costs** – The process of developing an approximation of the monetary resources needed to complete project activities. (Project Management Institute, 2013, p. 193).

- **7.3 Determine Budget-** The process of aggregating the estimated costs of individual activities or work packages to establish an authorized cost baseline. (Project Management Institute, 2013, p. 193).

- **7.4 Control Costs-** The process of monitoring the status of the project to update the project costs and managing changes to the cost baseline.

To develop the Cost Management Plan, processes **7.1** through **7.3** will be employed.

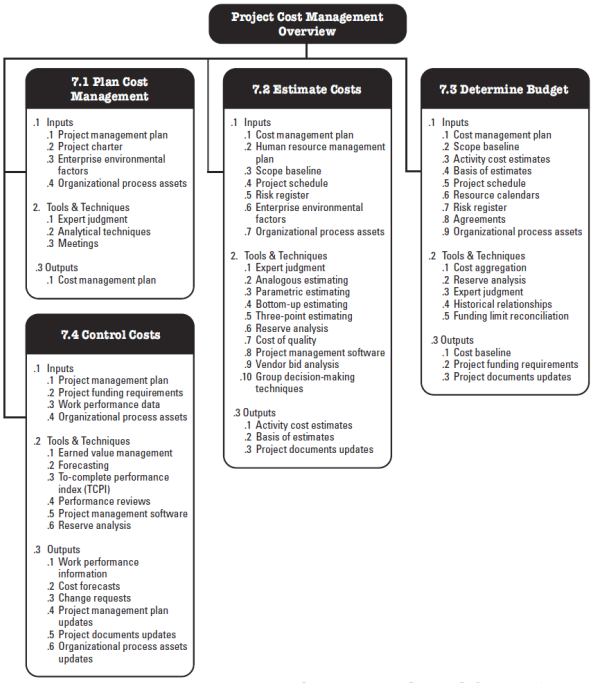

Figure 9 *PMBOK® Guide* Project Cost Management Overview. Reprinted from "*A Guide to the Project Management Body of Knowledge* "(p. 194), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.

2.2.5.5 Project Quality Management

"Project Quality Management includes the processes and activities of the performing organization that determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken" (Project Management Institute, 2013, p. 227).

Figure 10 below provides an overview of the processes for Project Quality Management according to PMI which includes the following:

- **8.1 Plan Quality Management** – The process of identifying quality requirements and/or standards for the project and its deliverables and documenting how the project will demonstrate compliance with quality requirements and/or standards. (Project Management Institute, 2013, p. 227).

- **8.2 Perform Quality Assurance**- The process of auditing the quality requirements and the results from quality control measurements to ensure that appropriate quality standards and operational definitions are used. (Project Management Institute, 2013, p. 227).

- **8.3 Control Quality** – The process of monitoring and recording results of executing the quality activites to assess performance and recommend necessar y changes.(Project Management Institute, 2013, p. 227).

Only process **8.1** will be used during project planning to produce the Quality Management Plan that will guide the project's Quality Assurance.

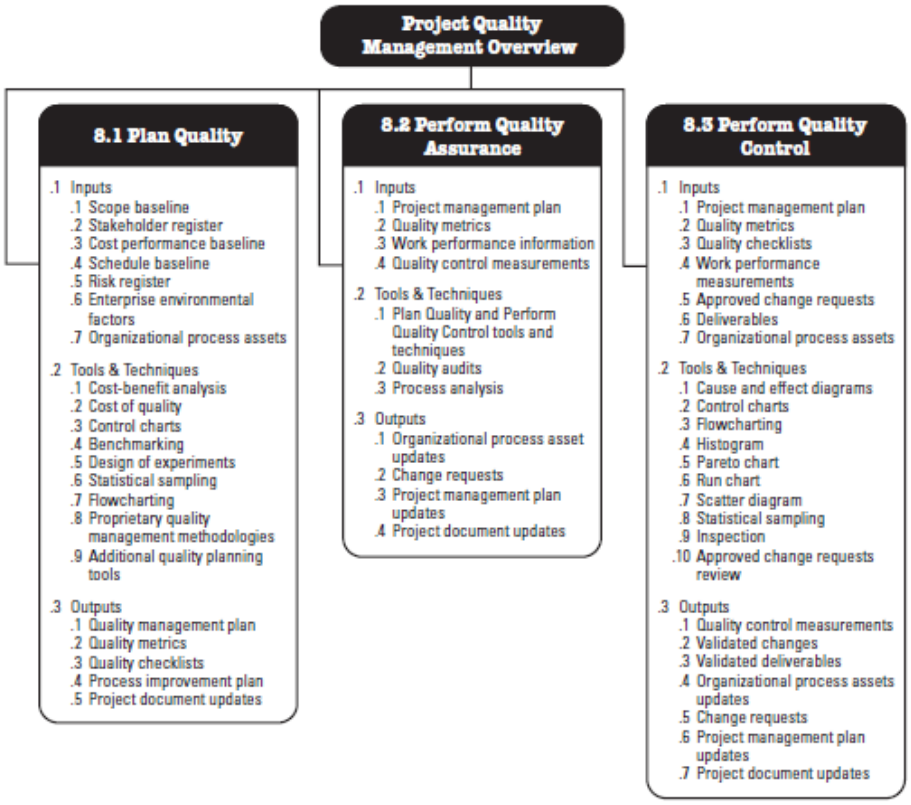

Figure 10 *PMBOK® Guide* Project Quality Management Overview. Reprinted from "*A Guide to the Project Management Body of Knowledge* "(p. 230), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.

2.2.5.6 Project Human Resource Management

"Project Human Resource Management includes the processes that organize, manage, and lead the project team" (Project Management Institute, 2013, p. 255).

9.1 Plan Human Resource Management- The process of identifying and documemting project roles, responsibilities, required skills, reporting relationships, and creating a staffing management plan. (Project Management Institute, 2013, p. 255).

9.2 Acquire Project Team – The process of confirming human resource availability and obtaining the team necessary to complete project activities. (Project Management Institute, 2013, p. 255).

9.3 Develop Project Team- The process of improving competencies, team member interaction, and overall team environment to enhance project performace. (Project Management Institute, 2013, p. 255).

9.4 Manage Project Team – The process of tracking team member performance, providing feedback, resolving issues, and managing changes to optimize project performance. (Project Management Institute, 2013, p. 255).

For the purposes of this project only process **9.1** will be used during project planning to develop the Human Resource Management Plan.

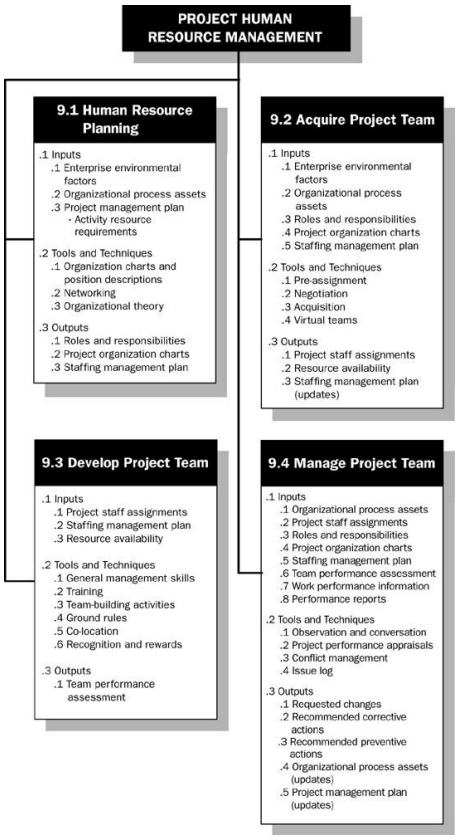

Figure 11 *PMBOK® Guide* Project Human Resource Management Overview. Reprinted from "A Guide to the Project Management Body of Knowledge" (p. 257), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.

2.2.5.7 Project Communications Management

"Project Communications Management includes the processes that are required to ensure a timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project information" (Project Management Institute, 2013, p.287). As such, only process 10.1 will be referenced during project planning to develop the project's Communication Plan.

Figure 12 below provides an overiew the Project Communications Management processes as described in the *PMBOK® Guide, which include:*

- **10.1 Plan Communications Management-** The process of developing an appropriate approach and plan for project Communications based on stakeholder's information needs and requiremnts, and available organizational assets. (Project Management Institute, 2013, p.287).

- **10.2 Manage Communications** – The process of creating, collecting, distributing, storing, retrieving and the ultímate disposition of project information in accordance with the Communications management plan. (Project Management Institute, 2013, p.287).

- **10.3Control Communications-** The process of monitoring and controlling communications throughout the entire project life cycle to ensure the information needs of the proeject stakeholder are met. (Project Management Institute, 2013, p.287).

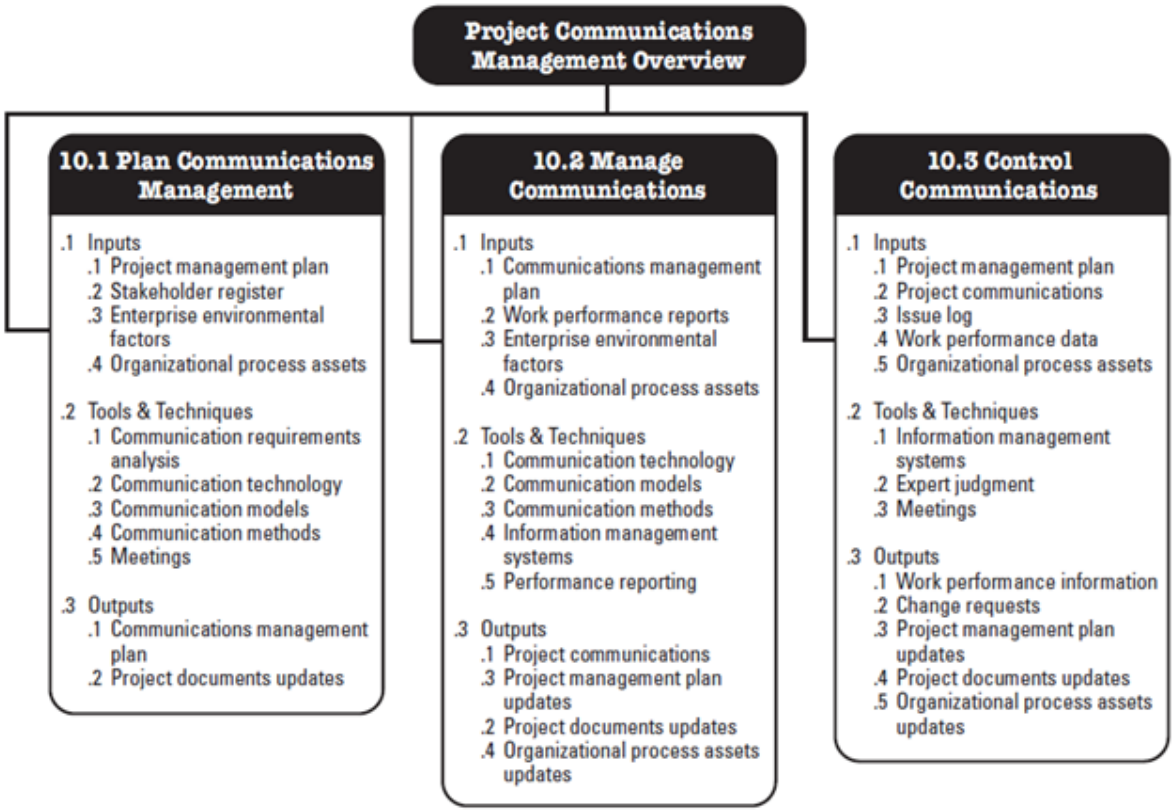

Figure 12 *PMBOK® Guide* Project Communications Management Processes. Reprinted from *"A Guide to the Project Management Body of Knowledge"* (p. 288), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.

2.2.5.8 Project Risk Management

According to PMI, "Project Risk Management includes the processes of conducting risk management planning, identification, analysis, response planning, and controlling risk on a project" (Project Management Institute, 2013, p. 309). Figure 13 below provides and overview of the Project Risk Mangement process which include the following:

- **11.1 Plan Risk Management**- The process of defining how to conduct Risk management activities for a project. (Project Management Institute, 2013, p. 309).

- **11.2 Identify Risks** – The process of determining which risks may affect the project and documenting their characertistics. (Project Management Institute, 2013, p. 309).

- **11.3 Perform Qualitative Risk** Analysis – The process of prioritizing risks for further analysis or action by assessing and combining their probability of occurence and impact. (Project Management Institute, 2013, p. 309).

- **11.4 Perform Quantitative Risk Analysis**- The process of numerically analyzing the effect of identified risks on overall project objectives. (Project Management Institute, 2013, p. 309).

- **11.5 Plan Risk Responses** – The process of developing options and actions to enhance opportunities and to reduce threats to project objectives. (Project Management Institute, 2013, p. 309).

- **11.6 Control Risks** – The process of implementing Risk response plans, tracking identified risks, monitoring residual risks, identifyying new risks, and evaluating Risk process esgectiveness throughout the project. (Project Management Institute, 2013, p. 309).

For the development of the Project Risk Management Plan only processes **11.1, 11.2, 11.3** and **11.5** will be used during project planning.

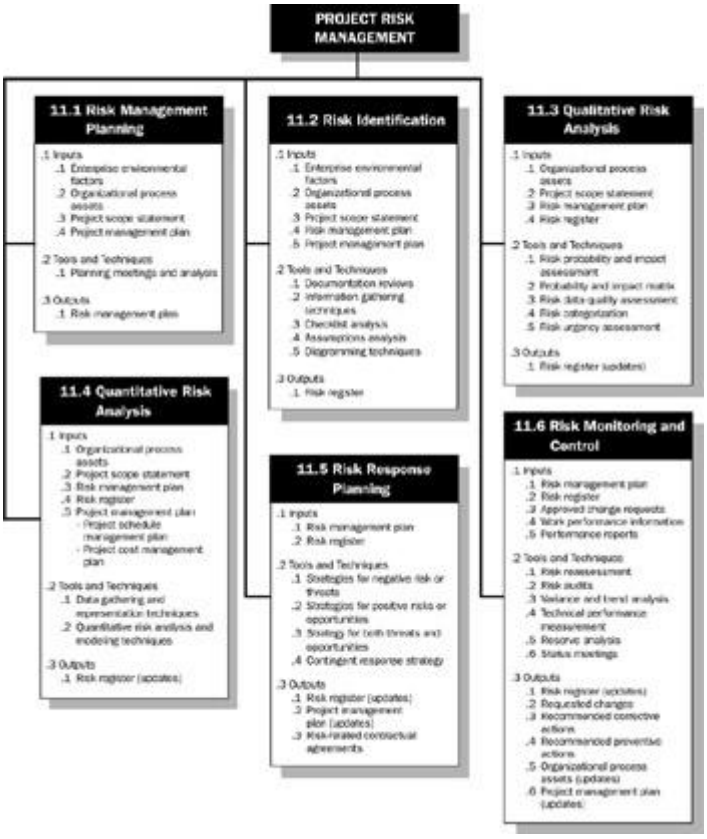

Figure 13 *PMBOK® Guide* Project Risk ManagementOverview. Reprinted from "*A Guide to the Project Management Body of Knowledge* "(p. 312), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.

2.2.5.9 Project Procurement Management

"Project Procurement Management includes the processes necessary to purchase or acquire products, services, or results needed from outside the project team" (Project Management Institute, 2013, p. 355). **Figure 14** below outlines an overview PMI's Procurement Management Processes which include the following:

- **12.1 Plan Procurement Management** – The process of documenting project Procurement decisions, specifying the approach, and identifying potential sellers. (Project Management Institute, 2013, p. 355)

- **12.2 Conduct Procurments**- The process of obtaining seller responses, selecting a seller, and awarding a contract. (Project Management Institute, 2013, p. 355)

- **12.3 Control Procurements**- The process of managing Procurement relationships, monitoring contract performance, and making chnages and corrections as appropriate. (Project Management Institute, 2013, p. 355)

- **12.4 Close Procurements**- The process of completing each project Procurement. (Project Management Institute, 2013, p. 355)

Only process **12.1** from the processes detailed below will be used to develop the Procurement Management Plan during project planning.

Figure 14 *PMBOK® Guide* Project Procurement Management Processes. Reprinted from "*A Guide to the Project Management Body of Knowledge*" (p. 356), Project Management Institute, 2013, Project Management Institute. Copyrigh 2013 by Project Management Institute, Inc.

2.2.5.10 Project Stakeholder Management

Project Stakeholder Management includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution. (Project Management Institute, 2013, p.391) By doing this, the project management team can anticipate the level of influence each stakeholder may have over the project and plan remedies thereby increasing the likelihood of the project's successful completion. (Project Management Institute, 2013, p. 399).

An overview of the four Project Stakeholder Management processes are provided in the *PMBOK® Guide* in **figure 15** below which includes the following:

13.1 Identify Stakeholders- The process of identifying the people, groups or organizations that could impacto r be impacted by a decisión, activity, or outcome of the projec; and analyzing and documenting relevant information regarding their interests, involvment, interdependencies, influence, and potential impact on project success. (Project Management Institute, 2013, p.391)

13.2 Plan Stakeholder Management- The process of developing approriate management strategies to effectively engage in stakeholders throughout the project life cycle, based on the analysis of their needs, interests and potential impact on project success. (Project Management Institute, 2013, p.391)

13.3 Manage Stakeholder Engagement – The process of communicating and working with stakeholders to meet their needs/expectations, address issues as they occur, and Foster appropriate stakeholder engagement in project activities throughout the project life cycle. (Project Management Institute, 2013, p.391)

13.4 Control Stakeholder Engagement- The process of monitoring overall roject stakeholder relationships and adjusting strategies and plans for engaging stakeholders. (Project Management Institute, 2013, p.391)

Only the first two processes ***(13.1 and 13.2***) are required to develop the *project* management plan, which will in turn be used to manage and control stakeholder engagement during the project execution and monitoring and controlling processes.

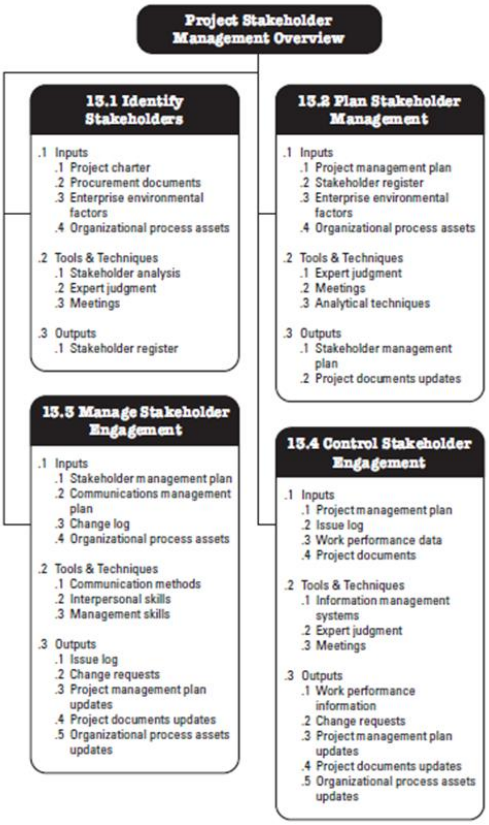

Figure 15 *PMBOK® Guide* Project Stakeholder Management Overview. Reprinted from "*A Guide to the Project Management Body of Knowledge"* (p. 392), Project Management Institute, 2013, Project Management Institute. Copyright 2013 by Project Management Institute, Inc.

2. 3 Other applicable theory/concepts related to the project topic and context

Construction Management

Construction Project Management is a unique subset of project management because there are far more conditions that provide unique challenges and opportunities. Challenges are risks and these risks are dynamic and many. Construction Project Management in the context of this project is concerned with buildings. All buildings, even those that are modular, present unique geographical and environmental challenge and opportunities. Therefore, it is impossible to construct a building with the same results. The Project Management processes of each must be considered separately and risks and opportunities fully explored on a project-by-project basis. Construction project usually requires trained

and certified professionals to manage project activities. These activities often utilize large quantities of material, tools and equipment and skilled and unskilled labor.

The development of the Final Graduation Project (FGP) will consist of the creation of the Project Management Plan for the construction of the BRI-Medical Complex and will be managed as a project. After which, the construction of the Medical complex project will be managed as another project with six (6) phases. Each phase is identified below:

1. **PHASE 1: Initiation Phase**
2. **PHASE 2: Design Phase**
3. **PHASE 3: Pre-Construction Phase**
4. **PHASE 4: Construction**
5. **PHASE 5: Post Construction Phase**
6. **PHASE 6: Project Closure**

The following are Phases of the BRI –Medical Complex project which special emphasis will be placed:

- Design
- Construction
- Start up-Mobilization
- Procurement
- Administration
- Testing
- Project Closure

Work Breakdown Structure

Work Breakdown Structure (WBS) is defined as “A hierarchical decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables.” (Project Management Institute, 2015, p.14). WBS is one of the most useful project management tools for “organizing the scope of the project” (Project Management Institute, 2006, p.15). The use of WBS has made it possible for complex projects like the BRI- Medical Complex’s scope to be decomposed (subdivided) into smaller and more manageable sections. As a part of the Scope Management Plan a WBS will be developed which will show the work packages and deliverables for the construction of the medical complex.

3. METHODOLOGICAL FRAMEWORK

3.1 Information sources

Information is processed data. Information sources are the various means by which information is recorded for use by an individual or an organization; it is the means by which a person is informed about something or knowledge is availed to someone, a group of people or an organization (Harvard Library,2017)

Information sources can be observations, people, speeches, documents, pictures, organizations. It can also be in print, non-print and electronic media or format (Harvard Library, 2017). To develop the Final Graduation Project, primary and secondary sources will be used.

Primary sources

Yale University Library (2017) indicates that “primary sources provide first hand testimony or direct evidence concerning a topic or question under investigation.”

Primary Sources in its original form not interpreted or condensed or evaluated by other users; and are original materials on which other research studies are based.

For the development of the Final Graduation Project, the primary information sources that will be used are:

- Heads of Department (CEO)
- Personal Interviews with members of AVDC
- Interviews with other stakeholders
- Meeting minutes
- Government Official reports

Refer to **Chart 1**, for the summary of specific primary information sources that will be used.

Secondary sources

A secondary source of information is one that was created by someone who has no first hand experience or did not participate in the events or conditions being researched. ((Harvard Library, 2016).

Secondary sources are general accounts written after the fact with the benefit of hindsight; they describe, analyze, interpret, evaluate, comment on and discuss the evidence provided by primary sources. (Schmidt, 2013, p. 62).

For the development of the Final Graduation Project, secondary sources that will be used are:

- A Guide to Project Management Body of Knowledge
- The PMI database
- Related literature studies on project management plans
- Library database

Refer to **Chart 1** for the summary of secondary sources used for each specific objective.

Chart 1 Information sources (Source: J. Williams, The Author, July 2017)

Objectives	Information sources	
	Primary	Secondary
To create a project charter to establish an understanding of the expected deliverables for the project, to provide guidance for the project manager and team in its management and completion of the project.	Meeting minutes, personal interview with lead project manager (expert) , Government Officials	PMBOK® Guide and PMI and library database and the internet
To create a scope management plan to ensure the project includes all the tasks required to successfully complete the project.	Meeting minutes and personal interview with lead project manager and CEO of AVDV and Government Officials	PMBOK® Guide and PMI and library database and the internet
To create a cost management plan to detail the processes for managing project financial resources that are to be followed through all stages of the project	Personal interview with CEO , Government Officials and project manager of AVDC	PMBOK® Guide and PMI and library database and the internet

To develop a quality management plan to describe how quality will be managed throughout the project, and define how the project team will implement, support, and communicate project quality practices for use within the project.	Personal interview with government officials, CEO and project manager of AVDC.	PMBOK® Guide and PMI and library database and the internet
To create a human resource management plan to ensure that all human resources are identified and managed effectively to complete the project within time, cost and scope constraints.	Personal interviews with Ceo and llead project manager of AVDC, government officials, AVDC Human Resource Manager	PMBOK® Guide and PMI and library database and the internet
To create a schedule management plan to support, define and manage the approach the project (team) will use in creating the project schedule that ensures the project is completed within the time constraints.	Personal interview with government officials , CEO and project manager of AVDC.	*PMBOK® Guide and PMI and library database and the internet*
To develop a communications management plan to define the requirements for the project and how information will be distributed and feedback received from all stakeholders	Personal interview with government officials , CEO and project manager of AVDC.	*PMBOK® Guide and PMI and library database and the internet*
To create a risk management plan to establish the framework in which the project team will identify risk and develop strategies to mitigate or avoid risks as well as to define how risks associated with the project will be recorded and monitored throughout the project lifecycle	Personal interview with government officials , CEO and project manager of AVDC.	*PMBOK® Guide and PMI and library database and the internet*

To develop a stakeholder management plan to identify and support all the project stakeholders as well as to analyze and develop strategies to ensure effective stakeholder engagement and expectations.	Personal interview with government officials , CEO and project manager of AVDC.	*PMBOK® Guide and PMI and library database and the internet*
To develop a procurement management plan to define the procurement requirements for the project and to determine how it will be managed from developing procurement documentation through contract closure	Purchasing institutions, personal interviews with lead project manager (expert)	*PMBOK® Guide and PMI database and the internet*

3.2 Research methods

Bryman (2012) defines research method as a technique for collecting data. It includes the various procedures, schemes and algorithms used to gather data and find solution(s) to a problem (Rajasekar, Philominathan, & Chinnathambi, 2016).

3.2.1 Analytical Methods

According to Project Management Institute (2013), analytical technique/methods are various types of techniques used to evaluate, analyze or forecast potential outcomes.

Analytical techniques are methods that analyze problems, fact or status in order to accurately forecast potential outcomes while factoring in project variables. They are used to solve specific issues in a particular task. (Management Mania,2017).

3.2.2 Expert Judgment

According to Sotille (2016) expert judgment **"**is a technique in which judgment is provided based upon a specific set of criteria and/or expertise that has been acquired in a specific knowledge area, application area, or product area, a particular discipline, an industry, etc. Such expertise may be provided by any group or person with specialized education, knowledge, skill, experience, or training." This knowledge base can be provided by a member of the project team, or multiple members of the project team, or by a team leader or team leaders. (Project Management Institute, 2013).

However, typically expert judgment requires an expertise that is not present within the project team and, as such, it is common for an external group or person with a specific relevant skill set or knowledge base to be brought in for a consultation.

The research methods for each specific objective are indicated in **Chart 2** below.

Chart 2 Research Methods (Source: J. Williams, The Author, July 2017)

Objectives	Analytical Research Method	Expert Judgment
To create a project charter to establish an understanding of the expected deliverables for the project, to provide guidance for the project manager and team in its management and completion of the project.	The analytical method will be utilized by using facts or information from the sources identified in Chart 1 objective 1 above, to guide decision making when creating the project charter	Expert Judgment will be used, to guide decision making when creating the project charter.
To create a scope management plan to ensure the project includes all the tasks required to successfully complete the project.	The analytical method will be employed by using facts or information from the sources identified in Chart 1 objective 2 above, to drive decision making when creating the documents, which comprise the scope management plan.	Expert Judgment will be used, to guide decision making when creating the the documents, which comprise the scope management plan
To create a cost management plan to		Expert Judgment will be used, to

detail the processes for managing project financial resources that are to be followed through all stages of the project.	The analytical method will be utilized by using information from the sources identified in Chart 1 objective 3 above, to drive decision making when creating the documents that will comprise the cost management plan.	guide decision making when creating the documents that will comprise the cost management plan
To develop a quality management plan to describe how quality will be managed throughout the project, and define how the project team will implement, support, and communicate project quality practices for use within the project.	The analytical method will be used by utilizing information from the sources identified in Chart 1 objective 4 above, to drive decision making when creating the documents that will comprise the quality management plan.	Expert Judgment will be used, to guide decision making when creating the documents that will comprise the quality management plan.
To create a human resource management plan to ensure that all human resources are identified and managed effectively to complete the project within time, cost and scope constraints.	The analytical method and expert judgment will be employed by using information derived from the sources identified in Chart 1 objective 5 above, to drive decision making when creating the documents that will comprise the human resource management plan.	Expert Judgment will be used, to guide decision making when creating the documents that will comprise the human resource management plan.
To create a schedule management plan to support, define and manage the approach the project (team) will use in creating the project schedule that ensures the project is completed within the time constraints.	The analytical method will be utilized by using information from the sources identified in Chart 1 objective 6 above, to aid in decision making when creating the documents that will comprise the time management plan.	Expert Judgment will be used, to guide decision making when creating the documents that will comprise the schedule management plan.
To develop a communications management plan to define the requirements for the project and how information will be distributed and feedback received from all stakeholders	The analytical method will be utilized by using information derived from the sources identified in Chart 1 objective 7 above, to aid in decision making when creating the documents that will comprise the communications management plan	Expert Judgment will be used, to guide decision making when creating the documents that will comprise the communication management plan.
To create a risk management plan to establish the framework in which the project team will identify risk and	The analytical method will be utilized by using information derived from the sources identified in Chart 1	Expert Judgment will be used, to guide decision making when creating the documents that will comprise the

develop strategies to mitigate or avoid risks as well as to define how risks associated with the project will be recorded and monitored throughout the project lifecycle.	objective 8 above, to aid decision making when creating the documents that will comprise the risk management plan.	risk management plan.
To develop a stakeholder management plan to identify and support all the project stakeholders as well as to analyze and develop strategies to ensure effective stakeholder engagement and expectations.	The analytical method will be utilized by using information derived from the sources identified in Chart 1 objective 9 above, to aid decision making when creating the documents that will comprise the risk management plan.	Expert Judgment will be used, to guide decision making when creating the documents that will comprisethe stakeholder management plan.
To develop a procurement management plan to define the procurement requirements for the project and to determine how it will be managed from developing procurement documentation through contract closure	The analytical method will be utilized by using information derived from the sources identified in Chart 1 objective 9 above, to aid decision making when creating the documents that will comprise the human resource management plan.	Expert Judgment will be used, to guide decision making when creating the documents that will comprise the procurement management plan.

3.3 Tools

According to the *PMBOK® Guide,* a tool is defined as “something tangible, such as a template or software program, used in performing an activity to produce a product or result” (Project Management Institute, 2013, p. 565).

Tools that will be utilized in the Final Graduation Project are identified and listed below in **Chart 3**

Chart 3 Tools (Source: J. Williams, The Author, July 2017)

Objectives	Tools
To create a project charter to establish an understanding of the expected deliverables for the project, to provide guidance for the project manager and team in its management and completion of the project.	Project Charter template and Project Management Plan template
To create a scope management plan to ensure the project includes all the tasks required to successfully complete the project	Work Breakdown Structure, and Scope Management Plan template
To create a cost management plan to detail the processes for managing project financial resources that are to be followed through all stages of the project.	Cost Management Plan template, Microsoft Excel 2016 Project Budgeting template, and Cost Baseline template
To develop a quality management plan to describe how quality will be managed throughout the project, and define how the project team will implement, support, and communicate project quality practices for use within the project.	Quality Management Plan template and Quality Management tools (Checksheets)
To create a schedule management plan to support, define and manage the approach the project (team) will use in creating the project schedule that ensures the project is completed within the time constraints.	Schedule Management Plan template, Microsoft Project 2016, Microsoft Visio Professional 2016, and Activity List template
To develop a communications management plan to define the requirements for the project and how information will be distributed and feedback received from all stakeholders	Communications Management Plan template and Communications Matrix
To create a risk management plan to establish the framework in which the project team will identify risk and develop strategies to mitigate or avoid risks as well as to define how risks associated with the project will be recorded	Risk Management Plan template, and Risk Register template

and monitored throughout the project lifecycle.	
To develop a stakeholder management plan to identify and support all the project stakeholders as well as to analyze and develop strategies to ensure effective stakeholder engagement and expectations.	Stakeholder Management Plan template, Stakeholder Analysis Chart, Microsoft Excel 2016, Stakeholder Register template, Stakeholder Engagement Assessment Matrix, Online Stakeholder Power/Interest Grid Creator
To develop a procurement management plan to define the procurement requirements for the project and to determine how it will be managed from developing procurement documentation through contract closure.	Procurement Management Plan template

3.4 Assumptions and constraints

PMI defines an assumption as "a factor in the planning process considered to be true, real, or uncertain, without proof or demonstration" (Project Management Institute, 2016, p. 1).Therefore an assumption is a belief of what you assume to be true in the future. You make assumptions based on your knowledge, experience or the information available on hand. These are anticipated events or circumstances that are expected to happen during your project's life cycle.

Constraints are limitations imposed on the project, such as the limitation of cost, schedule, or resources, and you have to work within the boundaries restricted by these constraints. All projects have constraints, which are defined at the beginning of the project. (Project Management Institute, 2016, p. 2). The *PMBOK® Guide* (2013) recognizes six project constraints: scope, quality, schedule, budget, resource and risk. Out of these six, scope, schedule, and budget are collectively known as the triple constraints.

The assumptions and constraints considered on the Final Graduation Project for each specific objective are summarized in **Chart 4** below.

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Chart 2 Assumptions and constraints (Source J. Williams, The Author, July 2017)

Objectives	Assumptions	Constraints
To create a project charter to establish an understanding of the expected deliverables for the project, to provide guidance for the project manager and team in its management and completion of the project.	The charter will be created before all other subsidiary documents.	Completion of project charter must occur within a limited time frame.
To create a scope management plan to ensure the project includes all the tasks required to successfully complete the project.	The scope management plan will identify all the work required for the project.	The scope may change as the project progresses.
To create a cost management plan to detail the processes for managing project financial resources that are to be followed through all stages of the project.	It is assumed that the Government of SVG, AVDC and subcontractors will commit to the provision of a sustained source of funds for the. BRI-Medical Complex.	The budget for the building of the BRI-Medical Complex must not exceed $200 million dollars
To develop a quality management plan to describe how quality will be managed throughout the project, and define how the project team will implement, support, and communicate project quality practices for use within the project.	The quality management plan will identify all of the technical and managerial quality requirements of the project.	The quality constraints require that the structure of the medical complex is able to withstand the weather during the hurricane season and exhibit the features and operations associated with a world-class medical center
To create a human resource management plan to ensure that all human resources are identified and managed effectively to complete the project within time, cost and scope constraints	The organization has sufficient human resources to complete the project	Only the human resources, working and overtime hours (wages) identified and outlined will be

Objectives	Assumptions	Constraints
		included in the budget..
To create a schedule management plan to support, define and manage the approach the project (team) will use in creating the project schedule that ensures the project is completed within the time constraints.	The time allocated for the development of the Project Management Plan is sufficient	Project Management plan should be complete by February 17th, 2018.
To develop a communications management plan to define the requirements for the project and how information will be distributed and feedback received from all stakeholders	The organization has the technology required to engage and support the communication needs of all stakeholders.	There is a high level of dependency on the availability of electricity and consistency of internet access.
To create a risk management plan to establish the framework in which the project team will identify risk and develop strategies to mitigate or avoid risks as well as to define how risks associated with the project will be recorded and monitored throughout the project lifecycle	There is sufficient information required to adequately identify and deal with project risks.	The project risks need identified within the planning phase (stage) or as early as possible.
To develop a stakeholder management plan to identify and support all the project stakeholders as well as to analyze and develop strategies to ensure effective stakeholder engagement and expectations.	The plan will include a complete list of all stakeholders involved and a strategy as to how to properly manage each expecations .	The information gathered to plan and manage stakeholders must be accurate.
To develop a procurement management plan to define the procurement requirements for the project and to determine how it will be managed from developing procurement documentation through contract closure.	An intial list of suppliers and buyers/contractors has already been identified by the AVDC.	The list of suppliers should be extensive and acquiring good/supplies form international suppliers should arrive in a timely manner,

3.5 Deliverables

In project management, a deliverable is a product or service that is given to your client. A deliverable usually has a due date and is tangible, measurable and specific. A deliverable can be given to either an

external or internal customer and satisfies a milestone or due date that is created and produced in the project plan.

A deliverable is defined as “any unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase, or project” (Project Management Institute, 2013, p. 537).

Chart **5** compiles the list of deliverables that will be generated for the various specific objectives.

Chart 5 Deliverables (Source: J. Williams, The Author, July 2017)

Objectives	**Deliverables**
To create a project charter to establish an understanding of the expected deliverables for the project, to provide guidance for the project manager and team in its management and completion of the project	Project Charter
To create a scope management plan to ensure the project includes all the tasks required to successfully complete the project.	Scope Management Plan
To create a cost management plan to detail the processes for managing project financial resources that are to be followed through all stages of the project	Cost Management Plan
To develop a quality management plan to describe how quality will be managed throughout the project, and define how the project team will implement, support, and communicate project quality practices for use within the project	Quality Management Plan
To create a human resource management plan to ensure that all human resources are identified and managed effectively to complete the project within time, cost and scope constraints	Human Resource Mangement Plan

To create a schedule management plan to support, define and manage the approach the project (team) will use in creating the project schedule that ensures the project is completed within the time constraints	Schedule Management Plan
To develop a communications management plan to define the requirements for the project and how information will be distributed and feedback received from all stakeholders	Communications Management Plan
To create a risk management plan to establish the framework in which the project team will identify risk and develop strategies to mitigate or avoid risks as well as to define how risks associated with the project will be recorded and monitored throughout the project lifecycle.	Risk Management Plan
To develop a stakeholder management plan to identify and support all the project stakeholders as well as to analyze and develop strategies to ensure effective stakeholder engagement and expectations	Stakeholder Management Plan
To develop a procurement management plan to define the procurement requirements for the project and to determine how it will be managed from developing procurement documentation through contract closure.	Procurement Management Plan

4. RESULTS

4.1 Project Charter

The Project Charter for the Construction of the BRI-Medical Complex provides a preliminary delineation of roles and responsibilities, outlines the project objectives, identifies the main stakeholders, and defines the authority of the project manager. It is a critical component of the BRI-Medical Complex Project's initiation and planning phases, which serves as a reference throughout the life of the project

The Project Charter was the first process in the Project Integration Management knowledge area, which was a part of developing the Project Management Plan for the construction of the BRI-Medical Complex project. This was delivered by using sources such as interviews, meeting minutes and the PMBOK® Guide. Furthermore, these served as the decision-making indicators in collaboration with the application of the analytical research methodology. To develop the project charter,a template from the PMI database was used as a tool . To this end the project charter would formally authorize the project and provide the Project Manager with the authority to apply organizational resources to the project to produce the Project Management Plan.

While there are many different processes for developing a project plan (Mantel, 2001, Westland, 2006, Burke, 2003) all of them use a systematic analysis to identify and list the things that must be undertaken (Mantel, 2001).

As a part of the second process of the Project Intergration Management Knowledge area, the Project Management Plan was developed which consisted of the subsidiary plans developed during the Final Graduation Project. Referenced templates were taken and adapted from internet sources and used to guide the compilation of the plan.

The Project Charter consisted of the project's purpose, objectives, description, high level risks, stakeholder list, high-level requirements, assumptions and constraints, identification of deliverables, a summary milestone schedule, overall project budget, criteria necessary for project approval, the identification of the project manager, and the sponsor's authorization. (Project Management Institute, 2013, p. 72)

PROJECT CHARTER

BRI MEDICAL COMPLEX

Arnos Vale Developmenet Corporation

Arnos Vale, St.Vincent and the Grenadines

Project Purpose/Justification

Business Need/Case

There was a long sense of urgency for a medical complex/hospital specifically geared towards the dialysis treatment and kidney diseases on the island of St.Vincent and the Grenadines. In order to receive this type of treatment, citizens had to travel to the United States or Cuba; it usually took approximately 4 hours for a patient to arrive at the hospital, which often drastically deteriorated their current medical status. To this end the idea of the construction of the BRI- Medica Complex arose. Additionally this project is being pursued as the AVDC wishes to expand and add to their existing portfolio.

Business Objectives

The AVDC is relatively new establishment and currently does not have an organizational strategic plan. However, the following business objectives were established with regard to the BRI-Medical Complex project:

a. To construct a state of the art medical facility that will provide peritoneal dialysis and hemodialysis treatment as well as other medical services to patients both locally and regionally

b. To create a structure that is economically feasible to construct and maintain in an environment prone to flooding, hurricane and similar conditions**.**

c. To provide patients with needed services those are easily accessible with minimal travel time.

d. To create an aesthetically attractive facility that projects a positive image of St. Vincent and the Grenadines.

e. To ensure that the project is self-sustainable and creates economic benefit for the business establishment and for the Government and people of St. Vincent and the Grenadines

f. To achieve exposure into a new area of expertise, profitability, credibility, competitive advantages and publicity.

Project Description

Stakeholders

Core Stakeholders

- Government of St.Vincent and the Grenadines
- BRI Steering Committee

Primary Stakeholders

AVDC (Client Organization)

- Owner
- Board of Directors
- Project Manager
- Assistant Project Manager
- Administrative Assistant
- Field Superintendent
- Foremen
- Gofer
- Draftsman

DSACC (Partner)

- Project Designer/ Architect
- Contractor

Subcontractors

- Electrical
- Plumbing

- Roofing
- Painting
- Heavy Machinery Provider
- Lift Installation
- Tiling
- Air Conditoning and Ventilation
- Furnishing
- Interior Designer
- Interior Decorator
- Dialysis Rooms/ Fittings and Installation
- Security
- Windows and Doors
- Emergency Transportation
- Ambulatory Service
- Medcial Care Supplies
- Storm Water Pollution Prevention
- Thermal Moisture
- Noise Monitoring
- Vibration Control and Monitoring
- Air Quality Management

Suppliers

- OVO Systems
- Medical Supplies Inc.
- Finishing and Furnishing
- Dynamic Guys Lighting Systems
- Harris Paints
- ACE Hardware
- Kendra’s Alluminum
- MASA
- Alarm Systems Inc
- Concrete and Brick Allied

Consultants

- Land Surveyor
- Structural Engineer
- Lead Mechanical Engineer
- Geo- Technical Engineer
- Hydrologist
- Quantity Surveyor
- Electrical Engineer

Environmental Agencies

- Go Green SVG Inc,
- SVG National Trust
- Forestry Department

Government Agencies

- Minsitry of Transport and Works
- Ministry of Planning and Urban Development
- Ministry of Health, Wellness and the Environment
- SVG National Trust

Measurable Project Objectives and Success Criteria

Requirements

The BRI – Medical Complex must be constructed from materials that are structurally sound and are able to withstand a category 5 hurricane. In addition, the building should be outfitted with components and accessories that can remain intact in an environment where the air may be contaminated by neighbouring sea salt water.

Constraints

The project should not exceed $200 (Million) XCD. The project duration should not exceed twenty-four (24) months; with eighteen (18) months to substantial completion and an additional six (6) for the project to end**.**

Assumptions :

Weather:

- The project is being constructed during the rainy season in the Caribbean; therefore, the building has to be weatherproof.

- It is assumed that there will be hurricanes; therefore, concessions have been made to reinforce the building to withstand up to a category 5 hurricane.

- It is assumed that the temperature would be very humid; therefore, this will determine the type of paint and cement finishes used.

Finances

- It is assumed that the client is funded sufficiently.

Work force

- It is assumed that there are sufficient quantities of skilled competent workers .

Schedule

- It is assumed that the project will be substantially completed in eighteen (18) months, with an additional six (6) allocated for the remaining work.

Budget

- It is assumed that the project can be accomplished and would not exceed $200,000,000.00 XCD.

Planning

- It is assumed that the Ministry of Planning and Town Board will approve all building components as indicated on the drawings and schedule.

Risks

1.If there are unfavourable weather conditions it will have an effect on the working hours and the amount of work completed impacting the project schedule causing milestones and completion delays.

2.If there is insufficent labour force it will have an effect on the scheduling and completion of the project.

3.If there is a loss or reduction in government /sponsorship funding due to cabinet adjustments it would have an effect on aquiring labour and equipment hence impacting the overal cost , quality and completion of the project.

4.If proper waste management is not executed this might cause public attention from the local media and residents which may impact the time and quality of the project .

5.If proper traffic and management of the roads around the project is not done this would cause public dissatifaction and affect the entire project.

Project Deliverables

Customer deliverables

a. Project charter
b. Architectural and Engineering Drawings
c. Design documents
d. Comprehensive site analsis and investigation report
e. Tender and Invitatin to Bid document
f. Super structure, Cement, Ply and materials delivered to Arnos Vale
g. Commencement of base and vertical construction
h. Foundation laid and Super structure erected
i. Progress report to client
j. Cladding and in walls complete
k. Windows and doors installed
l. Electrical and plumbing installation
m. Air conditioning alarms and fire safety installation
n. Miscellaneous works completed
o. Completion of building
p. Certificate of Occupancy

Ministry of Housing, Planning and Urban Developmentt deliverables

a. Structure drawings
b. Mechanical drawings
c. Plumbing and electrical drawings
d. Fire and safety plan
e. Site plan
f. Parking layout
g. Irrigation plan
h. Building permi
i. Inspection report

Preliminary Scope

The project includes the building of a four-storey multi-faceted Medical complex housing a hospital format and specifications. (See **Scope Management Plan** for specifications)

Prerequistes

Quality: quality of building material used should be of good quality and only branded (top of class) should be utilized.

Payment: should be distributed by the sponsor before execution starts.

Resources: allocated by the project manager before project execution.

Summary Milestone List

Project Kick Off	**August 22 , 2017**
Conceptual Design	**October 1, 2017**
Project Definition	**October 10. 2017**
Comprehensive Site Survey Completed	**October 13, 2017**
Soil Analysis	**October 17, 2017**
Allocation of funds and resources	**October 29th,2017**
Environmental Impact Assessment conducted	**October 27, 2017**
Feasibility Study Completed	**November 12, 2017**
Project Charter Approved	**November 12 , 2017**
Call for Architectural Proposals	**November 16, 2017**
Architect Selection	**November 23 , 2017**
Design the building	**December 7, 2017**
Architectural Design Complete and Approved	**December 8, 2017**
Permit Applications	**December 21st, 2017**
Project Management Plan approved	**December 27, 2017**
Commencement of Procurement process	**January 1st, 2018**

Tendering for subcontractors and services	**January 9th, 2018**
Contracts Awarded	**February 3rd, 3018**
Building Permits granted	**February 9th, 2018**
Roles and Responsibilities Approval	**March 6th , 2018**
Commencement of Mobilization	**April 29th, 2018**
Complettion of Mobilization	**July 5th, 2018**
Commencement of Site Work	**August 11th, 2018**
Install Lift	**Septemebr 5th. 2018**
Lift Installation Complete	**October 1st,2018**
Foundation and Concrete Walls	**October 23rd, 2018**
Steel Erecttion and concrete decks	**October 31st, 2018**
Foundation complete	**November 9th, 2018**
Basement Construction	**November 22nd, 2018**
Ground Floor Construction	**December 1st, 2018**
Ground Floor Completed	**January 4th, 2019**
First Floor and Main Entrance Construction	**January 11th, 2019**
First Floor and Main Entrance Completed	**February 21st, 2019**
Second Floor and Fixtures Construction / Installation	**February 26th, 2019**
Second Floor and Fixtures installed and completed	**March 14th, 2019**
Third Floor and Emergency Exits Constrcution	**April 8th, 2019**
Third Floor and Emergency Exits completed	**April 21st, 2019**
Roof/ Fourth Floor Top Construction	**May 1st, 2019**
Roof Top Complete	**May 29th, 2019**
Substantial Completion	**June 17, 2019**
Miscellaneous Work Completed	**July 6th, 2019**
Apply for Occupancy	**July 18th, 2019**
Punch List Complete	**August 1st, 2019**
Final Inspection	**Auugust 11th, 2019**
Building Ready for sign off and handover	**August 26th, 2019**
Project Meetings	**Septemebr 1st, 2019**
Final Account	**September 9th, 2019**

End of Project	**September 30th, 2019**

Project Budget

Item	Project Cost ($XCD)
Construction & Administration	**$5,900,000**
Value Added Tax	**$10,000,000**
Prints and Plots	**$150,000**
Permits	**$100,000**
Project Insurance	**$107,850,000**
Material Reserve	**$50,000,000**
Labour Reserve	**$20,000,000**
Contingency Reserve	**$3,000,000**
Management Reserve	**$3,000,000**
TOTAL PROJECT COST	**$200,000,000**

Project Approval
In order to gain project approval, of a 79,600 square feet four-storey (multiple stations) Medical Complex must be delivered by September 30, 2019 with all of the details agreed upon in the Scope Statement.

Project Manager
The Project Manager is Mrs Antointette Jacquelyn Davis
. The Assistant Project Manager-Ms. Jeanine Williams will act in her capacity in her absence.

SPONSOR ACCEPTANCE

BRI Medical Complex Project Charter

Project Name: Construction of the BRI Medical Complex

Project Manager: _____

Project Sponsor: GovSVG and DSACC _____

Client:_____

Prepared by: Assistant Project Manager _____

Date prepared: 16 September 2017

Submitted to: BRI STEERING COMMITTEE

Certificate of Authorization:

(Place company stamp here)

Figure 16 BRI-Medical Center Project Charter Adapted from PMI Puget Sound Charter. Retrieved October 21, 2017 from http://pugetsoundpmi.org/images/downloads/Project_Management_document_templates/project_chartertemplate. doc

4.2 SCOPE MANAGEMENT PLAN

Construction projects like the BRI- Medical Complex facility are disreputable for over-run cost, deprived communication procedures and insufficient controls on the management in changing scope. It is very important that the project manger (Antoinette Jacquelyn Davis) for the BRI- Medical Complex project takes a positive tactic to the approved target (Guerin, 2012).

The Scope Management Plan serves as a written reference guide. It describes how the project team will define and develop the project scope, create the Work Breakdown Structure (WBS), validate the scope, verify completion of project deliverables, control the scope baseline, and handle scope changes.

The Scope Management Plan is created during the project's Planning Process Phase and is considered a component of the Project Management Plan (PMP). To define the scope of the BRI-Medical Complex project, a Scope Management Plan was produced. The Scope Management Plan seen in **Figure 18,** was created using a modified template taken from an online source .The Scope Management Plan documented the scope management approach and processes, as well as the roles and responsibilities for the Stakeholders participating in those processes. It also included the scope definition, project scope statement, the Work Breakdown Structure (WBS), WBS dictionary, scope verification and the scope control measures that would guide the project management team throughout the project (Project Management Institute, 2013, p. 109).

SCOPE MANAGEMENT PLAN

BRI MEDICAL COMPLEX

Arnos Vale Developmenet Corporation

Arnos Vale, St.Vincent and the Grenadines

TABLE OF CONTENTS

INTRODUCTION

The Scope Management Plan is the component of the Project Management Plan that describes how the project's scope will be defined, developed and verified. The plan clearly defines who is responsible for managing the project's scope and acts as a guide for managing and controlling the scope. This Project Scope Management Plan forms part of the overall project management plans; further project management plans to be read in conjunction to this project scope plan are:

- Project Stakeholder Management Plan
- Project Commuincations Management Plan
- Project Risk Management Plan
- Project Cost Management Plan
- Project Time Management Plan
- Project Procurement Management Plan
- Project Human Resource Management Plan
- Project Quality Management Plan
- Project Integration Management Plan

This Scope Management Plan has the following purposes:

- To describe the scope of the project
- To identify factors that will tend to expand the scope
- To describe procedures that will be used to identify scope changes
- To describe the project scope change mechanisms

The scope management will be the responsiblilty of the Project Manager for the BRI-Medical Complex Project.The scope for this project will be defined by the Scope Statement, Work Breakdown Structure (WBS) and Work Breakdown Structure (WBS) Dictionary. The Stakeholders and Project Manager will establish and support documentation for measuring project scope which includes deliverable quality checklists and work performance measurements. The planned scope changes may be initiated by the Project Manager,key stakeholders or any member of the project team. All change requests will be submitted to the Project Manager who will then evaluate the requested scope change. The acceptance of scope changes, the Project Manager will update all project documents and communicate the scope change to all stakeholders. Based on response and advice from the Project Manager and Stakeholders, the BRI-Consortium and the key representive for the Government of St.Vincent and the Grenadines is responsible for the approval of the final project deliverables and project scope

SCOPE MANAGEMENT APPROACH

The formulation and development of this Scope Management Plan will be the responsibility of Mrs. Antoinette Jacquelyn Davis, the managing director and project manager of the AVDC. This will be orchestrated in consultation with key stakeholders; the BRI- Steering Committee, Jack Diamond of DSACC and authoritative personnel on the project team will establish and approve documentation for measuring the BRI-Medical Complex Project's scope that would include the deliverable quality checklists and work performance measurements.

Project Scope Management follows a six-step process: Plan Scope Management, Collect Requirements, Define Scope, Create WBS, Verify Scope, and Control Scope.

The four (4) planning processes will be conducted during the last week of May, 2017 (ahead of the proposed commencement date)

Plan Scope Management: this is the process of creating a scope management plan that documents how the project scope will be defined, validated, and controlled. This would be achieved by using Expert Judgment and Meetings/Interviews with primary stakeholders of the BRI- Medical Complex Project. The planning of the project scope management was the first of the planning process groups to occur, following the development of the Project Charter, Stakeholder Register, and Procurement Management Plan, respectively.

- **Collect requirements**: is the process by which the requirements needed to meet all project objectives will be documented and defined. The foundation of this process is the project charter and stakeholder register. The AVDC managment and by extension the BRI-Medical Complex Project team will collectively discuss details associated with meeting each requirement by conducting interviews and follow-on discussions with head of departments and government officials involved in the BRI-Medical Complex project to clarify the requirements. Another way this process would be achieved is through the analysis of a series of Organizational Process assets accumulated by the Project Manager of AVDC from major projects' databases conducted in SVG during the most recently concluded Argyle International Airport Project. To complete this process a member will be assigned from the AVDC's project team to document the requirements in sufficient detail to confirm consistent expectations and measure them once the project begins the execution phase.

- **Define Scope**: This step is critical to BRI-Medical Complex project's success as it requires the development of a detailed project/product description to include deliverables, assumptions, and constraints and establishes the framework within which project work must be performed. This would be done by using the judgment and knowledge of experts through meetings and interviews with key stakeholders; and

- **Create Work Breakdown Structure (WBS):** this is the process of subdividing project deliverables and project work into progressively smaller and more manageable components This hierarchical structure allows for more simplicity in scheduling, costing, monitoring, and controlling the BRI-Medical Complex project through the use of Decomposition and Expert Judgment Techniques.

  Comparatively, the two (2) monitoring and controlling processes are conducted at various points along the project timelines (inclusive of the stage of project closure) as follows:

  - **Validate Scope** This is the process by which the project team receives a formalized acceptance of all deliverables baseline with the sponsor and/or customer. For the purpose of the BRI-Medical Complex project, this will be done through Inspection and Group Decision-Making Techniques.

  - **Control Scope** - This is the process of monitoring/controlling the project/product scope as well as managing any changes in the scope baseline. Changes may be necessary to the project scope but it is imperative they are controlled and integrated in order to prevent scope creep. This will be done through Variance Analysis Techniques.

Project Scope Statement

The project scope statement provides a detailed description of the BRI-Medical Complex Project's deliverables and constraints, exclusions, assumptions and acceptance criteria as documented in the Project Charter and utilizes them to create a more thorough scope. The scope statement includes what work should not be performed in order to eliminate any implied but unnecessary work which falls outside the BRI-Medical Complex Project's scope.

<u>The scope of work and deliverables for the BRI-Medical Complex Project</u>

General Operating Principles
a) Public Safety / Site Security
b) Operating Hours, Noise and Vibration Controls
c) Air Quality Management
d) Storm Water Pollution Prevention Plan
e) Waste and Material Reuse
f) Traffic and Parking Management

Phasing of Work: implementation of operating principles during specific phases
Hospital Construction: (See Appendix…_)
a) Abatement and Demolition (Months 1 to 3)
b) Shoring and Excavation (Months 3 to 5)

c) Foundation and Concrete Walls (Months 6 to 9)
d) Steel Erection and Concrete Decks (Months 9 to 12)
e) Exterior Enclosure (Months 12 to 18)
f) Interior Build-out and Final Site work (Months 15 to 18)

Specifics:

- Demolition of decommissioned airport and facilities
- Demolition and removal of all underground fuel and gas lines
- Removal of contaminated soil (as a result of underground gas storage tanks)- Environmental
- Survey of new site
- Construction of Medical Facilities which will include but not be limited to
    - Four Storey concrete structure
    - Operating Theaters
    - Doctors and Specialist Offices
    - Rehabilitation and Therapeutic facilities
    - 200 bed facility
    - 4 Dialysis Units/Floors
    - 2 emergency and Trauma units
    - Escallator and elevator Access

- Road and traffic realignment ;
- Landscaping; and Public art.

PRE-CONSTRUCTION STAGE

Upon authorization of the BRI-Medical Complex Project, the AVDC project management team will initiate the planning of the project and conduct an informal public consultation with residents and governing authorities of SVG to address issues and any concerns. A Project Charter will be drafted and finalized formally identifying project goals, scope, project organization and providing summary of objectives and management. Site investigations and initiation of a pre-feasibility report and feasibility analysis report will be done via the AVDC with the mobilization of surveying, environmental and geotechnical departments. Formalization of the land leases of the decommisioned E.T Joshua Airport and the power purchase agreement with Ministry of Housing , Planning and Urban Development will prompt the design phase. Project engineers, designers and technologists will prepare preliminary and detailed design specifications and drawings as per reports and site analysis which will be reviewed at 50% and 75% completion to ensure requirements are being met and all quality procedures are being followed by the design team. Contract Documents will be tendered for the bidding phase, upon which a contractor will be selected (DSACC). A Contract Statement of Work will be drafted and finalized prompting the construction stage to commence.

MOBILIZATION STAGE

The mobilization phase will secure permits, bonds, licenses and insurance. A project schedule will be developed for all tasks and a kick-off meeting will be held with stakeholder's and the project team s to clarify the scope and ensure a complete understanding of the project's requirements. (Bennett, 2003)

Equipment and resources will be mobilized to prepare the site for or the construction phase, upon which bi weekly site inspections will occur for the monitoring and control of quality management, to assure that the work complies with the technical requirements set forth in the contract documents. Procurement of materials and services will take place during the surveying and layout activities.Any civil engineering work including changes to work drawings and structural calculations will occur awaiting timely delivery of the specific materials to be erected upon completion of foundation work and all auxiliary equipment will be installed and connected. A project closing phase will conclude all activities including project "Post-Mortem" Meeting, finalizing all subcontracts, archiving project documentation, and performing a "Lessons Learned" Report to formally close the project.

COMMISSIONING STAGE

The commissioning stage involves the completion of the construction of the BRI-Medical Complex of the power system and verification that all the equipment and infrastructure that make up the wind farm is in compliance of specifications and code guaranteeing its operability in terms of performance, reliability, safety and information traceability. The site will be cleaned and construction equipment and materials will be taken off site. Access roads will be restored to their original vegetative condition and erosion control will be implemented. Upon completion of all inspections and quality assessments a report will be documented stating all requirements have been met and commercial commissioning is approved. The transition of the project to operations will be formalized marking the project's completion.

Project Scope Exclusions:

The following are excluded from the project scope of work .

- Servicing or enhancement of adjacent properties.

Project Constraints

The Government of St.Vincent and the Grenadines has requested that the Project should not exceed $200 million (USD). In addition the project duration should not exceed fourteen(14) months to substantial completion and six (6) months to final completion.

Assumptions:

The Project's scope, schedule and budget for completion assume the following:

1. Economic situation does not change dramatically
2. All medical equipment will be by owned by the Government of SVG.
3. Steel prices do not significantly increase
4. Qualified Contractors are available and interested in the project
5. Few changes in site ground conditions
6. Utilities will be relocated on time and within budget
7. Steel materials and fabrication resources are available
8. Decisions are made on time according to schedule
9. Existing Airport decommissioning can be achieved in a reasonable, sustainable and affordable way to meet the project schedule

Measures of Success

Safety: No Recordable or lost time injuries and reportable injuries lower than the industry average

Schedule: Meet or beat established project milestones

Budget: Manage risks to contain costs within budget

Quality: Conform to project requirements without adverse effects on milestones or budget

Environmental Compliance: Complete project without permit violations

Public Perception: Strong community support through effective communication

ROLES AND RESPONSIBILITIES

Several individuals will be instrumental during the scope process; namely the Project Manager, the Governmnt of SVG ,The BRI Steering Committee, Project team and Stakeholders will all play key roles in managing the scope of this project. As such, the Project Sponsor, Project Manager and team members must be aware of their responsibilities to ensure the work performed on the project are within the established scope throughout the entire duration of the BRI-Medical Complex Prokect. **Chart 6** below defines the roles and responsibilities for the scope management of the BRI-Medical Complex Project.

Chart 6 Scope Management Roles and Responsibilities (Source: J. Williams, The Author, July 2017)

NAME	ROLE	RESPONSIBILITIES
Government of St. Vincent and the Grenadines	PROJECT SPONSOR	a. Approve or deny any scope change requests as appropriate b. Accept project deliverables c. Provides executive team approval and sponsorship for the project. d. Has budget ownership for the project and is the major stakeholderand recipient for the project deliverables. e. Ensures that the project delivers the agreed business benefits and remains a viable business proposition
A.J.Davis	Project Manger of AVDC	a. Provides overall management to the project. b. Accountable for establishing a Project Charter, developing and managing the work plan. c. Secures appropriate resources and delegating the work and insuring successful completion of the Project

		d. Facilitates scope change requests e. Measures and verifies Project scope. f. Organizes and facilitates scheduled change control meetings
Jack Diamond DSACC	Design-Build Partner Construction Manager	a. Participate in defininig change resolutions b. Evaluate the need for scope changes and communicate them to the project manager as necessary. c. Specifically assigned to work on the project during specific phases or throughout the project duration
BRI- Steering Committee	Steering Committee	a. Provide assistance in resolving issues that arise beyond the project manager's jurisdiction. b. Monitor project progress and provide necessary tools and support when milestones are in jeopardy. c. May assume responsibility for further project related matters based on project organization e.g. fund sourcing and resource contributions

Work Breakdown Structure

The Work Breakdown Structure (WBS) and Work Breakdown Structure Dictionary are key elements to effective scope management. In order to effectively manage the work required to complete the BRI-Medical Complex Project, it will be subdivided into individual work packages which will not exceed 40 hours of work (with the exception of few cases). This will allow the Project Manager to effectively manage the project's scope as the Project team works on the tasks necessary for the completion of the medical complex. This Project is broken down further into six sub specific- phases: the design phases, construction phase, start-up mobilization phase, procurement phase , the adminstration phase and the testing/project closure phase. Each of theses phases is then subdivided further down to work packages which will require no more than 40 hours of work and no less tan 4 hours of work (see WBS below).

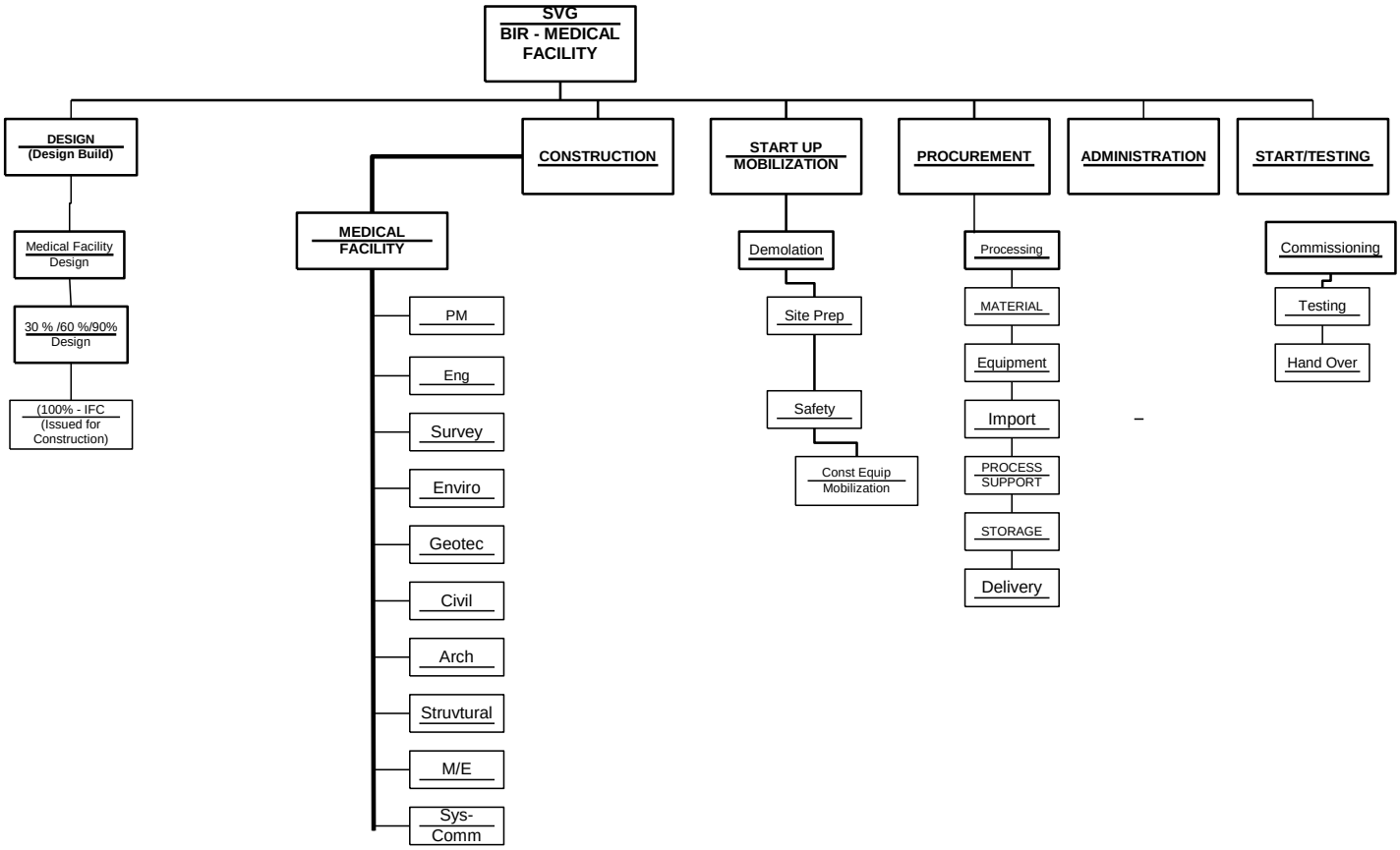

Figure 17 BRI-Medical Complex Project Work Breakdown Structure. (Source: J.Williams, The Author, September 2017)

There were several disagreements between the Project Manager of AVDC (Mrs A. J. Davis) and the construction Manager and Chief Manager of the DSACC (Mr. J. Diamond) on the WBS structure and the general scope of the BRI-Medical Complex. As a remedey to this situation, various consultations and project scope analyses took place, the BRI- Consortium demanded a revisión and adjustment to the previous WBS (above in **Figure 17**). So in order to further define the work necessary for project completion, a revised and thorough WBS and WBS Dictionary was produced, synchronized with the previous WBS and used concurrently by the DSACC construction team and the AVDC Project management team (**See Appendix 4 and 5**)

Scope Control

The Project Manager and the project team will work together during the process of monitoring the status of the scope of the BRI-Medical Complex Project. The project team will control the WBS Dictionary by using it as a declaration of work for each WBS element. The project team will ensure that they perform only the work described in the WBS dictionary. The Project Manager will oversee the project team and the development of the project to ensure that this scope control process is followed and any progress is reported through Project Scope measurement tools.

Scope Change

If a change to the BRI-Medical Complex Project scope is essential, the process for recommending and estimating changes to the scope of the project must be carried out. Any project team member can request changes to the project scope. All change requirements must be submitted to and evaluated by the Project Manager in the form of a change request document for the estimation and evaluation of the impact of the requested changes on project costs and timelines .Upon acceptance by the Project Manager, the other members of the BRl Steering Committee led by the Minister of Finance, will now serve as the AVDC's Change Control Board. This Board will be engaged for secondary approval. . If the Change Control Board approves the scope change the Project Manager will then officially accept the change by signing the project change control document. Once granted, the Project Manager communicates the Scope Change to stakeholders and updates all related documents. The Government of SVG will consider feedback and input from stakeholders, especially that of the Project Manager, and will accept the final project.

Scope Verification

Scope verification essentially describes how the deliverables will be verified against the original scope and how they will be formally accepted as the BRI- Medical Complex project progresses, the Project Manager will verify interim project deliverables against the original scope as defined in the scope statement, WBS and WBS Dictionary. Once the project manager verifies that the scope meets the requirements defined in the project plan, she will then set up a meeting with Jack Diamond of DSACC and the BRI-Steering Committee for formal acceptance of the deliverable. The Minister of Finance acting in the capacity as a representative of the Project sponsor (the Government of St.Vincent and the Grenadines), will accept the deliverable by signing a project deliverable acceptance document. This will ensure that project work remains within the scope of the project on a consistent basis throughout the life of the project.

SPONSOR ACCEPTANCE

BRI Medical Complex Scope Management Plan

Project Name: Construction of the BRI Medical Complex

Project Manager: _____

Project Sponsor: GovSVG and DSACC _____

Client:_____

Prepared by: Assistant Project Manager _____

Date prepared: 16 September 2017

Submitted to: BRI STEERING COMMITTEE

Certificate of Authorization:

(Place company stamp here)

Figure 18 BRI-Medical Complex Scope Management Plan. Adapted from Project Management Docs. Retrieved October 31, 2016 from http://www.projectmanagementdocs.com/project-planning-templates/scope-managementplan.html#axzz4Oi4tBOkP

4.3 COST MANAGEMENT PLAN

Plan Cost Management, the initial process of Project Cost Management, was completed after the first process of Time Management, because the scope baseline, along with the Time Management Plan was used to develop the Cost Management Plan (Project Management Institute, 2013, p. 195).Expert judgement, analytical techniques, and meetings were also used to develop the Cost Management Plan. The Project Charter, Scope Management Plan, and Time Management Plan were updated in accordance with the PMBOK® Guide.

The Cost Management Plan seen in **Figure 20,** was created by adapting and modifying a template taken from an online source.

The Cost Management Plan clearly defines how the costs on a project will be managed throughout the project's lifecycle. It sets the format and standards by which the project costs are measured, reported and controlled. The Cost Management Plan:

- Identifies who is responsible for managing costs
- Identifies who has the authority to approve changes to the project or its budget
- How cost performance is quantitatively measured and reported upon
- Report formats, frequency and to whom they are presented

COST MANAGEMENT PLAN

BRI MEDICAL COMPLEX

Arnos Vale Developmenet Corporation

Arnos Vale, St.Vincent and the Grenadines

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Introduction

The Project Manager (Mrs. A. J. Davis) will be responsible for managing and reporting on the project's cost throughout the duration of the project. During the monthly project status meeting, the Project Manager along with the Assistant Project Manager (Ms. Jeanine Williams) is expected to meet with the BRI- Steering Committee to present and review the project's cost performance for the preceding month. Performance will be measured using earned value. The Assistant Project Manager is responsible for accounting for cost deviations and presenting the Government of SVG, The BRI-Steering Committee and DSACC with options for getting the project back on budget. The Government of St.Vincent and the Grenadiens has the authority to make changes to the project to bring it back within budget.

Tools and Techniques

The Project Manager (Mrs A. J. Davis) will be assigned the responsibility for the management and control of the project cost during the project life cycle. During the BRI-Medical Complex Project's fortnightly status meeting, the Project Manager will explain the project cost performance, with measures adopted for its control. Earned value management will be used for measuring cost performance. The Project Manager will be accountable for all cost variances, and recommending alternatives for completing the project according to the planned budget and in some cases may share responsibilities with the Project Accounts Controller. The BRI Steering Committee will use discretionary measures for authorizing cost changes that may exceed budget, if necessary**.**

The Cost Management Plan will contain information regarding the activities, procedures, and roles and responsibilities for these processes. It is highly recommended that 'The **Companion Standard Project Cost Tracking and Management'** tool is utilized, as it will provide:

- Support for planning and tracking spending on a monthly basis
- Comparison of planned spending to actual spending at multiple levels of detail over multiple time periods
- A dashboard view of project performance with key cost and schedule metrics color-coded to indicate the nature of performance
- Automatic calculation of all metrics discussed in this document with minimal data entry required
- Graph of the ongoing budgeted spending versus actual spending throughout the life of the project

Roles and Responsiblities

Chart 7 BRI- Medical Complex Project' Cost Management Process Roles and Responsiblities (Source: J. Williams, The Author, Septemebr 2017)

Project Manager Mrs A. J. Davis	Ensures that a Cost Plan is created and executed Determines the Project Management approach, according to project size, risk and complexity Ensures the implementation of Cost activities throughout the project
Project Accounts Controller Mr. Sean Smith	Provide input to the Cost Plan Assist the Project Manager in monitoring and controlling cost activities
Minister of Finance of the Government of SVG	Approve Cost Plan
BRI Steering Committee	Review status reports Identify funding and resources Review and approve deliverables Approve change requests

Cost Management Approach

Costs for the BRI- Medical Complex project will be managed at the third level of the Work Breakdown Structure (WBS). Control Accounts (CA) will be created at this level to track costs. Earned Value calculations for the CA's will measure and manage the financial performance of the project. Although activity cost estimates are detailed in

the work packages, the level of accuracy for cost management is at the fourth level of the WBS. Credit for work will be assigned at the work package level. Work started on work packages will grant that work package with 50% credit; whereas, the remaining 50% is credited upon completion of all work defined in that work package. Costs may be rounded to the nearest dollar and work hours rounded to the nearest whole hour.

Cost variances of +/- 0.1 in the cost and schedule performance indexes will change the status of the cost to cautionary; as such, those values will be changed to yellow in the project status reports. Cost variances of +/- 0.2 in the cost and schedule performance indexes will change the status of the cost to an alert stage; as such, those values will be changed to red in the project status reports. This will require corrective action from the Project Manager in order to bring the cost and/or schedule performance indexes below the alert level. Corrective actions will require a project change request and be must approved by the Project Sponsor before it can become within the scope of the project.

Measuring Project Costs

Earned Value Management would be used as the main measuring tool to determine the performance of the project. The following four Earned Value metrics will be used to measure to projects cost performance:

- Schedule Variance (SV)
- Cost Variance (CV)
- Schedule Performance Index (SPI)
- Cost Performance Index (CPI)

If the Schedule Performance Index or Cost Performance Index has a variance of between 0.1 and 0.2 the Project Manager must report the reason for the exception. If the SPI or CPI has a variance of greater than 0.2 the Project Manager must report the reason for the exception and provide management a detailed corrective plan to bring the projects performance back to acceptable levels.

Performance Measure	Acceptable	Not Acceptable
Schedule Performance Index (SPI)	Between 0.9 and 0.8 or Between 1.1 and 1.2	Less Than 0.8 or Greater than 1.2
Cost Performance Index (CPI)	Between 0.9 and 0.8 or Between 1.1 and 1.2	Less Than 0.8 or Greater than 1.2

Cost Variance Response Process

The Control Threshold for this project is a CPI or SPI of less than 0.8 or greater than 1.2. If the project reaches one of these Control Thresholds a Cost Variance Corrective Action Plan is required. The Project Manager will present the Project Sponsor with options for corrective actions within five business days from when the cost variance is first reported. Within three business days from when the Project Sponsor selects a corrective action option, the Project Manager will present the Project Sponsor with a formal Cost Variance Corrective Action Plan. The Cost Variance Corrective Action Plan will detail the actions necessary to bring the project back within budget and the means by which the effectiveness of the actions in the plan will be measured. Upon acceptance of the Cost Variance Corrective Action Plan it will become a part of the project plan and the project will be updated to reflect the corrective actions.

Cost Change Control Process

Typically the change control process follows the project change control process. If there are special requirements for the cost change control process, they should be detailed in this section of the Cost Management Plan.The cost change control process will follow the established project change request process. Approvals for project budget/cost changes must be approved by the project sponsor. The diagram below shows the change management process.

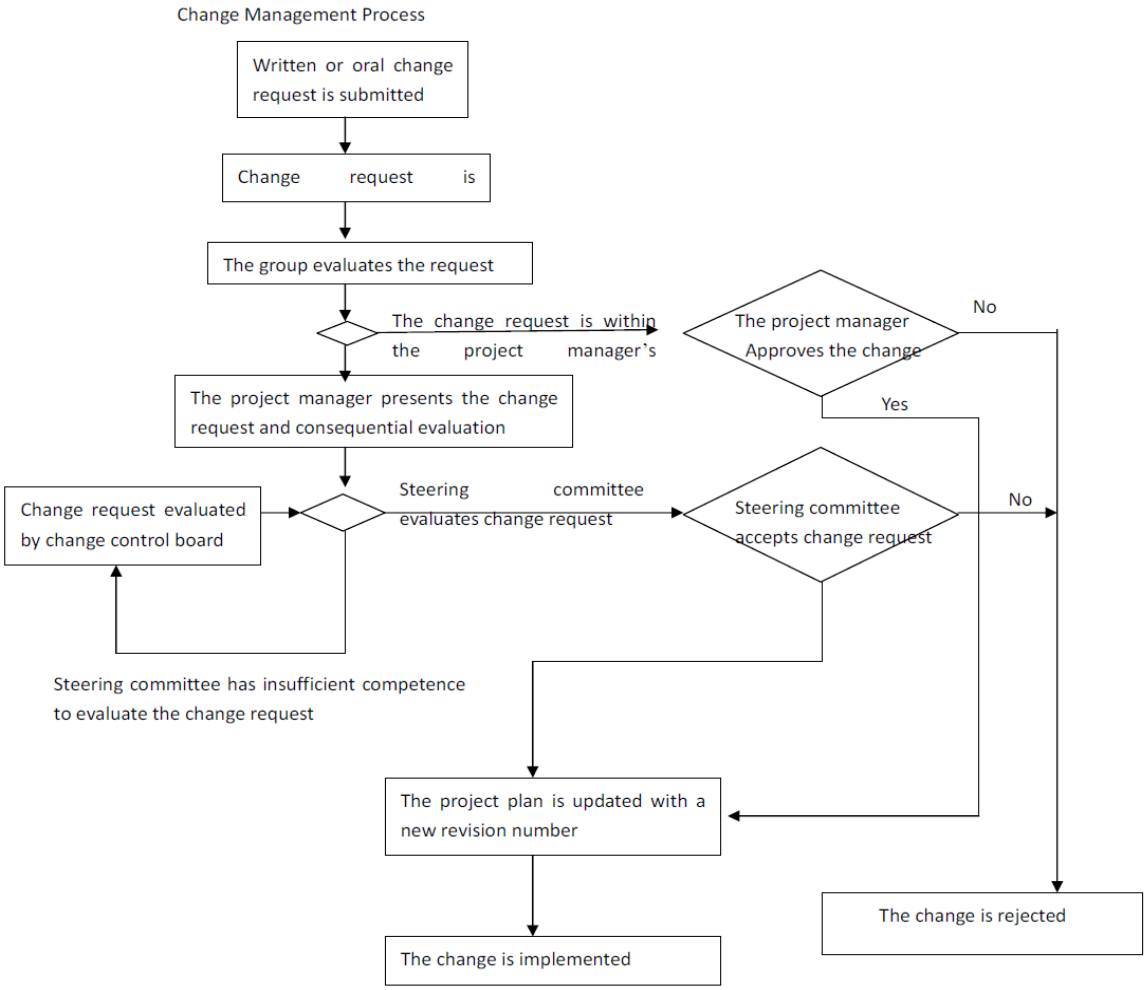

Figure 19 Change Management Process . Retrieved October. Retrieved October 31,2016fromhttp://www.projectmanagementdocs.com/project-planning-templates/changemanagementplan.html#axzz4OI4TbOkP

Cost Estimation

Cost estimation begins upon completion of the project's WBS. Resource skills are determined based on the needs of the project and the product / services being produced. Before the cost of the project can be accurately estimated, the resources required to carry out the activities and complete the work identified in the project charter will be determined. Project activities will be clearly defined and resources required to perform the actual work will be identified. Once the resource requirements are identified then the cost of these resources can be determined. The duration of the project activities will be taken into consideration to determine the length of time the resources will be required. Only then can the resource costs for the project be properly estimated. Both labour and non-labour resources will be considered; labour resources represent the people performing the actual work, i.e. employees, contractors while non-labour resources represent the facilities, material or equipment required to complete the project.

The Capital costs for a hemodialysis center at the former E.T Joshua Airport, Arnos Vale include costs for construction, a water treatment 12 system, bio-medical equipment, clinical equipment, clinical furniture/fixtures, staff lounge/fixtures, storage equipment, business office fixtures, reception and signage. Except for construction costs, the capital costs were calculated using costs estimates from the SVG Inland Revenue and Trade Report provided by the Customs and Exercise Unit 2016 and converting them to prices applicable to 2017 market rates. Construction costs are based on the estimate of $125/sq.ft. to retrofit the existing 2000 square foot MET office building that is available for use. The capital costs are estimated to be $**448,529** for the Medical Complex, or $74,755 per floor. The table detailing these costs was compiled as an estimation based on previously built Medical complexes in Europe by the DSACC in Europe in 2015. **(See Appendix 7)**

The Budget Estimate Report indicates that the Medical Complex's estimate the capital cost per floor at the low end to be between $25,000 and $35,000; medium range $50,000; and high range $70,000.

Backup information

Activity cost estimates will be produced for each work package. The labour costs for all work packages will be calculated using the following work team structures: Architect, Engineer, Foreman and a Construction crew of 35+ workers. The EMF series of work packages will be calculated to include any additional Construction crew). Finally, the EBG series of work packages will involve significant technical work and comprised Mechanical and Electrical Engineers, technicians.

The costing for labour will be based on the current pay structures on the island of St.Vincent and the Grenadines and guided by applicable law. Overtime will not be included in the general costing but will be sourced when needed from the contingency and labour reserves.

Project Budget

Once the budget is approved and signed, the Project Manager will review the cost allocations (of funding per WBS item) against the approved budget and adjust, if necessary, to reflect the approved funding for the project. Upon approval by the Project Sponsor, the cost allocations will be baselined.

Recommended tools for the budget determination process include:

- Cost aggregation
- Reserve analysis
- Expert judgment
- Historical relationships

Outputs from the budget determination process for the BRI-Medical Complex Project include:

- Project funding requirements
- Updates to project documents as necessary (e.g., Project Management Plan, Communication Management Plan, etc.)
- Project budget baseline
- Time-phased budget baseline

The cost of designing and constructing the new BRI (Medical Complex) project is estimated at $200 Million and assuming no change to current economic conditions ;specifically steel prices and availability of qualified labour. This is a Class "C" cost estimate as provided in March 2017 and includes a contingency of 3% as recommended by the International Consulting Group .This BRI-Medical Complex project contains a significant portion of steel, and concrete which represents approximately 40% of the current estimate. Cost control measures are to be employed to track and monitor the budget.

Funding for the Project is as follows:

$100 million – SVG Government's loan

$75 million – Reprioritization of SVG capital projects and other internal sources

$25 million – Public and Private Investment Contribution Agreement

TOTAL $200 million

Project Budget

Item	Project Cost ($XCD)
Construction & Administration	$5,900,000
Value Added Tax	$10,000,000
Prints and Plots	$150,000
Permits	$100,000
Project Insurance	$107,850,000
Material Reserve	$50,000,000
Labour Reserve	$20,000,000
Contingency Reserve	$3,000,000
Management Reserve	$3,000,000
TOTAL PROJECT COST	$200,000,000

Chart 8 BRI- Medical Complex Project's Cost Baseline and Funding Requirements For The Cost Management Process (Source: J. Williams, The Author, September 2017)

EXPENSE	ANTICIPATED QUANTITY	COST PER UNIT	TOTAL	PURPOSE
Subcontracts for Construction				
Labour			**$1,010,000**	
Skilled Site Workers	**35**			**Labour Only**
Carpenters	**6**	$30,000	$180,000	
Masons	**5**	$50,000	$250,000	
Well Drillers/ Steel Intallers	**4**	$20,000	$80,000	
Common Labourer (Unskilled)	**10**	$25,000	$250,000	
Field/ Site-Workers (Unskilled)	**10**	$25,000	$250,000	
Sub-contracts			**$1,507,000**	
Lanscaping	**1**	$50,000	$50,000	**Labour and Material**
Interior Designing	**1**	$20,000	$20,000	**Labour and Material**
Tiling	**1**	$10,000	$10,000	**Labour and Material**
Painting	**1**	$25,000	$25,000	**Labour and Material**
Plumbing	**1**	$40,000	$40,000	**Labour and Material**
Airconditioning and Ventilation	**1**	$250,000	$250,000	**Labour and Matersl**
Furnishing	**1**	$100,000	$100,000	**Labour and Material**
Operating/Medical Theatre Fittings and Installations	**1**	$280,000	$280,000	**Labour and Material**
Electrical	**1**	$95,000	$95,000	**Labour and Material**
Security	**1**	$50,000	$50,000	**Labour and Material**

Windows and Doors Installation	**1**	$42,000	$42,000	**Labour and Material**
(Air) Emergency Transportation	**1**	$50,000	$50,000	**Labour and Material**
Ambulatory Services	**1**	$25,000	$25,000	**Labour Only**
Fire Emergency and Safety	**1**	$50,000	$50,000	**Labour and Material**
Medical Care and Supplies	**1**	$110,000	$110,000	**Material Only**
Imterior Decorating	**1**	$45,000	$45,000	**Labour Only**
Medical Technology	**1**	$75,000	$75,000	**Material Only**
Storm Water Detention	**1**	$110,000	$110,000	**Labour and Material**
Thermal and Moisture	**1**	$80,000	$80,000	**Labour and Material**
Administrative/Professional Services			**$220,000**	
Architecture	**2**			
Jack Diamond (Architect)	**1**	$100,000	$100,000	**LabourOnly**
Steve Sketche (Draftsman)	**1**	$120,000	$120,000-	
PROJECT MANAGEMENT			**$1,588,000**	
Anotinette J. Davis (Project Manager)	**1**	$200,000	$200,000	**Labour Only**
Jeanine Williams (Assistant Project Manager)	**1**	$100,000	$100,000	
Sean Smith (Accountant)	**1**	$75,000	$75,000	
Tim Best (Administrative Assistant)	**1**	$60,000	$60,000	
Alban Williams (Gofer)	**1**	$43,000	$43,000	
Office Operations (supplies, stationery, equipment)	**1**	$115,000	$115,00	**Materials Only**
LAND SURVEYING	**1**		**$90,000**	
Jane Archibald (Land Surveyor)		$90,000	$90,000	**Labour Only**
STRUCTURAL ENGINEERING	**1**		**$90,000**	
Rachel Lee (Structural Engineer)		$90,000	$90,000	**Labour Only**
LEAD MECHANICAL ENGINEERING (MEP)	**1**		**$90,000**	
Tali Zae (MEP Engineer)	**1**	$90,000	$90,000	**Labour Only**
GEO-TECHNICAL	**1**		**$120,000**	

ENGINEERING				
Tai Johnson (Geotechnical Engineering)		$120,000	$120,000	**Labour Only**
HYDROLOGY	**1**		**$200,000**	
Ray Victory (Hydrologist)		$200,000	$200,000	**Labour Only**
QUANTITY SURVEYING	**1**		**$100,000**	
Ray Thorne (Quantity Surveying)	**1**	$100,000	$100,000	**Labour Only**
SITE MANAGEMENT	**2**		**$140,000**	
Scott Hanover (Field Superintendant)	**1**	$80,000	$80,000	**Labour Only**
Lolan Bellingy (Foreman)	**2**	$60,000	$80,000	**Labour Only**
PROJECT MOBILIZATION (AVDC team activity)			**$90,000**	**Labour and Materials**
Interior Compilation	**1**		**$50,000**	**Labour and Materials**
LANSCAPING			**$25,000**	
Blackson Greenery (Landscaper)	**1**		$25,000	**Labour Only**
VENDORS	**13**		**$1,015,000**	
Ovo Systems	**1**	$60,000	$60,000	**Material Only**
Medical Supplies Inc	**1**	$30,000	$30,000	
Finishing and Furnishing	**1**	$90,000	$90,000	
Dynamic Guys Lighting Systems	**1**	$80,000	$80,000	
Harris Paints	**1**	$75,000	$75,000	
ACE Hardware	**1**	$75,000	$75,000	
Kendra's Alluminum	**1**	$100,000	$100,000	
MASA	**1**	$30,000	$30,000	
Alarm Systems Inc	**1**	$65,000	$65,000	
Diamond Woods	1	$120,000	$120,000	
Container Corp.	1	$95,000	$95,000	
SVG Metals Inc	1	$95,000	$95,000	
Conncrete and Brick Allied	1	$100,000	$100,000	
STEEL FRAMING SYSTEM			**$560,000**	
Openings	1	$350,000	$350,000	**Materials Only**
Metals/Well	1	$210,000	$210,000	
Material Reserve			**$50,00000**	
Labour Reserve			**$20,00000**	
Permits			**$100,000**	
Prints and Plots			**$150,000**	

Contingency Reserve			**$3,000,000**	
Management Reserve			**$3,000,000**	
Value Added Tax			**$10,000,000**	
Project Insurance			**$107,850,000**	
Total Project Cost			**$200 Million**	

Sponsor Acceptance

BRI Medical Complex Project Cost Management Plan

Project Name: Construction of the BRI Medical Complex

Project Manager: Antoinette Jacquelyn Davis_____

Project Sponsor: Government of St.Vincent and the Grenadines and DSACC

_____

Prepared by: Assistant Project Manager _____

Date prepared: 13 November 2017

Submitted to: BRI STEERING COMMITTEE

Funding Source: Government of St.Vincent and the Grenadines

Total Cost Authorization: $200 Million XCD

Figure 20 BRI-Medical Complex Project Cost Management Plan . Adapted from:Project Management Docs. Retrieved October 31,2016fromhttp://www.projectmanagementdocs.com/project-planning-templates/costmanagementplan.html#axzz4OI4TbOkP

4.4 QUALITY MANAGEMENT PLAN

The Quality Management Plan for the Construction of BRI Medical Complex project will establish the activities, processes, and procedures for ensuring a quality product upon the conclusion of the project. The purpose of this plan is to:

- Ensure quality is planned
- Define how quality will be managed
- Define quality assurance activities
- Define quality control activities
- Define acceptable quality standards

The Quality Management Plan seen in **Figure 21,** was created by adapting and modifying a template taken from an online source after the Procurement Management Plan, to adequately plan and ensure that quality is built into the project's processes and the product. Plan Quality Management is the only Quality Management process that will be used during project planning.

The inputs for this process identified in the PMBOK® Guide were used to develop the Quality Management Plan .These inputs included the Stakeholder register, Risk register, and the Requirements documentation previously developed by the Assistant Project Manager. In addition, the Requirements Management Plan was used as an input after reference to the Argyle International Airport Project documentations because it identified the requirements of good quality previously outlined by their project team. The tools and techniques that will be used are checksheets and meetings (Project Management Institute, 2013, p. 232).

This project is very unique; AVDC was responsible for designing (collaborated with DSACC) and constructing the medical complex. The Quality Management Plan was used as a guide to ensure that the design, processes used, materials and construction of the BRI-Medcial Complex met or in most cases exceeded industry standards in an effort to elevate the quality of the product.

QUALITY MANAGEMENT PLAN
BRI MEDICAL COMPLEX
Arnos Vale Developmenet Corporation
Arnos Vale, St.Vincent and the Grenadines

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Introduction

The Quality Management Plan details the systems and controls that the BRI-Medica Complex Project team has put in place so that the quality of the project will meet the requirements specified by the National Services Cooperative Agreement**.**

The Quality of the BRI-Medical Complex's project will be ensured through an integrated system of Quality Control performed by the AVDC and the Quality Assurance will be governerd by the SVG National Trust (SNT) and its designees.

The entire BRI-Medical Complex project team will be responsible for the day to day coordination of quality measures in the field. This Quality Management Plan is a companion document to the AVDC project management and DSACC construction management plan for the BRI-Medical Complex project. This plan establishes the following:

- Protocols to ensure the project and construction management plan will be executed in accordance with the related requirents;
- Project procedures and general responsibilities for the quality control programme.

The purpose of the Quality Management Plan is to define 'how' quality will be achieved and managed throughout various project phases.This document identifies the activities, processes, and procedures used to manage the construction of The BRI Medical Complex project's Quality Management Plan. This plan is based on the premise that quality is achieved when the project meets and exceeds stakeholder expectations. This plan identifies and defines Quality Management roles and responsibilities, standards, methods, and review requirements that will be applied to the project.

The purpose for managing quality is to validate that the project deliverables are completed with an acceptable level of quality. Quality management assures the quality of the project's deliverables and the quality of the processes used to manage and create the deliverables.
The Quality Management Plan identifies these key components:

Objects of Quality Review	Quality Measure	Quality Evaluation Methods
Project Deliverables	Deliverable Quality Standards Completeness and Correctness Criteria	Quality Control Activities
Project Processes	Process Quality Standards Stakeholder Expectations	Quality Assurance Activities

Quality Management Approach

The quality management approach for the Construction of the BRI- Medical Complex project will ensure quality is planned for both the product and process. In order to be successful, this project will meet its quality objectives by utilizing an integrated quality approach to define quality standards, measure quality and continuously improve quality.

Product quality for the Construction of the BRI-Medical Complex project will be defined by the company's current standards and criteria based on industry standards. The focus is on the project's deliverable and the standards and criteria being used will ensure the product meets established quality standards and client satisfaction.

Process quality for the Construction of the Medical Complex project will focus on the processes by which the project deliverable will be designed and constructed. Establishing process quality standards will ensure that all activities conform to organizational and regulatory standards which results in the successful delivery of the product.

The Project Manager will define and document all organizational and project specific quality standards for both product and processes. All quality documentation will become part of the oficial BRI-Medical Complex Project Management Plan and will be transitioned into a building operational management document upon the successful completion of the project which would then be managed by the DSACC and the Field Superintendent.

Metrics will be established and used to measure quality throughout the project life-cycle for the product and processes. The Project Manager and Architect will be responsible for working with the project team to define these metrics, conduct measurements, and analyse results. These product and process measurements will be used as one criterion in determining the success of the project and must be reviewed by the project sponsor/client. Metrics will include:

- Building Design
- Schedule
- Resources
- Cost
- Process performance
- Product performance
- Customer Satisfaction

Quality improvements will be identified by any member of the project team. Each recommendation will be reviewed to determine the cost versus benefit of implementing the improvement and how the improvement will affect the product or processes. If an improvement is implemented, the Assistant Project Manager will update all project documentation to include the improvement.

Quality Requirements / Standards Product Quality:

The product quality standards and requirements will be determined by the Project Manager ,Architect, Construction Manager and also the BRI-Consortium. These standards will primarily be based on the company's documented standards and those under the National Services Cooperative Agreement. There may be product-specific quality standards identified that are not currently part of the documented organizational standards. In this case, the Project Manager will review these newly identified standards and the Assistant Project Manager will incorporate them into organizational documentation if approved. The project team will also document any newly identified quality standards into the The BRI Medical Complex's Project Management plan and ensure communication with all stakeholders.

Process Quality

The process quality standards and requirements will be determined by the Senior members on the BRI-Medical Complex Project Management Team. Many of these standards will be based on existing company process standards. The BRI Medical Complex's project team will work with the Project Manager/Architect to establish acceptable standards and document these standards for incorporation into both organizational process documents as well as the Building of the Medical Complex Project Management plan. These standards will be communicated to all project stakeholders.

Quality Assurance

Under the terms of the National Services Cooperative Agreement (NSCA) with SVG National Trust under the auspicies of KPMG; the AVDC will be responible for Quality Control and the SNT will be solely responsable for the Quality assurance of the project.

The quality assurance of the Construction of the BRI-Medical Complex project focuses on the processes used in the construction of the building. In order to ensure quality, an iterative quality process will be used throughout the project life-cycle. This iterative process includes measuring process metrics, analysing process data, and continuously improving the processes.

The Project Manager and the project team will perform assessments at planned intervals throughout the project to ensure all processes are being correctly implemented and executed as advised by the SVG National Trust (SNT). The table below provides the key quality assurance metrics for the Project.

Quality Assurance Log

Trial #	Date	Process Measured	Required Value	Actual Measured	Acceptable? (Y/N)	Recommendation	Date Resolved

Quality Control

Quality control is fundamental to the workd and services undertaken by the AVDC and shall be practiced by all personnel of the organization in their daily activities and tasks.

It will be the responsibility of the project manager to ensure that quality procedures are implemented consistently and effectively and that they are renewed regularly to reflect the requirements of the contracts throughout the durations of work. The project manager would appoint the assistant project manager to carry out these duties; whose responsiblity will be to constantly monitor the implementation of quality management to establish and put into practice necessary systems and procedure, and ensure adherence to the Quality Management Plan through regular auditing.

- The project team has to ensure that end product conforms with the customer requirements for this all the changes will be documented properly and to apply change in a proper way in our project keeping in mind that the design of the project is not disturbed.
- It is necessary for the project manager to ensure that the project and its requirements did in fact follow the standard that is IEEE and ISO 9216.
- All the requirements must be verified or validated.
- All systems and equipment should be 75% tested before use.

This Quality Control process for the BRI-Medical Complex project will comprise the following 3 phases:

- Preparatory phase meetings: Quality Control meeting will be held before each definable feature of work to ensure that the documentation is complete, materials are on hand, and the team members who are to perform the work understand what they need to know about the feature of work. Both the actual contract specifications and those referenced in the contract specifications shall be in the AVDC PMO's library and available for Quality Control inspections..
- Initial Inspections: Quality Control inspections shall be conducted in a timely manner at the beginning of a definable feature of work. A check of the preliminary work will determine whether or not the project team, through the AVDC and the DSACC, thoroughly understand and is capable of accomplishing the work as specified.
- Follow-up Inspections: conducted by the designees of the SVG Natinonal Trust and selected members of the BRI-Steering Committee and AVDC's team member responsible for quality control ,occur daily when work is in progress and are for the purpose of assuring that the controls established in the earlier phases of inspection continue to provide work which conforms to the contract requirements.

All the project's products and processes must be measured and fall within the established standards and tolerances. The logs below will be used by the project and quality teams (assigned by the project manager) in conducting these measurements and will be maintained for use as supporting documentation for the project's acceptance.

Quality Control Log

Cable #	Date	Item Measured	Required Value	Actual Measured	Acceptable? (Y/N)	Recommendation	Date Resolved

SPONSOR ACCEPTANCE

BRI Medical Complex Project Quality Management Plan

Project Name: Construction of the BRI Medical Complex

Project Manager: _____

Project Sponsor: GovSVG and DSACC _____

Client:_____ Prepared by: Assistant Project Manager _____

Date prepared: 21 October 2017

Submitted to: BRI STEERING COMMITTEE

Certificate of Authorization:

(Place company stamp here)

Figure 21 BRI-Medical Complex Project Quality Management Plan . Adapted from:Project Management Docs. Retrieved October 31,2016fromhttp://www.projectmanagementdocs.com/project-planning-templates/qualitymanagementplan.html#axzz4OI4TbOkP

4.5 HUMAN RESOURCE MANGEMENT PLAN

The novelty of the Government of St. Vincent and the Grendaines undertaking a venture of this nature is estimated to create a tremendous amount of job opportunities for the local residents as well as neighboring professionals and citizens from the OECS and CARICOM states. A project of this size will require skill sets other than the available supporting skills such as HR, Finance, and Supply Chain etc. This project will require complex technical skills in the field of construction and more importantly as it regards to requirements and standards for a hospital building/medical complex. Projects of this capacity are expected to go through a series of stages as they develop over time.

Subsequent to the creation of the Communications Plan, the Human Resource Management Plan as seen in **Figure 23** was developed and produced.The activity resource requirements derived from the work packages seen in the Scope Management Plan and the Stakeholder Analysis Register of the Stakeholder Management Plan were used as inputs to this process. Expert judgement and meetings were the tools and techniques utilized to identify the human resources required, the roles and responsibilities of each, and how they will be managed throughout the project lifecycle (Project Management Institute, 2013, p. 258).

Plan Human Resource Management is the only process from the Human Resource Management knowledge area that will be used during the planning process. The other three processes outlined in **Figure 11** will be conducted during project execution.

HUMAN RESOURCE MANAGEMENT PLAN

BRI MEDICAL COMPLEX

Arnos Vale Developmenet Corporation

Arnos Vale, St.Vincent and the Grenadines

The Human Resource Management Plan details the BRI-Medical Complex Project's human resources requirements and how those requirements will be accomplished. This Management Plan includes several sections:

Project Roles and Responsibilities – summarizes the responsibilities for each role required to conduct the project work
Project Staffing Estimates – identifies estimated staffing requirements
Acquisition Strategy – describes when, how, and from what sources staffing will be acquired
Training Plan – identifies skills gaps and details specific training requirements for each Project Team member
Organizational Chart – displays project reporting relationships

Introduction

The purpose of the BRI Medical Complex Human Resource Plan is to achieve project success by ensuring that the appropriate human resources with the necessary skills are acquired, resources are trained, identification of any gaps in skills, team-building strategies are clearly defined, and team activities are effectively managed. The general intention of this plan is that it is effectively used in such a way that it will serve as a tool to aid in the management of human resource activities throughout the project.

Roles and Responsibilities

The roles and responsibilities for the project team of the Construction of the BRI-Medical Complex is paramount to the success of the aforementioned project. It is necessary that all team members clearly understand their roles and responsibilities, in order to successfully perform their duties of the project. For the Construction of the BRI-Medical Complex the following project team roles and responsibilities have been established in **Chart 9.**

Chart 9 BRI- Medical Complex Project's Human Resource Management Process Roles and Responsiblities (Source: J. Williams, The Author, Septemebr 2017)

ROLE	RESPONSIBILITY
Project Sponsor	Provides vision, direction, and policy leadership for the project, assists in removing barriers and supports change management initiatives, participates in the Steering Committee, and provides support to this group as needed ,has overall authority for the project and is responsible for ensuring that deliverables and functionality are achieved as defined in the Project Charter and subsequent project plans.
Steering Committee	Includes representatives from the government, financial sponsors and supporters ;acts as the Project stakeholders group ,ensures that the deliverables and functionality of the project are achieved as defined in the project initiation documents and subsequent project management plans, provides high-level project direction, receives project status updates, and addresses and resolves issues, risks, or change requests.
Project Manager	Responsible for the overall success of the Project. The Project Manager must authorize and approve all project expenditures. The Project Manager is also responsible for ensuring that work activities meet established acceptability criteria and fall within acceptable variances. The Project Manager will be responsible for reporting project status in accordance with the communications management plan. The project manager will

	evaluate the performance of all project team members. The Projecty manager is also responsible for acquiring human resources for the project by skillset. The Project manager must possess the following skills: leadership/management, budgeting, scheduling, and effective communication.
Assistant Project Manager	Responsible for creating project planning documents (i.e. Project Management Plan), reporting to the Project Manager on changes and updates made to the project for approval, managing the procurement process, and collecting daily reports from the site management team. The Assistant Project Manager is also responsible for broadcasting daily site reports to relevant stakeholders as directed by the Project Manager.
Administrative Assistant	Assists and supports the Project Manager and is responsible for general administrative duties within the assists and supports the Project Manager and is responsible for general administrative duties within the project.
Architect	Responsible for ensuring the building aesthetics, function, and use of space are adhered to. The Architect is also responsible for all of the various disciplines, excluding the project manager and production of project documents.
Accountant	Responsible for monitoring the progress of projects, investigating variances, approving expenses, and ensuring that project billings are issued to customers and payments collected, is responsible for general administrative duties within the project
Electrical Engineer	Responsible for ensuring that the building operates at an optimum and efficient electrical capacity; responsible for producing an electrical floorplan, lighting layout, switches, rises, etc. to be submitted to the Architect.

Structural Engineer	Responsible for the structural integrity of the building and produces structural calculations and drawings to be issued to the Architect.
Mechanical Engineer	Designing and implementing cost-effective equipment modifications to help improve safety and reliability developing a project specification with team members of the AVDC engineering department. The Mechanical Engineer would also work along with OVO systems responsible for the air-conditioning systems, ensuring that they provide the necessary cooling capacity to maintain airflow in the building. The Mechanical Engineer is also responsible for producing an air-conditioning, ducting and supply line layout to be submitted to the Architect.
Plumber	Responsible for producing floor layouts showing the lavatories, water closets, urinals, supply lines, waste water lines and connections to the sewer system. The Plumber will also submit drawings to the Architect and work along with CWSA national plumbing regulatory requirements.
Geotechnical Engineer	During the planning/initiation process is Responsible for geological mapping, report writing, site characterization, numerical modeling and analysis ofexcavations/supportsresponsible for determining the soil and site conditions, ensuring that the building is duly anchored in the allocated spaces.

Hydrologist	Plan responses to specific weather conditions, such as droughts and floods, and assess the impacts of such events on water catchments and supplies undertake hydrological modelling to allow the development of flood forecasting and drought management strategy. The hydrologist is responsible for measuring water tables, water flow, and drainage. The Hydrologist is also responsible for indicating the type of drainage system applicable for the building's functioning.
Quantity Surveyor	Prepares tender and contract documents, including bills of quantities with the architect, responsible for collecting data based on the construction specifications and drafting documents to come to a cost analysis for the proposed project.
Land Surveyor	Responsible for topography and contour mapping.
Interior Designer	Responsible for ensuring the design theme for interior spaces, furniture, ceiling-wall colours, fabric, materials, etc. The Interior Designer is also responsible for the proper placement of all building furniture to maximize space.
Office Attendant	Available to run errands and any miscellaneous roles for the AVDC for the project .
Field Superintendent	Responsible for any and all production and business related to the site works also for managing the construction activities of the

	project, ensuring construction schedules, safety,quality standards, and customer satisfaction are maintained throughout the construction process.
Foreman	Responsible for the technical requirements as per the specifications and drawings. The Foreman ensures that each skilled worker carries out the work per the specifications.
Draftsman	Responsible for all revisions, 2D and 3D drafting, designs and details based on change orders and addendums.
Electrical Subcontractor	Responsible for reading and calculating electrical drawings and ensuring their correct placement in the building. In addition, the Electrical Subcontractor is responsible for installing all building and site lighting as per electrical and site layouts and schedules.
Plumbing Subcontractor	Responsible for reading and calculating plumbing drawings and ensuring their correct placement in the building within schedule constraints and will oversee the workds installed but the plumber.
Fire and Safety Subcontractor	Responsible for determining the necessary apparatus required to ensure fire safety.Also responsible for the installation of the necessary apparatus to ensure fire safety within schedule constraints
Roofing Subcontractor	Responsible for reading Architectural drawings pertaining to the roof layout and constructing the roof in accordance with the specifications and schedule constraints.
Air-Conditioning	Responsible for installing air conditioning

Subcontractor	systems, testing systems for proper functioning, performing emergency repairs, maintaining tools, ordering supplies, and making routine adjustments to maximize operational efficiency
Windows and Doors Subcontractor	Responsible for ensuring that the window and door schedules and specifications are adhered to in the manufacturing of the windows and installation of same in accordance with the drawings and within schedule constraints.
Tiling Subcontractor	Responsible for installing carpet and all hard surface flooring. Install floor and wall tile. Able to work aong with masonry team and carpenters to indicate specifications, and helpers.
Security Subcontractor	Provide guidance to and support Company, Contractor and Subcontractors in regards to site emergency response. Manage and assist with identifying control measures and review process risks to company assets and personnel, including subcontractors, by recommending controls to ensure a safe and secure work environment relative to the Project scope covering construction, commissioning and operations.
Medical Supplies Subcontractor	Provide medical supplies, equipment, fixtures and installation of the aforementioned.

Project Organizational Charts

The RACI chart below shows the relationship between project tasks and team members. Any proposed changes to project responsibilities, must be reviewed and approved by the project manager. Changes must be proposed in accordance with the project's change control process. As changes are made all project documents will be updated and redistributed accordingly.

Key:
R – Responsible for completing the work
A – Accountable for ensuring task completion/sign off
C – Consulted before any decisions are made
I – Informed of when an action/decision has been mad

Chart 10 BRI- Medical Complex Project's RACI Chart for The Human Resource Management Process (Source: J. Williams, The Author, Septemebr 2017)

	Project Manager	Engineers	Subcontractors	Field Superintentants	Assistant Project Manager	Site Workers	Accountant	Foreman
Requirements Gathering	**A**	**R**	**I**	**R**	**R**	**I**		**I**
Building Design	**A**	**R**						
Change Requests	**A**		**I**	**I**	**R**	**I**		**I**
Feasibility Study	**A**							
Conact Administration	**A**				**R**			
Site Management	**A**		**I**	**R**	**R**	**I**		**I**
Permits/Approval	**A**			**I**	**R**			
Project Scope	**A**	**I**	**I**	**I**	**R**	**I**		**I**
Project Communications	**A**		**I**	**I**	**R**	**I**		**I**
Project Quality	**A**		**I**	**I**	**R**	**I**		**I**
Stakeholder Management	**A**			**I**	**R**	**I**		**I**
Accounting	**A**				**R**		**R**	

Status Reports	**A**		**I**	**I**	**R**	**I**		**I**
Manage Site Worker	**A**			**R**	**I**	**I**		
Procurements	**A**				**R**			**I**

The hierarchial chart below shows the reporting organizational structure of the BRI-Medical Complex Project

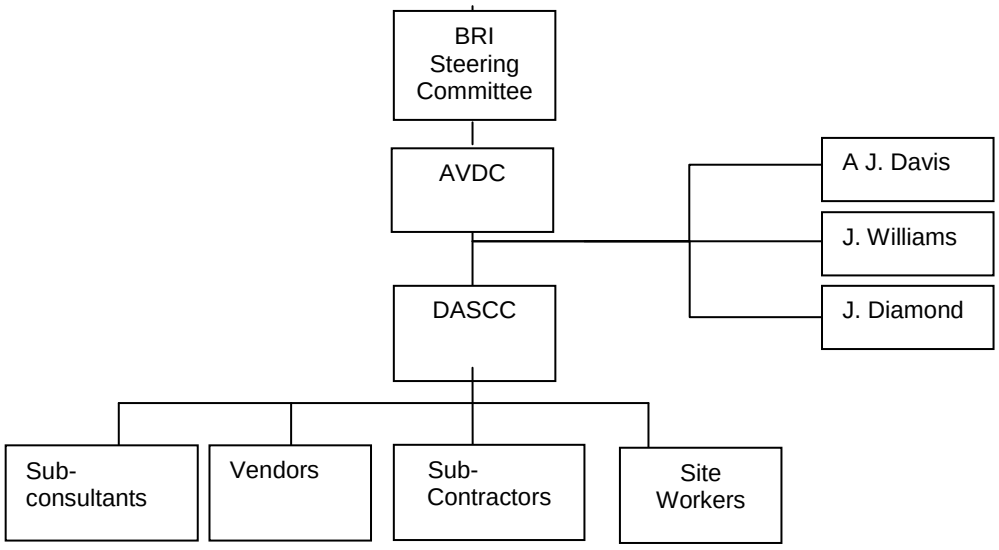

Figure 22 Reporting Organizational Structure for BRI-Medical Complex Project (Source: J. Williams, The Author, October, 2017)

Staffing Management

Staff Acquisition

For the Construction of the BRI Medical Complex, the project staff will consist of a few internal resources. However, much of the work will be subcontracted to external resources (DSACC).There will be outsourcing/contracting performed within the scope of this project. The project manager will negotiate with various companies in order to identify and assign resources for the project. All entities must sign a contract/agreement with the performing organization before the resource may begin any project work. The managerial staff and office workers will work at the office of AVDC and be required to visit the site daily. The subcontractors and site workers will work on site until contract completion.

Resource Calendar

The Construction of the BRI- Medical Complex will last from August 22nd, 2017 to September 30th, 2019. All resources are required before the project can begin.

Staff Training

When new employee is recruited to the project, the Assistant Project Manager and the Administrative Assistant will provide a project orientation. The orientation should include discussions related to the following topics:

Background of the Project
Current Status of the Project
Specific Job Duties and Expectations
Introduction to the Staff and Consultants
Overview of the Facility and Infrastructure
Overview of the Project Processes, including time reporting, attendance, and status meetings

Performance Reviews

The Assistant Project Manager will review each team member's assigned work activities at the onset of the project and communicate all expectations of work to be performed. She will then evaluate each team member throughout the project to assess their performance and to determine how effectively they are completing their assigned work. Prior to releasing project resources, the Project Manager, will liaise with the Assistant Project Manager and provide feedback on employee's project performance. There would be an assigned short-term contracted functional manager solely for this purpose, who will then perform a formal performance review on each team member.

Recognition and Rewards

Although the scope of this project does not allow for monetary rewards, there are several planned recognition and reward items for project team members. The Project Manager,Mrs. Antoinette J. Davis, will work along with an assigned Human Resource expert contracted by the AVDC and with appropriate agency executive staff members to identify potential opportunities and tools for creative recognition and rewards.

Suggested Rewards:

- Upon successful completion of the Project, celebration of the success of each team member in the form of a "YES Friday" where a luncheon take place in their honor.
- Upon successful completion of the project, any team member who satisfactorily completed all assigned work packages on time will receive a certificate of thanks from the Executive Sponsor and a gift voucher from "LG Sales and Services".
- Team members who successfully complete all of their assigned tasks will have their photo taken for inclusion in the company newsletter,social media and the local "Searchlight" newspaper.

SPONSOR ACCEPTANCE

BRI Medical Complex Project Human Resource Management Plan

Project Name: Construction of the BRI Medical Complex

Project Manager: _____

Project Sponsor: GovSVG and DSACC _____

Client:_____

Prepared by: Assistant Project Manager _____

Date prepared: 16 0ctober 2017

Submitted to: BRI STEERING COMMITTEE

Certificate of Authorization:

(Place company stamp here)

Figure 23 BRI-Medical Complex Project Human Resource Management Plan. Adapted from:Project Management Docs. Retrieved October 31,2016fromhttp://www.projectmanagementdocs.com/project-planning-templates/human-resource- plan.html#axzz4OI4TbOkP

4.6 TIME MANAGEMENT PLAN

Time Management is a vital part of Construction Project Management. Jason Westland (2006) gives the following definition for Time Managment: “Time Management is the process of recording and controlling time spent by staff on the project.”
Max Wideman (1990) represents a wider definition for Time Management: “Time Management is the function required to maintain appropriate allocation of time to the overall conduct of the project through the successive stages of its natural life-cycle, (i.e. concept, development, execution, and finishing) by means of the processes of time planning, time estimating, time scheduling, and schedule control.”
The Project schedule represents the conversion of project goals into an achievable methodology for project completion. It creates a timetable that presents the network logic that relates project activities to each other in a coherent fashion (Pinto, 2013). PMI defines project scheduling as the process of analyzing activity sequences, durations, resource requirements, and schedule constraints to create the project schedule model. It provides the overall planning, monitoring and control mechanism by which the project team can ensure that the client's objectives are achieved (PMI, 2013).

The objective of this procedure is to ensure accurate schedule management of the BRI- Medical Complex Project in such a way that construction works are concluded by planned completion dates. This methodology has been developed to provide the framework for the development and maintenance of the schedule to allow assessment of how the project’s programme of works is progressing, as well as to monitor progress at the individual project level. The benefits of formalising a Schedule management plan for the BRI-Medical Complex project are numerous, but foremost is maintaining maximum accuracy and clarity in tracking the progress of works.

Following the identification and defintiion of activities, they were sequenced “identifying and documenting relationships between project activities” (Project Management Institute, 2013, p. 153). Inputs to this process included the time management plan, activity list, Milestone list and Project Scope Statement described in the Scope Management Plan. The scheduling tool which utilizes the precedence diagramming method, dependency determination and leads and lags were used (Project

Management Institute, 2013, p. 153). Additonally various meetings were conducted with Mrs A.J. Davis, the expert, to assist in confirming the correct arrangement of each activity.

The Schedule Management Plan, Activity List, Resource Calendar, Risk Register and the Activity Cost Estimates detailed in the WBS Dictionary found in the Scope Management Plan were the inputs used to assign activity resources for the BRI-Medical Complex Project. The tools and techniques used were the expert judgement of Mrs Anotinette J. Davis, the BRI Steering Committee and Microsoft Project 2016 scheduling tool, which was used to assist with planning, managing and assigning resources.

SCHEDULE MANAGEMENT PLAN

BRI MEDICAL COMPLEX

Arnos Vale Developmenet Corporation

Arnos Vale, St.Vincent and the Grenadines

TABLE OF CONTENTS

Introduction

The purpose of the Time Management Plan is to define the approach the project team will use in creating the project schedule. This plan also includes how the team will monitor the project schedule and manage changes after the baseline schedule has been approved. This includes identifying, analyzing, documenting, prioritizing, approving or rejecting, and publishing all schedule-related changes.

Schedule Management Approach

Scheduling manages the time component of the BRI-Medical Complex Project by decomposing the project into distinct work packages (known as activities or tasks) with specific start and end dates, linked to each other through logical relationships that project management software can use to monitor progress, examine the impact of progress (ahead or behind schedule), manage resources (manpower, equipment, materials, costs, etc.). These relationships between tasks form the 'critical path' of a project that determines the minimum possible time to

completion of a project. The network of these activities and the relationships between them forms the project schedule.

For the BRI-Medical Complex Project the schedule will be created concurrently with the preceding time management processes. Activity definition will identify the specific work packages which must be performed to complete each deliverable. Activity sequencing will be used to determine the order of work packages and assign relationships between project activities. Activity duration estimating will be used to calculate the number of work periods required to complete work packages. Resource estimating will be used to assign resources to work packages in order to complete schedule development. Once a preliminary schedule has been developed, the Project Manager and Assistant Project Manager will assess it carefully to review assigned project tasks. The project team and resources must agree to the proposed work package assignments, durations, and schedule. Once this is achieved the project sponsor will review and approve the schedule and it will then be baselined.

The Schedule Management Plan, Activity List, Project Schedule Network Diagram, Activity Resource Requirements, Resource calendar, Activity Durations, Project Scope Statement, Risk Register, and Resource Requirements will all serve as inputs to this process. The tools and techniques that are suggested to develop a project Schedule as seen in the GANTT Chart below are: Schedule Network Analysis, Leads and Lags, and the Microsoft Project 2016 scheduling tool mentioned previously. (See **Appendix 8** for Resource Assignment and Activity Durations)

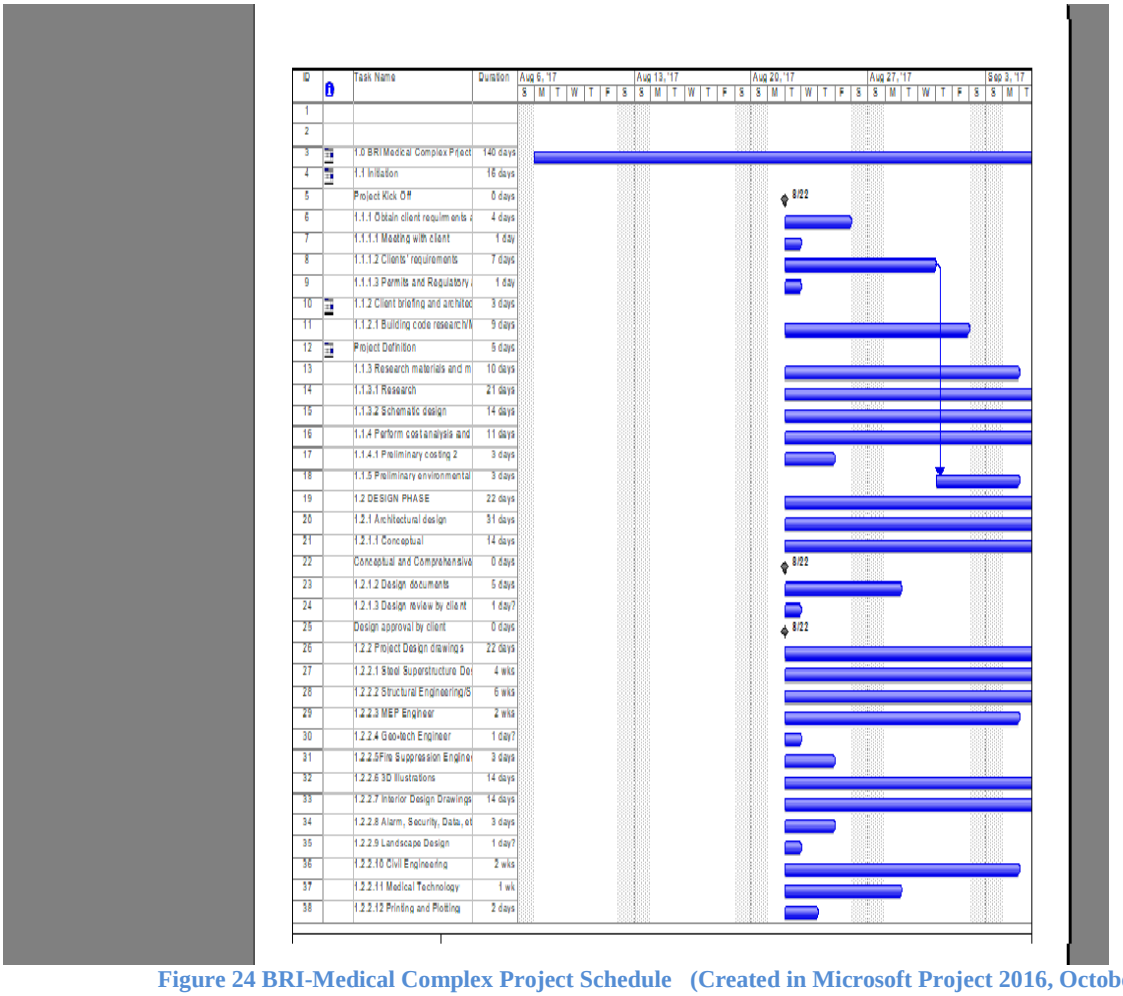

Figure 24 BRI-Medical Complex Project Schedule (Created in Microsoft Project 2016, October,2017)

Construction Duration
It should be clarified that the Construction activity represents the start and finish of the project's team physical presence on site and at this level, provision is made for pre-construction activities (such as procurement) by a logic link and 'lag' (duration of time) between the end of the Project management planning activty and the start of the Construction activity. The end date of construction includes post-construction activities such as walkovers for final inspection and snag lists.

Project Allocations
The Project Schedule identifies the allocation of Projects to both project managment and construction teams, allowing the schedule to be filtered for reporting purposes, and in order to identify the AVDC's project management team's responsiblilty for updating at any time in the project's lifecycle.

Cost Management
The Project Schedule shall incorporates the AVDC's estimate project values on each individual project tasks, which are used to predict forward cash flow assessments and to assess workload allocations across delivery teams.

Project Baselines
Once timeframes for delivery of the project schedule have been prepared and agreed this information is "baselined" and subsequently used to report actual progress against the expected delivery dates.

Roles and Responsibilities

The project manager is responsible to the BRI-Steering Committee for the establishment and maintenance of an accurate time management system for the BRI- Medical Complex construction. The office of the AVDC has delegated responsibility for implementation of the schedule frameworks set out in this management plan to the Assistant Project Manager under the supervisión of the Project Manager, the Construction Manager and a delegate from the BRI-Steering committee. The Assistant Project Manager along with the Field Superintendent is responsible for the carrying out and overseeing the scheduling activities set out within this Schedule Management

The project manager will be responsible for facilitating the breakdown of work packages into activities that provide a basis for sequencing, and estimating duration and resources with the project team. The Project Manager will also create the project schedule using MS Project 2016 and validate the schedule with the project team, and stakeholders. The Project Manager will obtain schedule approval from the stakeholders and baseline the schedule.

The project team is responsible for participating in work, and duration and resource estimating. The project team will also review and validate the proposed schedule and perform assigned activities once the schedule is approved. The project stakeholders will participate in reviews of the proposed schedule, assist in its validation and approve the final schedule before it is baselined.

The project manager will be responsible for reviewing the preparation and maintenance of the Project Schedules to ensure consistency with the project's requirements. The Construction Manager of DSACC and the field superintendent will be expected provide a valid timeframe for execution of their works and progress updates which an accurate reflection of the current status of the works at the time of reporting. If any inconsistencies within information presented will be addressed and mitigated as part of this process.

Schedule Control

The project schedule will be reviewed and updated as required when new or previously addded information is altered and edited. It will include the actual start, finish and percentages of the completion provided by assigned task owners.The Project Manager is responsible for overseeing and conducting schedule updates and reviews;determining of schedule modifications. Submitting schedule change requests and reporting schedule status in accordance with the project's communications plan will be the responisbility of the project manager.

The project team is responsible for participating in schedule updates or reviews. The team must communicate any changes of the actual start/finish dates to the project manager. The team is also expected participate in schedule variance resolution activities as required The project stakeholder(s) will maintain awareness of the project schedule status and review/approve any schedule change requests submitted by the project manager.

Schedule Changes and Thresholds

If any member of the project team determines that a modification to the schedule is mandatory, the Project Manager and team will meet to analyze and evaluate the change. The Project Manager and project team must determine which tasks will be impacted, any variance resulting from the potential change, and any alternatives or variance resolution activities they may employ to see how they would affect the scope, schedule, and resources. If, after this evaluation is completed, the Project Manager determines that any change will transcend the established schedule constraints, then a schedule change request must be submitted.

Submittal of a Schedule Change Request to the BRI-Consortium for approval is required if either of the two following conditions is true:

- The proposed change is estimated to reduce the duration of an individual work package by 10% or more, or increase the duration of an individual work package by 10% or more.
- The change is estimated to reduce the duration of the overall baseline schedule by 10% or more, or increase the duration of the overall baseline schedule by 10% or more.

Any change requests that would result in changes that are within or less than the percentages indicated in the above thresholds must be submitted to the project manager for approval. Once the change request has been reviewed and approved the Project Manager is responsible for adjusting the schedule and communicating all changes and impacts to the project team and stakeholders. The Project manager must also ensure that all change requests are stored archived in the project records repository for safety puproses.

At a higher level, progress and performance for the BRI-Medical Complex project will be monitored at the Project Schedule level by the Project Manager and the BRI-Steering Committee and be measured against baselines on a monthly basis (or more frequently). Specifically, the Project Manager is responsible for coordinating with the Architect, Construction team and Vendors over the updating of progress on their respective activities in the Project Schedule and identifying any gaps and omissions in the process. The Project Manager will also be responsIble for reviewing items such as slippage, scope changes. The Architect will communicate updates to start/end dates of the design phases (Design Allocation, Concept Design, Detailed Design) to the BRI- Steering Committee and the Project Manager. The adminstrative assistant will update manually the relevant Project Schedules using the latest versión of Microsoft Project software.

Scope Change

Any changes in the project scope, which have been approved by the BRI-Steering Committee, will require the project team to evaluate the outcome of the scope changes on the current schedule. If the Project Manager determines that the scope change will significantly affect the current project schedule, they may insist that the schedule be re-baselined taking into consideration any changes, which may need to be made as part of the new project scope. The project stakeholder must review and approve this request before the schedule can be re-baselined.

SPONSOR ACCEPTANCE

BRI Medical Complex Project Time Management Plan

Project Name: Construction of the BRI Medical Complex

Project Manager: _____

Project Sponsor: GovSVG and DSACC _____

Client:_____

Prepared by: Assistant Project Manager _____

Date prepared:15 October 2017

Submitted to: BRI STEERING COMMITTEE

Certificate of Authorization:

(Place company stamp here)

Figure 25 BRI-Medical Complex Project Time Management Plan . Adapted from:Project Management Docs. Retrieved October 31,2016fromhttp://www.projectmanagementdocs.com/project-planning-templates/schedule-management-plan.html#axzz4OI4TbOkP

4.7 Communications Management Plan

Communication is important in the planning of construction projects in two main aspects. First, the construction industry operates primarily as a system of sub-contracting business and professional alliances. There is a wide spread of stakeholders involved in a project through the project life cycle. Therefore, it becomes critical for all involved parties to communicate in order to understand the project plan (Aulich, 2013, Cheung et al., 2013). Second, lack of timely and effective communication leads to different issues like change in the project plan (Chan and Kumaraswamy, 1997, Zidane, 2012). Communication during the project life cycle helps understanding the issues of executing project plan and eliminating those obstacles (Zidane, 2012). Facilitating communication in a project requires appropriate structure and communication systems linking all stakeholders throughout the whole project life cycle (Chan and Kumaraswamy, 1997). According to (Walker D.H.T, 2002) a construction management team with developed communication skills shows better project performance.

It is proposed that this project will be the first and only Medical Complex in the Caribbean which caters for dialysis treatment, medical consultation and services for kidney diseases in the Caribbean by the time it is completed in 2019. The communication management is a very integral part of this project and the communications plan will explain how the project process will essentially be expedited.

Effective and open communications is critical to the success of the BRI -Medical Complex Project. The key communication objectives for the project are:

- Promote and gain support for the BRI-Medical Complex project
- Encourage use of project management best practices
- Give accurate and timely information about the project
- Ensure a consistent message

The Communications Management Plan was developed using the PMBOK® Guide to provide a framework to manage and coordinate the wide variety of communications that take place during the project and also to ensure that information communicated about the project during the project lifecycle will be disseminated to the appropriate parties at the correct time.The plan details how each stakeholder would receive information from members of the project team, the frequency of communication, the information that would be communicated to them and the person responsible for ensuring that the correct information was received by the communication sent (Project Management Institute, 2013, p. 289).

An interview was conducted with Mrs Antoinette J. Davis, the Project Manager, to ascertain the communication types and delivery methods previously used by the company. The information gathered, along with a communications requirements analysis completed by the Assistant Project Manager, are included in the Communication Matrix, seen in **Chart 11.**

COMMUNICATIONS MANAGEMENT PLAN
BRI MEDICAL COMPLEX
Arnos Vale Developmenet Corporation
Arnos Vale, St.Vincent and the Grenadines

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INTRODUCTION

The Communications Plan will serve as a guide to assist in communication between the stakeholders of the Building of the Convention Center Project. The Project Manager and Assistant Project Manager will take the primary role in ensuring effective communications on this project. The communications matrix **(Chart 11)** is a major section of this plan. It documents the communications requirements, the information being communicated, the audience for each communication, the frequency of communication, and the individual responsible for the communication or dissemination of the information to the appropriate audience.

The purpose of the communication plan is to ensure the BRI- Medical Complex project provides relevant, accurate, and consistent project information to project stakeholders and other appropriate audiences. By effectively communicating the project can accomplish its work with the support and cooperation of each stakeholder group. The Communication Management Plan is a working document that defines the following:

- Stakeholder communication requirements
- Analysis, design, development and evaluation of communications
- Identification and best use of communication vehicles
- Handling recurring and triggered communications

- Communication standards for the project
- The Communication approval process
- Completion and use of the Communication Matrix

Communication is a vital element of any successful project,the Communications Plan for the BRI-Medical Complex project seeks to achieve success by defining the appropriate communication requirements for the project and determining how information will be distributed. This plan will include the following processes:

- Plan Communication
- Manage Communication
- Control Communication

PLAN COMMUNICATIONS MANAGEMENT

Projects have a number of team members and individuals who needs to be kept abreast of its progress and about any issues which may occur during execution. According to the PMBOK (2013), Plan Communication is the process of determining the information and communication needs of the project stakeholders. Indeed, communication planning is essential and using tools and putting processes in place to ensure daily effective communication during project execution will prevent issues and guarantee a successful project.Because of the project size, scope and international third party involvement, the project's communication plan will systematically be one of the main driving factors that will allow for the on-time scheduled delivery of the medical facility in 2019.

The importance of the project's Communication Management Plan needs to be fully vetted and understood project wide. Firstly, there needs to be an understanding as to the need for an effective communication plan. Traditionally this communication plan and activities should be undertaken by specialized departments within the organization, but because the project is being built on the former E.T Joshua estate and there are multi internationals groups (employees) scattered throughout North America and the European continents as a joint local and international network, this project will take a unique approach.

One of the most important concerns of the Human Resources Department on this project is to ensure that employees are actively engaged and there is an open communication policy across the entire project. The project does not want to re-invent the status quo, where employees are either not-engaged or actively disengaged on the job. It is the project's intention to avoid lower productivity from actively disengaged workers. As a result the project's internal communications is a critical Human Resources strategy for both local and international retention and increased performance.

One of the projects strategies for improvement is to know its starting point. The use of organizational diagnostics in the form of an audit is a useful place to start. This audit should be companywide and differentiate divisions and levels. Identifying blockages are important. The projects audit should help answer a number of important questions including:

- Are employees receiving the information they want and need?

- How are employees receiving regular information?
- How regular ; daily, weekly, monthly ?
- Are messages consistent across the company?
- Do employees understand both the goals and the results of communications?

The BRI-Medical Complex project is aiming to avoid the typical common mistake that can be made throughout its many communications strategies with a project of this size and scope .This is a fundamental flaw. One of the key principles of effective internal communication is not just to tell the project team "the what".It is critical to tell them why something is happening in the way it is. If the proejct team doesn't understand the problem that they are attempting to solve, they won't feel any ownership of the solution that is being proposed, and as a result will not be proactive in the solution, undermining the project manager's attempts at progress.

The BRI-Medical Complex Project shall adopted this effective approach in the development of the communications strategy and will be tailored to the project's needs :

- What are the goals, ambitions and it strategic aspirations for the future?
- What do the people in the organization need to think, feel and do in order to make those goals a reality?
- Where are employees now and what needs to change in their current perceptions, attitudes, or access to basic information?
- What's the role of the internal communication function in helping close the gap of what we want for the future, and what we've got today?
- What are the roles and responsibilities of leaders, managers, employees and communication professionals?
- What are the communication activities we're going to need – and who will be responsible for what?
- What are the resource levels we need?
- What tools and communications channels will we use and why?

COMMUNICATIONS REQUIREMENT ANALYSIS

The analysis of the communication requirements determines the information needs of the project stakeholders. These requirements are defined by combining the type and format of information needed with an analysis of the value of that in formation (PMBOK, 2013).

As part of identifying all project stakeholders, the project manager will communicate with each stakeholder in order to determine their preferred frequency and method of communication. This feedback will be maintained by the project manager in the project's Stakeholder Register.Standard project communications will occur in accordance with the Communication Matrix; however, depending on the identified stakeholder communication requirements, individual communication is acceptable and within the constraints outlined for this project.

In addition to identifying communication preferences, stakeholder communication requirements will identify the project's communication channels and ensure that stakeholders have access to these channels. The project manager will ensure that all stakeholders, internal and external, have the necessary access to receive project communications.

METHODS OR CHANNELS OF COMMUNICATION

The project team will determine the communication methods and technologies based on several factors to include: stakeholder communication requirements, available technologies (internal and external), and organizational policies and standards.

MANAGE COMMUNICATION

Types of Communications to be used

Different types of communication will be used to facilitate the project's success. Emphasis will be placed on four types of communication which will include project perspective, organizational perspective, formality perspective, and channel perspective. From the project perspective communication will be internal among project team members in their interactions, and external between team members and other project stakeholders. From the organizational perspective, communication will be vertical and horizontal. The vertical communication is the upward and downward communication flow that happens between different hierarchical levels of the organization whereas horizontal communication refers to communication between people at the same organizational level. From the formality perspective, communication will be formal and informal; formal communication will include reports, presentations, and media releases. Informal communication will include emails, ad-hoc discussions, and use of social media platforms.

Communication Message Content

The section outlines the contents of the key communications.

Project Plans

- Current and Future Plans
- Project Issues and Problems

- Planned Project Deliverables for Next Period

Status Report
- Status Summary
- Status of Schedule
- Status of Budget
- Status of Scope
- Accomplishments Achieved
- Concerns/Issues
- Next Steps
- Project Team Members

Project Briefing
- Goals of Project Management Improvement
- Project Status
- Project Problems and Issues
- Project Checklist

CONTROL COMMUNICATIONS

The project will monitor and control the communication process thought the entire project life cycle. The project manager will be the person, generally, responsible for communications of the information to all stakeholders and will ensure that an optimal information flow among all relevant partners and stakeholders of the project at any such time. Periodic reports will be furnish by all team leaders to the project manager for reviewing and collating for further communication to all the necessary stakeholders.

This process development will be guided by the following inputs documents but not limited to:

- The project management plan
- project communications
- issue log
- work performance data
- organizational process assets

As the project develops the project manager along with the project team will utilize the various tools and techniques of meetings, expert judgement and a reliable information management system. The techniques will allow the project manager and the project team to utilize a set of the standard tools to collate and furnish information to the stakeholders about the cost, the schedule progress and performance. The Project Manager will engage the project management team to converse at a regular interval to assess the appropriate means to update and to communicate project performance, and to respond to request from the stakeholders for information.

ISSUE LOG

Issues will arise throughout the project's life cycles, however, proper and effective management of these issues will only lead to greater productivity. An issue log will be kept and will document and monitor approaches for resolutions of those conflicts or issues which may arise at any given time. It will also highlight those responsible for addressing the issues within the required deadlines, for which obstacles will be removed, lessons learned and platform will be established for future and further communications to all stakeholders warranted information on resolutions of issues.

From time to time the Project Manager and the team will discuss accordingly, and seek additional feedback from other partners, supporting agencies, consultant and other stakeholders to assess the impact on communications need for actions or special intervention, actions that should be taken, responsibility for taking such actions and the time frame for taking these actions. The Project Manager will consult with the legal consultant retained for guidance on all publications, disclaimers and reproductions of information to the necessary stakeholders at the given time.

Chart 11 BRI-Medical Complex Project Team Communication Matrix

(Source: J. Williams, The Author, October 2017)

Project Name: BRI- Medical Complex Project Objective: To construct a state of the art Medical Complex Prepared by: J. Williams (Assistant Project Manager) Submitted to: CEO, AVDC			Project Manager: Antoinette J. Davis Project Sponsor: Government of St.Vincent and the Grenadines Prepared: 26TH September 2017 Possible Number of Communication Channels: 648			
Communication Type	**Deliverable**	**Description**	**Delivery Method**	**Frequency**	**Owner**	**Audience**
Personal Communication	Project updates	Regular communication	Telephone Calls	If Needed	Project Manager/Assistant Project Manager	BRI-Consortium and Steering Committee
	Project updates	Regular communication	Telephone Calls E-mail	If Needed	Project Manager/Assistant Project Manager	Subconsultants Subcontractors
	Project updates	Regular communication	Telephone Calls E-mail Meetings	As required	Project Manager	Assistant Project Manager
	Project updates	Regular communication	Telephone Calls E-mail	Daily	Assistant Project Manager	Field Superintendent
	Project updates	Regular communication	E-mail Conversation	Daily	Field Superintendent	Foreman
	Project updates	Regular communication	E-mail	If Needed	Project Manager/Assistant Project Manager	Financial Advisor Accountant
	Procurement updates	Update on status of products and shipping	E-mail Conversation Web conference	Weekly	Project Manager/Assistant Project Manager	Suppliers
	Project updates	Regular	Face to Face	Daily	Foreman	Subcontractors

		communication	Communication			
	Directives and Issues	Regular communication	Face to Face Communication	Daily	Contractors	Site Workers
Reports	Project status report (Project Process	Regular update on critical project issues	E-mail	Weekly	Project Manager	Project Manager BRI-Steering Committee Project Team
	Quality audit report	Regular updates on project quality performance	E-mail	Bimonthly	Assistant Project Manager	Project Manager Project Team BRI-Steering Committee
	Financial report	Regular updates on project finances	E-mail	Weekly - Friday	Project Manager	Accountant Project Manager BRI-Steering Committee
	Compliance report	Regular updates on pending permits, extensions, deviations, request for information (RFI), etc.	E-mail	Weekly - Friday	Project Manager	Project Manager BRI-Steerign Committee
	Task report	Regular updates on critical project issues pertaining to the external team (sub consultants and subcontractors	E-mail	Weekly - Every Monday morning after Team meeting	Assistant Project Manager	Project Manager Project Team Quality Team
Presentations	Project review	Project status updates	Meeting	Monthly	Project Manager	Project Manager Project Sponsor Project Team
	Final Account	A complete audit of project finances from the project,	Meeting	Once	Project Manager and Assistant Project Manage	Project Manager Assistant Project Manager BRI-Steering

		done at the end of the project. In addition to operational costs' projections.				Committee
Project Announcements	Task reminders	Task owner schedule reminders	E-mail	Daily	Assistant Project Manager	Project Manger Project Team
	Change Request/Order	Request to add or remove scope from the project	Written (Standard Form)	Needs basis	Project Manager	Project Manager Project Team BRI-Steering Committee Sub consultants Subcontractors
	Project updates	Project updates for Community Members	Written	Needs basis	Project Manager	Community Members
Reviews and Meetings	Team meeting	Meeting to review project status	Planning Meeting	Weekly First thing Monday Morning	Assistant Project Manager	Project Manager Project Team Assistant Project Manager
	Financial report	Regular updates on project finances	Progress Meeting	Bi-monthly	Project Manager	BRI-Steering Committee , Accountant, Minister of Finance,Project Manager
	Project status meetings (Project Process)	Regular updates on critical project issues	Progress Meeting	Bi-monthly	Project Manager	Project Manager BRI-Steering Committee Project Team
	Planning	Regular updates and project planning	Progress and Planning Meeting	Daily	Project Manager	Assistant Project Manager
	Consultant Meeting	Technical planning session to collaborat e on work schedules,	Planning Meeting	By request	Project Manager	Assistant Project Manager Sub consultants

		installatio ns, delays, issues, etc				
	Site Meeting	Regular updates and project planning	Progress/Planning Meeting	Monthly	Project Manager	Foreman Subcontractors Site Superintendent Assistant Project Manager
	External Regulatory Meeting	Meeting at the request of Governmental Regulatory Agencies	Meeting	By request	Project Manager	Project Manager Assistant Project Manager Regulatory Governmental Agencies
Team Morale	Team Event	Regularly schedule team morale events	Event	Quartely	Assistant Project Manager	Project Manager Project Sponsor Project Team

SPONSOR ACCEPTANCE

BRI Medical Complex Project Communication Management Plan

Project Name: Construction of the BRI Medical Complex

Project Manager: _____

Project Sponsor: GovSVG and DSACC _____

Client:_____

Prepared by: Assistant Project Manager _____

Date prepared: 23 October 2017

Submitted to: BRI STEERING COMMITTEE

Certificate of Authorization:

(Place company stamp here)

Figure 26 BRI-Medical Complex Project Communicationos Management Plan . Adapted from:Project Management Docs. Retrieved October31,2016fromhttp://www.projectmanagementdocs.com/project-planning-templates/scommuincations-management-plan.html#axzz4OI4TbOk

4.8 RISK MANAGEMENT PLAN

With a project of this size, scope and international partnership, it is anticipated that there will be a contentious series of risks, both internal and external that are required to be assumed, identified and absorbed into the project. To this end, contingencies would have to be put in place to either mitigate and monitor or control all potential and actual risks. It is proposed that this project will be the first and only Medical complex specializing in dialysis treatment and services in the Caribbean by the time it is completed in 2019.

The Risk Management Plan, though complex is a very integral part of the success of this project. The purpose of the BRI-Medical Complex project's Risk Analysis is to achieve project success by ensuring the appropriate risks are identified with the necessary skills acquired, resources are allocated and human capacity are trained, necessary gaps in skills are identified, team building strategies are clearly defined, and team activities are effectively managed. The general intent of the plan is that is effectively used in such a way that it will serve as a tool to aid in the Risk Management activities throughout the project.

Please note that during the development of the plan, the Assistant Project Manager (Ms. Jeanine Williams) and the Project Manager (Mrs Antoinette Jacquelyn Davis) were actively managing the risks that were identified and arose during project management planning. Also during the planning and development of the Project Charter,Time and Cost Management for the construction of the BRI-Medical Complex, Risk Management was outlined and addressed.

RISK MANAGEMENT PLAN

BRI MEDICAL COMPLEX

Arnos Vale Developmenet Corporation

Arnos Vale, St.Vincent and the Grenadines

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Risk Management Approach

The BRI-Medical Complex Project's approach to risk management will proactively identify, analyze, mitigate, monitor, and communicate risks. The perspective on Project risk is consistent with the Project implementation strategy, including the interests of all participants throughout the lifecycle from initial development and funding, through design and construction, and subsequent maintenance.
As proven by the results produced by the project's partnered national and international project developers and construction companies specifically the DSACC, their project team members have well-established and sophisticated risk-management methodologies that will be applied during bid/execution phase of the project. This methodology will be further developed and defined and will continue to be used during project execution. The BRI-Medical Complex Project's combined capacity to identify and mitigate risk will maximize the probability of delivering a successful project.

Roles & Responsibilities

The table below provides an overview of theRoles & Responsibilities for the BRI-Medical Complex Project's Risk Management activities

Chart 12 Roles & Responsibilities for the BRI-Medical Complex Project's Risk Management (Source: J. Williams, The Author, October 2017)

Role	Responsibilities
Steering Committee	• Assists in identifying and determining the context, consequence, impact, timing, and priority of the risk
Project Manager	• Chairs the risk assessment meetings. • Continually monitors the projects for potential risks throughout the project lifecycle. • Analyzes any new risks that are identified and add these items to the Risk Register.
Risk Manager (Assigned by the Project Manager)	• Coordinates with the Project Director to identify the risks, the dependencies of the risk within the project, and the context and consequence of the risk with the assistance and participation of all project team members on board.
Risk Owners	• Determines which risks require mitigation and contingency plans. • Monitors, controls, and updates the status of the risk throughout the project lifecycle. • Escalates issues/problems to PM that significantly impact the project's triple constraint or trigger another risk event to occur.
Other Key Stakeholders	• Assists in identifying and determining the context, consequence, impact, timing, and priority of the risk.

Risk Identification

The BRI-Medical Complex Project intends to establish the following tools to identify risks:

- **Systematic review** of all project documentation (e.g. plans, Project Agreement (PA), (Project Specific Output specification)
- **Standard risk identification techniques**, for a conceptually rigorous approach (e.g. brainstorming, interviewing, root cause analysis).
- **Common project office**, for enhanced communication and collaboration through co-location of all Team members, where Project issues were readily discussed

- **Weekly technical and bid management meetings**, to reinforce our integrated team approach, and to develop technical solutions and bid strategies to reduce the risk profile
- **Risk management workshops**, to develop a project risk register with core project team members, facilitated by The BRI-Medical Complex Project's risk management and assessment professionals. Assumptions and root causes will be carefully analyzed, with participation of key areas experts and project leaders (e.g. design, construction, estimating), to proper identify and allocate risks.
- **Maintenance and Rehabilitation –** To determine financial and default risks, AVDC's sub-teams;the Maintenance and rehabilitation team will used two principal types of analysis:
  - Quality and system failures and statistical analysis
  - Availability failures, data, and experience-driven analysis – The Maintenance team will look at similar project internationally were BRI-Medical Complex Project team will review the availability issues, availability data, and associated risks

Risks will be initially identified while developing the project charter, a compilation of a comprehensive risk register will be done during the creation of the subsidiary plans. To this end, the risk register will be reviewed to include or remove any risks that may or may no longer be applicable to the project, during risk identification.The Assistant Project Manager, under the guidance and leadership of the Project Manager will create and mainting the risk register. Financial, planning, stakeholder, and scheduling are the notable categories of risks relevant to the BRI-Medical Complex project.

The Risk Management Plan, Cost Management Plan, Time Management Plan, Quality Management Plan, Human Resource Management Plan, Scope baseline, Activity Cost and Duration Estimates, Stakeholder Register and Procurement documents were used as inputs to the process of risk identification. The tools and techniques employed were documentation reviews, and expert judgement. The risk register below is the output from this process. However, there are a few elements that have been added to the chart below as it will be used during project execution to control risks. The risk register was compiled by using the updated versión of Microsoft Word 2016.

To determine which risks can be categorized as having a high, medium or low probability of occurrence and having a high, medium or low impact on the project, a meeting was conducted with Mrs. A. J. Davis, the expert in the field.

Chart 13 The BRI- Medical Complex Project Risk Register
(Source: J. Williams, The Author, October 2017)

RBS Code	Risk	Cause	Consequences	Probability	Impact	PxI	Trigger	Owner
1.1	Pre-Surveying	Government's Regulations and Policies; Environmental Stakeholders requirements; Residential influence and concerns	Low cost serves at barrier to development of the Medical Complrx; Risk mitigation fund set up as a result of grant funding; low quality of exploration and interpretation methods.	Atleast once every 1-2 years	Severe (5)	80-Very High	the need to impress potential financer to invest in the project; the need to gain additional support from environment stakeholders and Residents of	Project Manager

							communities which will be directly affected	
1.2	Exploration Risk	geological, geochemical, geophysical techniques	Incorrect sequential selection of a combination of various techniques and lack of experience interpretations of data collected.	At least once every 1-2 years	Severe (5)	80-Very High	Maximizing the probability of achieving 'return of investments' for a financer.	Project Manager, Construction Manager, BRI-Steering Committee
1.3	TestDrilling Risk; technical,logistical	location of the drill pads	Untimely availability of equipment and services; Private equity at high premiums	At least once every 1-2 years	Severe (5)	80-Very High	location and extent of the area and depth of the resources	International Financers, Project Manager
4.3	Natural Disasters; hurricanes and earthquakes	Active seismic fault and sea near the location, frequent flooding, climate change impact on the environment	Ongoing challenges with environmental related issues as a result of climate changes; Establishment of a Disaster Management Fund	once every 2-3 years	Significant (4)	40-High	Increase in rainfall over the last 3-5 years	Project Manger and Project team
1.4	Feasibility Studying and Planning	uncertainty in the viability of the development of such a high-risk investment project	Unavailability of an outlined drilling program;	once every 3-5 years	Moderate (3)	20-Moderate	viability of development and resources confirmation	AVDC , BRI-Steering Committee and Feasibility Consultant
2.1	Augering	Intended drilling depths, length of incline and deviation Wells	public equity or insurance, long term debt guarantee, conceptual model developed during the preceding phase of exploration remained unconfirmed	once every 3-5 years	Moderate (3)	20-Moderate	temperature, permeability, flow potential and fluid chemistry confirmation	Project Team Sponsor and project coordinator and manger
4.2	Change of government and regulations	Elections are held every five years	temporary suspension of the project if government changes	once every 3-5 years	Moderate (3)	15-Moderate	Opposition Party and other Civil Society Agencies have doubts about the project	Developer and Project Manager
3.1	Construction' lack of expertise and special equipment	suspension of the commissioning and purchase	long term debt from international funding institutions;	once every 5-10 years	Minor (2)	10-Low	supplier of special equipment could not deliver;	Construction Manager Financer, and Project manger

							requesting additional time to make adjustments	
3.2	Operations and Maintenance,	decline in production activity	partial risk guarantee from commercial agencies;	once every 5-10 years	Minor (2)	10-Low	inconsistency with geothermal fluid	DSACC rep and , project manager
4.1	unsatisfied environmental stakeholders	lack of remedial actions following environment impact study	Ongoing consultations with developer; threats of lawsuits	once every 5-10 years	Minor (2)	10-Low	lack of follow up environmental impact reports from developer	Steering Committee, Project Manager

Risk Breakdown Structure (RBS)

In order to identify and keep records of the risks that could eventually have some negative impacts on the construction of the BRI- Medical Complex, the below table of the Risk Breakdown Structure (RBS) is created. This tool will allow the project manager to effectively manage and get the project on track.

Chart 14 BRI-Medical Complex Projext Risk Breakdown Structure
(Source: J. Williams, The Author, October 2017)

Level 0	Level 1	Level 2	Level 3
Project Risk	1. Product Engineering	1.1 Requirements	1.1.1 Feasibility
			1.1.2 Completeness
		1.2 Design	1.2.1 Functionality
			1.2.2 Analysis
		1.3 Analysis	1.3.1 Construction
			1.3.2 Implementation
		1.4 Engineering and Constructing Specialties	1.4.1 Reliability
			1.4.2 Security
	2. Project Constraints	2.1 Resources	2.1.1 Human Resource
			2.1.2 Capital Resource

In order to determine the severity of the risks identified by the team, a probability and impact factor will be assigned to each risk. This process will allow the Project Manager to prioritize risks based upon the potential impact to the project. As risks are assigned a probability and impact, the Project Manager will move forward with risk mitigation/avoidance planning.

Chart 15 BRI-Medical Complex Project Impact Scale for Risk Management

Impact Scale					
Project Objectives	Negotiable (1)	Minor (2)	Moderate (3)	Significant (4)	Severe (5)
Cost	Less than $500k over budget	$500k-1,000k over budget	$1,000k-$2,000k over budget	$2,000k-$3,000k over budget	$3,000k-$5,000k over budget
Time	6 months delay	6mth. - 12mth. Delay	12mth. - 18mth. delay	2 years delay	2 - 3years delay
Scope	Scope decrease are acceptable or not noticeable	Scope affected is minor or not significant to create any concerning impact	Major area of scope affected and demands remedial actions	Situation is critical and stakeholders such as financers are losing interest in the project. At this time rate of return on investment is low or non-existent	Project is at a standstill and attracting additional financers seems to be an uphill battle. It's a project by itself to re-ignite new financers interest in the existing project
Quality	Slight or no effect on development	Minor or acceptable effects on development	Impacts on development warrants serious attention and analysis	Impact on development is very significant and warrants immediate attention in an attempt to save or salvage the project	Development of project suffered significant retardation, that financers have stop investing. Project seems hopeless to develop and it's time for key stakeholders to go back to the drawing board.

Probability Scale

Probability Scale					
Probability Class	Very Low (0.05)	Low (0.10)	Moderate (0.20)	High (0.40)	Very High (>0.40)
Probability	once every 10 years	once every 5-10 years	once every 3-5 years	once every 2-3 years	at least once every 1-2 years

Once risks are identified it is important to determine and revisit the probability and impact of each risk in order to allow the project manager to prioritize the risk avoidance and mitigation strategy. Risks which are more likely to occur and have a significant impact on the project will be the highest priority risks while those which are more unlikely or have a low impact will be a much lower priority. This is usually done with a probability – impact matrix/scale as seen below.

Probability & Impact Matrix					
	Impact				
	1	2	3	4	5
Probability	Very Low	Low	Moderate	High	Very High
41% - 100 %	10	20	40	60	80
21% - 40%	7	12	27	36	65
11% - 20%	5	9	15	25	40
6% - 10 %	3	6	8	12	20
1% - 5%	1	3	4	7	9

Risk Monitoring and Control

During project execution, The BRI-Medical Complex Project's emphasis will shift from risk planning to management, monitoring and control. The Risk Registers developed in the bid phase will be handed over to the execution team for continuity in the risk management strategy. Early risk management workshops will be one of the many tools used to brief new staff members joining the project. The roles and responsibilities for risk management will be defined, supported by a risk manager and risk management team that the BRI-Medical Complex Project will implement within the organization. The AVDC team will perform early evaluation on the effectiveness of the mitigation measures, the adequacy of response strategies, and the magnitude of any residual risk.

As a final activity, risk responses will be planned for each risk to reduce the threat to project objectives. The Risk Management Plan and Risk Register will be used as inputs to this process. Strategies for negative risks or threats, contingent response strategies and expert judgement are the tools and techniques that will be utilized.Any lessons learned will be registered before closing this process which would assist stakeholders in managing risks of a similar nature and to avoid reoccurence.

SPONSOR ACCEPTANCE

BRI Medical Complex Project Risk Management Plan

Project Name: Construction of the BRI Medical Complex

Project Manager: _____

Project Sponsor: GovSVG and DSACC _____

Client:_____

Prepared by: Assistant Project Manager _____

Date prepared: 16 December 2016

Submitted to: BRI STEERING COMMITTEE

Certificate of Authorization:

(Place company stamp here)

Figure 27 BRI-Medical Complex Project Risk Management Plan . Adapted from:Project Management Docs. Retrieved October31,2017fromhttp://www.projectmanagementdocs.com/project-planning-templates/risk-management plan.html#axzz4OI4TbOkP

4.9 STAKEHOLDER MANAGEMENT PLAN

Stakeholder Management includes the processes required ,to identify the people, groups and organizations that could affect or be affected by the construction of the BRI-Medical Complex project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate strategies and tactics for effectively engaging stakeholders in a manner appropriate to the stakeholders' interest and involvement in the project. The Stakeholder Management Plan helps ensure that stakeholders are effectively involved in project decisions and execution (PMBOK 5th Edition) throughout the lifecycle of the project, to gain support for the project and anticipate resistance, conflict, or competing objectives among the project's stakeholders.

In order to conduct Project Stakeholder Management, the stakeholders involved with the construction of the BRI-Medical Complex were identified using the inputs, and tools and techniques in **Figure 15.**
The agreement between the AVDC and DSACC, the agreement with the fabricators and the initial list of stakeholders outlined in the project charter were reviewed by the Assistant Project Manager and the expert, Mrs. A. J. Davis to develop a more complete stakeholder register seen in **Chart 16** below entitled BRI-Medical Center Stakeholder Register (Project Management Institute, 2013, p. 393).

Project Stakeholder Management was the last process to be conducted of the initiation process group. The Stakeholder Management Plan seen in **Figure 29,** was created using a modified template taken from an online source.

STAKEHOLDER MANAGEMENT PLAN

BRI MEDICAL COMPLEX

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INTRODUCTION

During the Initiating Process Phase, the project team will generate an initial Stakeholder list and record names, roles and responsibilities in a Stakeholder Register utilizing a Stakeholder Register Template . As the project progresses to the Planning Process Phase, much more time and effort is required for Stakeholder Management, including the development of a Stakeholder Management Plan.
The Project Manager typically develops the Stakeholder Management Plan with input from the Project Sponsor(s), the project team, and any appropriate Stakeholders. Generally, one of the key objectives for projects is to balance Stakeholder needs without sacrificing project goals.

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The objectives of the Stakeholder Management Plan are to document and communicate how information will be disseminated to, and received from all stakeholders connected with the BRI-Medical Complex project. The Stakeholder Management Plan shall identify:

• Who the stakeholders are;
• The requirements of each stakeholder;
• The requirements of the project to receive information and/or obtain approvals from stakeholders;
• The means of communication with each stakeholder;
• The frequency and duration of communication; and
• The roles and responsibilities of the project team in the implementation of the Stakeholder Management Plan.

This Stakeholder Management Plan will enable the AVDC project development team to identify and categorize stakeholders in terms of their 'interest'. The level of interest for each stakeholder is defined by assessing three key facets as they relate to that individual and the project:
• Level of influence
• Level of interest
• Level of involvement

Thus allowing the project to develop a comprehensive management strategy that ensures that they set expectations appropriately and retain their support throughout the project life cycle according to their ability to affect the project and its outcome. The importance of planning and preparing a sound strategy to manage the BRI- Medical Complex project's stakeholders as early as possible in the project management process cannot be over emphasized. Good management of stakeholder's interests from the outset will help to avoid unnecessary diversions that arise from a lack of understanding of their needs and interests.

This Stakeholder Management Plan is created to operate at many different levels across the AVDC organisation, from the peak executive bodies to individual streams of the BRI-Medical Complex project. The stakeholder management cycle, which leads to the identification of stakeholders and the development of a stakeholder management plan, can be applied at each level in the same manner. Although four main processes were used to create this plan as identified above it was further broken down to create the stakeholder management cycle for this project which consists of the 5 steps shown in the following diagram:

Figure 28 Stakeholder Management Cycle. Retrieved from: http://www.doit.maryland.gov/SLDC.%&

Although the above steps can be initiated in a logical sequence, they can also occur concurrently and iteratively. The same steps are used in this project to review stakeholders and ensure ongoing alignment.

STAKEHOLDER MANAGEMENT PLAN OBJECTIVES

There are four main processes in the creation of this management plan:

1. Identify Stakeholders: – identify by name and title of the people, groups, and organizations that have significant influence on project direction and its success or who are significantly impacted by the project.

2. Plan Stakeholder Management – identify the strategies and mechanisms that will be used to achieve the greatest support of stakeholders and minimize resistance.

3. Manage Stakeholder Engagement- outlines the processes and steps that will be undertaken to carry out the planned strategies.

4. Control Stakeholder Engagement -describes the methods that will be used to monitor stakeholder engagement and alert the project team if problems are surfacing.

IDENTIFY STAKEHOLDERS

The first action of this plan is to identify the individual stakeholders and define the methodology that the project team will adopt to complete this task. It is vital that all the project's stakeholders are identified whether they have a major or minor stake in the outcome of the project. If insufficient time is given to this process. Part of the methodology is agreeing the different categories that will be used to classify the different needs and interests that will be used in the Stakeholder register (Chart 8 below). It is important that all 'key' stakeholders are clearly identified as they frequently those individuals that are most affected by the projects implementation and/or have considerable influence over the project. Communication to and from this group must receive priority and be well managed.

The main stakeholders that will benefit from this system are the Ministry of Health of the Government of St.Vincent and the Grenadines which is providing this facility, the BRI-Consortium/Steering Committee involved in the implementation and administrators who are responsible for smooth running of the facility.The customers who may belong to various regions of the Caribbean are also major stakeholders of this system. The AVDC is also an important stakeholder as the project execution and completion would be finalized by it.

Internal stakeholders for this project are groups within the business of the BRI-Medical Complex or people who work directly such as employees, ,owners and investors etc. Employees want to earn high wages and keep their jobs. Owners are interested in maximizing the profit the business makes. Investors are concerned about earning income from their investment. External stakeholders are the groups outside of the AVDC circle or people who are

not directly working within the business but are affected in some way from the decisions of the business, such as suppliers, creditors, community etc.

Chart 16 BRI-Medical Complex Stakeholder Register (Source: J. Williams, The Author, September 2017)

Project Name: BRI- Medical Complex **Project Objective: To construct a state of the art Medical Complex** **Prepared by: J. Williams (Assistant Project Manager)** **Submitted to: CEO, AVDC**						**Project Manager: Antoinette J. Davis** **Project Sponsor: DASCC** **Prepared: 26TH September 2017**				
ID	**STAKEHOLDER NAME**	**ORGANISATION**	**ROLE**	**TITLE**	**CONTACT INFO**	**COMMUNICATION TYPE**	**C0MMUNICATION VEHICLE**	**STAKE IN PROJECT**	**PERSPECTIVE REGARDING**	**INFLUENCE**
0	CEO	AVDC	CEO	Owner	ceo@avdc.com	Meetings Personal Communication Reports Presentation Announcement	E-Mail Telephone Face to Face	Has high interest in the project and is responsible for the funding of the project. Is most critical throughout enter project lifecycle	Positive	High
1	BRI-Steering Committee	Government of St.Vincent and the Grenadines	Key Decision Maker	Member	m.health@gov.vc	Meetings Personal Communication Reports Presentation Announcement	E-Mail Telephone Face to Face	Has high interest in the project and is highly involved in decision making. Is most critical throughout the project lifecycle.	Positive	High
2	Mr. Sean Smith	AVDC	Project Accounts Controller	Accountant	acc@avdc.com	Personal Communication	E-mail	Has high interest in the project and highly involved with the Owner and Board of	Positive	Medium

								Directors. Is critical throughout the project lifecycle.		
3	Mr. Jack Diamondd	DSACC	Design	Architect	design@dsacc.com	Meetings Personal Communication Reports Presentation Announcement	E-Mail Telephone Face to Face	Has high interest in the project and is responsible for designs. Is critical throughout the duration of the project.	Positive	High
4	DSACC Executive	DSACC	Construction	Contractor	ajd@ avdc.com	Meetings Personal Communication Reports Presentation Announcement	E-Mail Telephone Face to Face	Has high interest in the project and has responsibility of managing subcontracts, and construction for entire duration of project	Positive	High
5	Mrs Antoinette J. Davis	AVDC	Project Management	Project Manager	ajd@avdc.com	Meetings Personal Communication Reports Presentation Announcement	E-Mail Telephone Face to Face	Has high interest in the project responsibility for the management of the building of the medical complex. Is critical throughout duration of project.	Positive	High
6	Ms. Jeanine Willliams	AVDC	Project Management	Assistant Project Manager	jw@avdc.com	Meetings Personal Communication Reports Presentation Announcement	E-Mail Telephone Face to Face	Has high interest in the project and has responsibility for assisting in the project management reporting, procurement. Works along with Site	Positive	High-Medium

								Superintendent. Is critical through project duration		
7	Mr. Tim Best	AVDC	Office Administraion	Administrative Assistant	tb@avdc.com	Meetings Personal Communication Reports Presentation Announcements Team Morale	E-Mail Telephone Face to Face	Has high interest in the project, has responsibility for managing in office communications, taking minutes, relaying messages, etc	Positive	Low
8	Mr. Scott Hanover	AVDC	Construction	Field Superintendant	sh@avdc.com	Meetings Personal Communication Reports Presentation Announcements Team Morale	E-Mail Telephone Face to Face	Has high interest in the project, has responsibility of overseeing the foreman, monitors gate and check points. Is in charge of overseeing the day to day running of the project site, hosting site meetings and documenting progress.	Positive	High-Medium
9	Mr. Lolan Bellingy	AVDC	Construction	Foreman	lb@avdc.com	Meetings Personal Communication Reports Presentation Announcements Team Morale	E-Mail Telephone Face to Face	Has high interest in the project and has responsibility for following technical specifications and industry standards on site. Also manages methods and production	Positive	Medium
10	Mr. Alban	AVDC	Office	Office	aw@avdc.com	Meetings	Teleph	A moderate level	Neutral	Low

	Williams		Administration	Attendant		Personal Communication Announcements Team Morale	one Face to Face	of interest in the project and has responsibility for collecting miscellaneous materials from the hardware and lumberyard and minor cleaning.		
11	Mr. Steve Sketche	DASCC	Design	Draftsman	ss@dascc.com	Meetings Personal Communication Announcements Team Morale	E-Mail Telephone Face to Face	Has high interest in the project, has the responsibility of working alongside the architect	Positive	
12	Vinlec	Subcontractor	Electrical	Electician	Vinlec.gov.vc	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor.	Positive	Low
13	CWSA	Subcontractor	Plumbing	Plumber	Cwsa.gov.vc	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
14	RSVGFB	Subcontractor	Fire Emergency	Fire Personnel	rsvgpf@gov.vc	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
15	OVO Systems	Subcontractor	Air Conditioning	AC Subcontractor	ac@ovo.com	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
16	Mr. Atlan George	Subcontractor	Tiling	Tiling Subcontractor	ageorge@tile.com	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
17	Medical Supplies Inc.	Subcontractor	Medicine	Medical Supplier	medco@hos.com	Project Announcements Personal Communication Meetings	E-Mail Telephone	Has high level of interest in the project and has	Positive	Low

							Face to Face	responsibility as a subcontractor		
18	Finishing and Furnishing	Subcontractor	Furnishing	Furniture Subcontractor	fandf@furn.com	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
19	Alarm Systems	Subcontractor	Security	Security Subcontractor	alarm@sec.com	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
20	Dynamic Guys Lighting Systems	Subcontractor	Lighting	Lighting Subcontractor	dynamic@ele.com	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
21	Operating Theatre Fittings and Fixtures	Subcontractor	Installation	Installation Subcontractor	op@install.com	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
22	Articrafts Designs	Subcontractor	Decorations	Interior Decorator	ad@id.com	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
23	Kendra's Alluninum	Subcontractor	Windors/Doors installation	Installation Subcontractor	ka@is.com	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
24	Mike's Interior Design and Slay	Subcontractor	Interior Designing	Interior Designer	mids@id.com	Project Announcements Personal Communication Meetings	E-Mail Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Positive	Low
25	Site Workers	Various	Various	Various	Responsibility of employer (subcontractor)	Personal Communication Meeting	Face to face-	Has a high level of interest in the project and has responsibilities to complete work on the project.	Positive	Low
26	Blackson Greenery	Subcontract	Landscaping	Landscaper	bg@ls.com	Personal Communication	E-Mail Teleph	Has a high interest in the	Positive	Low-Medium

		or				Meetings Written	one Web Conference	project as a supplier and is most critical during planning and project execution.		
27	Harris Paints	Subcontractor	Painting	Painter/ Paint Supplier	hp@harris.com	Personal Communication Meetings Written	E-Mail Telephone Web Conference	Has a high interest in the project as a supplier and is most critical during planning and execution	Positive	Low-Medium
28	Influence Medical Inc	Subcontractor	Medical Transportation	Transportaion Subcontractor	imi@tms.com	Personal Communication Meetings Written	E-Mail Telephone Web Conference	Has a high interest in the project as a supplier and is most critical during planning and execution	Positive	Low-Medium
29	MASA	Subcontractor	Air Ambulatory Services	Emergency Transporter	ets@masa.com	Personal Communication Meetings Written	E-Mail Telephone Web Conference	Has a high interest in the project as a supplier and is most critical during planning and execution	Positive	Low-Medium
30	Medical Board of Doctors	Subcontractor	Medical Care	Doctor	mbd@mc.com	Personal Communication Meetings Written	E-Mail Telephone Web Conference	Has a high interest in the project as a supplier and is most critical during planning and execution	Positive	Low-Medium
31	Mr. Ray Thome	DASCC	Design	Quantity Surveyor	rt@dascc.com	Personal Communication Meetings Project Announcements	E-Mail Telephone Face to Face	Has a high interest in the project as a consultant, is most critical during initiating and project planning.	Positive	Low
32	Ms. Jane Archibald	Sub-consultant	Topograhy	Land Surveyor	ja@ls.com	Personal Communication Meetings Project	E-Mail Telephone	Has a high interest in the project as a	Positive	Low

						Announcements	Face to Face	consultant, is most critical during initiating and project planning.		
33	Mr. Jesse Federline	DASCC	Design	Electrical Engineer	jf@dascc.cm	Personal Communication Meetings Project Announcements	E-Mail Telephone Face to Face	Has a high interest in the project as a consultant, is most critical during initiating and project planning.	Positive	Low
34	Ms Rachel Lee	DASCC	Design	Structural Engineer	rlee@dascc.com	Personal Communication Meetings Project Announcements	E-Mail Telephone Face to Face	Has a high interest in the project as a consultant, is most critical during initiating and project planning.	Positive	Low
35	Mr. Tali Zae	DASCC	Design	Mechanical Engineer	tz@dascc.com	Personal Communication Meetings Project Announcements	E-Mail Telephone Face to Face	Has a high interest in the project as a consultant, is most critical during initiating and project planning.	Positive	Low
36	Mrs. Twyla Jde	Subconsullta nt	Design	Medical Technician	ti@mtm.com	Personal Communication Meetings Project Announcements	E-Mail Telephone Face to Face	Has a high interest in the project as a consultant, is most critical during initiating and project planning.	Positive	Low
37	Mr. Tai Johnson	Subconsullta nt	Design	Geotechnical Engineer	tj@ge.com	Personal Communication Meetings Project Announcements	E-Mail Telephone Face to Face	Has a high interest in the project as a consultant, is most critical during initiating and project planning.	Positive	Low

38	Mr. Ray Victory	AVDC	Drainage and Dewater Site	Hydrologist	rv@hydro.com	Personal Communication Meetings Project Announcements	E-Mail Telephone Face to Face	Has a high interest in the project as a consultant, is most critical during initiating and project planning.	Positive	Low
39	Mr. Smith Debnath	Ministry of Forestry	Impact Assessment	Environmental Engineer	sd@mof.gov	Personal Communication Meetings Project Announcements	E-Mail Telephone Face to Face	Has a high interest in the project as a consultant, is most critical during initiating and project planning.	Positive	Low
40	Community Members	None	Neighbours	Not Applicable	None	Project Announcements	Written	Has a low interest in the project and is most critical during project execution.	Negative	Low
41	Ministry of Public,Works Ministry of Health	Government of SVG	Regulation	Regulation	mpmh@gov.vc	Personal Communication Meetings	Face-toFace E-Mail Written	Has a low interest in the project and is most critical during project initiating, execution and closure	Neutral	Medium
42	AIADC	Argyle International Airport	Regulation	Regulation	aiadc@gov.vc	Personal Communication Meetings	Face-toFace E-Mail Written	This group has a low interest in project and is most critical during project initiation.	Neutral	Low
43	MCHM Trust Inc	Milton Cato Memorial Hospital	Medical Codes and Ethics Consultation	Consultant	trustc@mchm.com	Personal Communication Meetings	Telephone Face-toFace E-Mail Written	Has low interest in the project. Is interested in impact assessments	Neutral	Low

Chart 17 Stakeholder Analysis and Level of Engagement

(Source: J. Williams, The Author, September 2017)

Project Name : Project Name: Construction of a Medical Complex, Arnos Vale, St. Vincent					
Stakeholder Name/Group:	**Key interests or stake in the change and degree of impact (H, M or L?)**	**Level of influence over the change (H, M or L?**	**Present attitude to the change (in favour or opposed?**	**Stakeholder management strategies**	**Key points for Stakeholder Engagement and Management Plan**
BRI-Consortium/Steering Committee	Interest High Impact High	H	Favour	Consult, involve and keep informed	Two-way engagement essential
Minister of Health, (Government of SVG)	Interest High Impact High	H	Favour	Consult, involve and keep informed	Two-way engagement essential
Financial Advisor, (AVDC)	Interest High Impact Medium	M	Favour	Keep informed and support	One-way communicatio n and support essential
CEO DASCC	Interest High Impact High	H	Favour	Consult, involve and keep informed	Two-way engagement essential
J. Williams Assistant Project Manager (AVDC)	Interest High Impact High-Medium	M	Favour	Involve and Keep informed	Two-way engagement essential
AVDC/DASCC Designs/Project Team	Interest High Impact High	L	Favour	Involve and Keep informed	One-way Communication
Subcontractors	Interest High Impact High	M	Favour	Consult, involve and keep informed	Two-way engagement essential

Suppliers	Interest High Impact High	M	Favour	Consult, involve and keep informed	Two-way engagement essential
Sub Consultants	Interest High Impact High	M	Favour	Consult and involve	Two-way engagement essential
Regulatory Bodies	Interest Low Impact High	M	Neutral	Consult and involve	Two-way engagement essential
Community	Interest Low Impact Low	L	Neutral	Keep informed	One-way communication

STAKEHOLDER ANALYSIS

This section is extremely important because it ensures that any future obstacles and diversions that can occur from poor communication are avoided. It will describe how this process will be performed and outline the tools and techniques that will be used. It consists of a two part process first to identify and categorize each individual stakeholder according to their level of interest, influence and involvement. Secondly to then use these assigned categories to detail their main concerns and define their level of need and strategy behind communications .To assist with stakeholder identification and analysis, the team has created and is completing a Stakeholder Analysis Register categorized by Stakeholder Group.

For the BRI- Medical Complex this involves the review of the data compiled in **Chart 16**. In order to identify the relevant information required to select the appropriate management strategies and level of engagement for each stakeholder (some are grouped by type) identified in **Chart 17.**There are many persons of whom will have varying degrees of power, influence, interest and level of impact on the construction of the medical complex project. Although the project will be executed in collaboration with a private international company (DSACC), the Project Manager realized that many of the suppliers are international companies. In addition, there are various national and international governmental agencies such as the Ministry of Works, Health and the Environment, and the Ministry of Housing , Planning and Urban Development as well as the Federal Authority Administration (FAA) responsible for providing the permits and inspecting regulatory compliance. Both agencies and suppliers are potential sources of issues that can cause delays in project execution and completion, and, in fact, can increase the project budget if they are not managed effectively throughout the project lifecycle.

ROLES AND RESPONSIBILITIES

The table of Roles and Responsibilities below provides descriptions of duties for project roles in Stakeholder management.

Chart 18 BRI- Medical Complex Project's Major Roles and Responsiblities For The Stakeholder Management Process (Source: J. Williams, The Author, Septemebr 2017)

Name	Role	Responsibility
Government of SVG	Project Sponsor	• Identify Stakeholders • Provide input into categorization of Stakeholders • Provide advice in preparation strategies to be included in the Stakeholder Management Plan • Approve the Stakeholder Management Plan • Play a lead role in representing the project to external Stakeholders
A J. Davis (AVDC)	Project Manager	• Initiate effort to develop the Stakeholder Management Plan • Guide initial Stakeholder analysis • Complete the Stakeholder Management Plan • Manage the schedule and activities related to Stakeholder communications and engagement
Jeanine Williams	Assistant Project Manager	• Undertake the Stakeholder analysis in consultation with the project team and the sponsoring organization's staff • Write the Stakeholder Management Plan • Review with the project team and the sponsoring organization's staff • Lead the effort to complete the approach identified in the Stakeholder Management Plan
Jack Diamond (Chief Architect and Construction Manager)	DSACC	• Provide advice and review the Stakeholder Management Plan • Assist in identification and classification of Stakeholders • Assist in development of management strategies • Act as a key point of contact with other program representatives regarding business aspects of the Project
BRI-Consortium	Business Lead	• Provide advice and review the Stakeholder Management Plan • Assist in identification and classification of Stakeholders • Assist in development of management strategies • Provide information to support Stakeholder communication
Sub-Consultants	Technical Lead	• Provide advice and review the Stakeholder Management Plan • Assist in identification and classification of Stakeholders • Assist in development of management strategies • Provide information to support Stakeholder communication

POWER/INTEREST CLASSIFICATION

The BRI- Medical Complex Project relevant authorities will assess each group's position, as well as their impact on the project and/or how they are impacted by the project. One purpose of this activity is to help identify and categorize groups so that appropriate attention can be given to each group according to the level of engagement needed. To help in this process, the project will use the PMBOK Power/Interest Grid to categorize each stakeholder group. The Power/Interest Grid is used to analyze stakeholder groups in a visual manner to further establish stakeholders' level of interest or concern and their ability to influence the project outcomes. An important outcome of the stakeholder identification and analysis work, including the Power/Interest Grid, is to identify the most influential and most impacted stakeholder groups so that a focused stakeholder management strategy and plan can be developed and executed.

Please note: Impact is measured by High (H), Medium (M) or Low (L). State of change readiness is assessed using the measures from PMBOK as follows:

- ✓ U – Unaware – this group has no information about the project
- ✓ R – Resistant – aware of project and resistant to the changes and impacts the project may bring
- ✓ N – Neutral – aware of the project and neither supportive nor resistant
- ✓ S – Supportive – aware of the project and the potential changes and impacts and is supportive
- ✓ L – Leading – aware of the project and actively engaged to ensure the project's success

The results of the Power/Interest Grid were added to the Stakeholder Analysis Register document as seen in **Chart 19.**

Chart 19 Stakeholder Analysis Register (Source J. Williams, The Author, September 2017)

Group Name	# GROUP	Description & Key Attributes	Impact on Project	Impacted by Project	Current State	Desired State	Issues, Opportunities and Risks	Mitigation Strategies and Actions
BRI-Steering Committee	5	Key decision makers : CEO and Sponsor	H	H	L	L	Issue:CEO takes project advice from financial advisor who is not an expert in the field	Mitigate through signed contracts of roles and responsibilities
DASCC	9+	Consists of architect, contractor, project manager, assistant	H	H	L	L	Risk: Varying levels of incompetence or low level of productivity	Incentivize (Human Resource Management)

		project manager (procurement officer), office staff						
Subcontractors	13	Contracted professional	H	H	S	S	Risk: Inaccurate or inefficient designs, lack of concern, and tardiness	Checkpoints and independent check person (Project Manager
Suppliers	5+	Provide materials on a contract basis	H	M	S	S	Opportunity: International products cheaper than local Risk: Schedule delays and faulty materials	Risk: Insurance
Subconsultants	9	Technical Expertise	H	M	S	S	Risk: Varying levels of levels of incompetence or low level of productivity	Checkpoints and independent check person (Project Manager)
Regulatory Bodies	8	Regulate and inforce building codes and standards	H	L	N	N	Risk: Additional non constitutional items to the agenda	Compliance or Negotiation
Community	1	Opinions	L	L	U	N	Risk: Nuisance	Ignore, meeting and/or legal cause of action

STAKEHOLDER INTERVIEWS

To confirm that the Stakeholder Identification and Analysis process is accurate and complete, the project team, led by the Project Manager, will assist in facilitating a series of reviews with the BRI- Steering Committee and others. In addition, optional qualitative interviews may be performed for the Stakeholder Groups identified as most influential or most impacted by the project to validate that their issues and concerns have been captured accurately.

PLAN STAKEHOLDER MANAGEMENT

Plan Stakeholder Management is the process of developing appropriate management strategies to effectively engage stakeholders throughout the lifecycle of the project, based on the analysis of their needs, interests and potential impact on project success. The key benefit of this process is that it provides a clear, actionable plan to interact with project stakeholders to support the project's interests (PMBOK 5th Edition).

Based on the information gathered in the Stakeholder Analysis Register and Communication Plan, the Project Manager will be responsible for engaging stakeholders throughout the lifecycle of the project. The level of engagement required for each stakeholder may vary over the course of the project. For example, during the beginning stages of the project, it might be necessary for the Project Manager to engage key stakeholders to be highly engaged. Highly engaged key stakeholders in the early stages of the project are pivotal for project kickoff, achieving staff buy-in and clearing obstacles. As the project progresses, the level of engagement will shift from key stakeholders to the broader project team and end-users.

STAKEHOLDER ENGAGEMENT

To ensure the correct level of engagement is being achieved by each stakeholder, the Project Manager will analyze current levels of engagement by using the PMBOK Stakeholders Engagement Assessment Matrix. As noted above in the Stakeholder Analysis Register, each stakeholder group shall be assessed in terms of their current and desired level of engagement.

Chart 20 Stakeholder Engagement Assessment Matrix (Source: J. Williams, The Author, September 2017)

STAKEHOLDER	UNAWARE	RESISTANT	NEUTRAL	SUPPORTIVE	LEADING
CEO (AVDC)					C D
Representative, BRI-Steering Committee					C D
Project Managers					C D
DASCC					C D
Financial Advisor		C		D	
Regulatory Bodies			C D		
Sub-contractors				C D	
Suppliers				C D	
Sub-consultants				C D	
Community Members	C		D		

Stakeholder Engagement Assessment Matrix. List stakeholders and place a "C" for their current level of engagement and "D" in the column of their desired level of engagement.

MANAGE STAKEHOLDER ENGAGEMENT

Stakeholder Engagement Management is the process of communicating and working with stakeholders to meet their needs and expectations, and to address issues as they occur. Stakeholder Engagement Management is the process to systematically foster appropriate stakeholder engagement in project activities throughout the life of the project. The key benefit of this process is that it allows the Project Manager to increase support and minimize resistance from stakeholders, significantly increasing the chances to achieve project success (PMBOK 5th Edition). To effectively manage stakeholder engagement, the BRI- Medical Complex Project will utilize the Communication Plan and strategies identified to communicate project related information to key stakeholders in a proactive and timely manner.Leveraging the information provided in the Communication Plan (i.e., stakeholder groups, communication items, purpose, method of communication, and frequency), the project will have the ability to increase support and minimize stakeholder resistance throughout the life of the project. Managing stakeholder engagement helps to increase the probability of project success by ensuring that stakeholders clearly understand the project goals, objectives, benefits, and risks.

In line with the analysis above, the project team will also be actively listening and soliciting input and feedback to make sure communications are being received and understood, and also to capture important information to help make adjustments and to respond to problem areas.

MONITOR STAKEHOLDER ENGAGEMENT

Monitor Stakeholder Engagement is the process of monitoring overall project stakeholder relationships and adjusting strategies and plans for engaging stakeholders. Monitor Stakeholder Engagement involves collecting data, assessing the level of engagement and using insights from the data collection to adjust strategies and tactics for engaging effectively with stakeholders. . The Communications Plan and the Risk Management Plan for the BRI-Medical Complex Project will have mechanisms to receive ongoing direct feedback from key stakeholders, including email, personal communication, site meetings, status meetings and community meetings. Individual stakeholders will be encouraged to participate and to voice questions and concerns, with the most serious issues and concerns that are raised addressed in a formal, rigorous process through the Issues and Risk logs.

As described in the Scope Management Plan, the project will solicit broad participation in the collection and validation of requirements, which will uncover issues and concerns early on, so they can be addressed. Stakeholders are critical to the project's success. The project team has planned for and will work to involve, engage and listen to all key stakeholders throughout the project lifecycle.

STAKEHOLDER PLAN UPDATES

Note that the Stakeholder Management Plan and associated documents are not static. The stakeholders identified and their information documented in the Stakeholder Analysis Register will be reviewed at least monthly to ensure the plan is meeting project expectations and to make modifications if required.

SPONSOR ACCEPTANCE

BRI Medical Complex Project Stakeholder Management Plan

Project Name: Construction of the BRI Medical Complex

Project Manager: _____

Project Sponsor: GovSVG and DSACC _____

Client:_____

Prepared by: Assistant Project Manager _____

Date prepared: 16 September 2017

Submitted to: BRI STEERING COMMITTEE

Certificate of Authorization:

(Place company stamp here)

Figure 29 BRI-Medical Complex Project Stakeholder Management Plan . Adapted from:Project Management Docs. Retrieved October31,2016fromhttp://www.projectmanagementdocs.com/project-planning-templates/stakeholdermanagement plan.html#axzz4OI4TbOkP

4.10 PROCUREMENT MANAGEMENT PLAN

A plethora of methods for procuring building projects are available to meet the needs of clients. Deciding what method to use for a given project is a difficult and challenging task as a client's objectives and priorities need to marry with the selected method so as to improve the likelihood of the project being procured successfully (NSW, 2005).

Upon the completion of Project Cost, Time and Human Resource Management process, Project Procument Management occured. To develop a Procurement Management Plan, a template from an online source was adapted and modified. As clearly outlined in the PMBOK® Guide, the Requirements Documentation, Risk Register, Stakeholder Register and Project Charter were the inputs used in the process. The tools and techniques were expert judgement and meetings, in the form of a personal interview with the Project Manager (Project Management Institute, 2013, p. 358).

For the purpose of the BRI-Medical Complex Project, the AVDC's Project management team developed a very detailed and comprehensive procurement strategy ,according to recommendations documented by Love et al. (2006), which comprises of ten stages:

1. Identify and quantify a service demand for a genuine delivery need in an outcomes strategy.
2. Identify service delivery options for meeting the need with stakeholder and preliminary risk analysis
3. Justify proposed option with option evaluation, some financial/economic appraisal and strategy report.
4. Define preferred project needs procurements with brief, risk/benefits analysis, business case and authority to proceed.
5. Define/select project procurement strategy with brief, risk/benefits analysis and risk management plan, initial methodology report and later strategy report.
6. Define project specification with tender documents, estimate and tender evaluation plan for each contract.
7. Call/close evaluate tenders for each contract and recommend/approve/engage best project suppliers.
8. Project implementation with supplier(s) carrying out contract work and asset delivery
9. Asset operation/maintenance and then disposal after supplier(s) completes asset delivery.
10. Project evaluation during/after delivery comparing outcomes sought and achieved, and using lessons learned.

PROCUREMENT MANAGEMENT PLAN

BRI MEDICAL COMPLEX

Arnos Vale Developmenet Corporation

Arnos Vale, St.Vincent and the Grenadines

INTRODUCTION

This Procurement Management Plan sets the procurement framework for this project. It will serve as a guide for managing procurement throughout the life of the project and will be updated as acquisition needs change. This plan identifies and defines the items to be procured, the types of contracts to be used in support of this project, the contract approval process, and decision criteria. The importance of coordinating procurement activities, establishing firm contract deliverables, and metrics in measuring procurement activities is included. Other items included in the procurement management plan include: procurement risks and procurement risk management considerations; how costs will be determined; how standard procurement documentation will be used; and procurement constraints

PROCUREMENT MANAGEMENT APPROACH

The Procurement Management Plan is defined enough to clearly identify the necessary steps and responsibilities for procurement from the beginning to the end of a project. The project manager will ensure that the plan facilitates the successful completion of the project and does not become an overwhelming task in itself to manage. The project manager will work with the project team, contracts/purchasing department, and other key players to manage the procurement activities.

The Project Manager will provide oversight and management for all procurement activities under the BRI-Medical Complex Project. The Project Manager will work with the project team to identify all items to be procured for the successful completion of the project. The project sponsor will then review the procurement list prior to submitting it to the contracts and purchasing department. The contracts and purchasing department will review the procurement items, determine whether it is advantageous to make or buy the items, and begin the vendor selection, purchasing and the contracting process.

The following procurement items and/or services have been determined to be essential for project completion and success. The following list of items, justification, and timeline are pending Project Manager review for submission to the Assistant Project Manager for purchasing to commence:

Chart 21 Essential Procurement ítems/services essenital for the BRI-Medical Complex (Source: J. Williams, The Author, October 2017)

ITEM/SERVICE	JUSTIFICATION	NEEDED BY
Drainage	Metal system used to divert water into down leaders	10th September,2017
Electrical Transformers	Used to regulate the current into the complex	22nd August, 2017
Concrete Flooring	Structural component used to uphold the dead weight and live weight of a floor system	1st October,2017
Telephone,internet systems	Used to provide communications into the complex	23rd September,2017
Steel Superstructure	The skeleton for the building framework	25th August.2017
Reinforced Steel	Used to reinforce all concrete components	22nd August, 2017
Concrete	This is a mixture resulting from sand and aggregate bound by cement that has chemically reacted with water.	22nd August, 2017
Plywood	Will be used to produce formwork and in some instances as a substrate	29th, August 2017
Timber	Will be used to produce formwork and to reinforce some aspects of the buildings	23rd Septmeber 2017
Masonry	.This is essential building, altering and repairing brick, stone, tile or ceramic structures and surfaces for the foundation purposes of the Medical Complex structure	5th December 2017
Anaesthesia gas (and storage)	A definite area needs to be designated for anaesthesic storage and safety.	28th December, 2017
Laboratory	Small lab. with refrigerator for pathologist to be arranged	14th February ,2018
Seminar room (specifications and according to hospital regulations)	Since staff cannot leave a dialysis complex easily, it is better to have a seminar room within the medical complex. Intra-departmental discussions, teaching and training sessions for staff (with audio-visual aids) may be conducted here.	10h February, 2018

Chill water airconditioning system	Designed to provide forced air into the building and to regulate the temperatura	13th December, 2017
Windows and Doors	Used as a transparent barrier to eliminate water, etc.	27th November, 2017
Ceilings	Used to separate floor levels	9th, November, 2017
Pre-dialysis features and designs	This is important with respect to maintaining privacy, for changing from street clothes to gown and to provide lockers and lavatories for staff.	2nd February, 2018
Materials and Fittings Sanitary facility for staff	Necessary for sanitary and personal purposes for staff	4th January, 2018
Equipment for Standing Seam Roofing	Metal riveted used to protect the plywood and ice and water shield	14th January, 2018
Faux Molding	Form moulding used to mimic known architectural profiles	1st September,2017
Wheelchairs Access/inclinations	To transport disabled and immobile patients with ease of Access and comfort	1st February, 2019
Inclination Chairs	For patient's confort during dialysis	5th February, 2019
Biomedical hazardous material disposal	For safe and proper disposl of used materials after treatment	29th January, 2019
dialysis supplies	To carry out the main purpose of the facility (medication,oxygen,tubes etc)	1st February, 2018
Office Supplies	For the administration and record keeping purposes	22nd August, 2018

In addition to the above list of procurement items, the following individuals are authorized to approve purchases for the project team:

NAME	**ROLE**
Ms. Antoinette J. Davis	Project Manager
Ms. JeanineWilliams	Assistance Project Manager
Tim Best	Administrative Assistant
Alban William	Office Attendant

Type of Contract to be Used

Services required for work such as the fabrication of the Steel Superstructure, electrical, roofing, masonry, etc. to be procured for this project will be solicited under labour only contract. This is in conjunction with SVG-DoL .Other services such as integration, automation and management, communications, elevators and dialysis equipment are to be solicited under a firm fixed price contract. The project team will work with the assistant project manager to define the item types, quantities, services and required delivery dates. The Assistant Project

Manager will then solicit bids from various vendors. Once the vendor is selected procurement of the items within the required time frame and at a reasonable cost, based on contract conditions, will commence.

All additional items to be procured for this project will be solicited under a materials only contract.

Contract Approval Process

The first step in the contract approval process is to determine what items or services will require procurement from outside vendors. This will be determined by conducting a cost analysis on products or services which is provided internally and compared with purchase prices from vendors. Once cost analyses are complete and the list of items and services to be procured externally is finalized, the Assistant Project Manager will send out solicitations to outside vendors. Once solicitations are complete and proposals have been received by all vendors, the approval process begins. The first step of this process is to conduct a review of all vendor proposals to determine which meet the criteria established by the project team. Purchases less than $5,000 only require the approval of the Assistant Project Manager; whereas, purchases greater than $5,000 must be approved by the Project Manager and the Sponsor. For these larger purchases the Project Manager and BRI-Committee will meet to determine which contract will be accepted.

Decision Criteria

The criteria for the selection and award of procurement contracts under this project will be based on the following decision criteria:
1. Ability of the vendor to provide all items by the required delivery date
2. Quality
3. Cost
4. Expected delivery date
5. Comparison of outsourced cost versus in-sourcing
6. Past performance

These criteria will be measured by the Project Manager and Assistant Project Manager. The ultimate decision will be made based on these criteria as well as available resources.

Procurement Risks

All procurement activities carry some potential for risk which must be managed to ensure project success. While all risks will be managed in accordance with the project's risk management plan, there are specific risks which pertain specifically to procurement which must be considered:

- Unrealistic schedule and cost expectations for vendors
- Manufacturing capacity capabilities of vendors
- Conflicts with current contracts and vendor relationships
- Configuration management for upgrades and improvements of purchased technology
- Potential delays in shipping and impacts on cost and schedule
- Questionable past performance for vendors –
- Potential that final product does not meet required specifications

These risks are not all-inclusive and the standard risk management process of identifying, documenting, analysing, mitigating, and managing risks will be used.

Procurement Risk Management

The BRI-Medical Complex's project risks will be managed in accordance with the Project Risk Management Plan. However, for risks related specifically to procurement, there must be additional consideration and involvement. Project procurement efforts involve external organizations and potentially affect current and future business relationships as well as internal supply chain and vendor management operations. Because of the sensitivity of these relationships and operations, the project team will include the project sponsor/client and the project team in all project meetings and status reviews.

Additionally, any decisions regarding procurement actions must be approved by the project sponsor/client and project manager before implementation. Any issues concerning procurement actions or any newly identified risks will immediately be communicated to the project management team as well as the project sponsor.

SPONSOR ACCEPTANCE

BRI Medical Complex Project Procurement Management Plan

Project Name: Construction of the BRI Medical Complex

Project Manager: _____

Project Sponsor: GovSVG and DSACC _____

Client:_____

Prepared by: Assistant Project Manager _____

Date prepared: 29 Ocotber 2016

Submitted to: BRI STEERING COMMITTEE

Certificate of Authorization:

(Place company stamp here)

Figure 30 BRI-Medical Complex Project Procurement Management Plan . Adapted from:Project Management Docs. Retrieved October31,2016fromhttp://www.projectmanagementdocs.com/project-planning-templates/procurement-management plan.html#axzz4OI4TbOkP

5. CONCLUSIONS

1. Analytical research methods and the fifth edition of the PMBOK® Guide were used to create the project management plan to determine and establish the project's scope, define and refine the project objectives and develop the approach to achieve the aforementioned for the BRI-Medical Complex Project Management team.

2. The first subsidiary element of the Project Management Plan,the project charter, created as the deliverable for specific objective number one. Using a template as a guide, to identify and organize the business needs and objectives, project description, preliminary scope statement, initial project risks, project deliverables, summary milestones, and project budget, the Project Charter also included identification of the project manager and the sponsor's authorization for the project to commence.

3. The deliverable created for specific objective number two,the Scope Management Plan, was used to define and specify the scope of the project . This was developed and adapted from an online template, which comprised of the information gathered during meetings with project stakeholders and from project document reviews

4. The Cost Management Plan, the deliverable created for specific objective number three, was developed using Microsoft Excel to create the project budget and an online template was adapted and modified to outline the Cost Management Plan which will serve as a guidline for the development for cost management perfoamce

5. The Quality Management Plan, the output from specific objective number four, was developed using a modified template from an online source to identify the project's quality management approach, quality requirements/standards, quality assurance, quality control, and the quality control measures that will be used throughout the project, in order to ensure that quality was built into the project's processes the final product of the BRI-Medicl Complex.

6. The Human Resource Management Plan was the specific deliverable required for objective number five. The required human resources to fulfill the BRI-Medical Complex Project requirements were identified and classified in a chart based on roles and responisblities. Additionally details identifying and outlining how the human resources will be managed for the project's duration are explained in the plan.

7. The Time Management Plan, the deliverable for the specific objective number six was created along with the Activity List and Project Gannt Chart as a mechanism to adequately identify and facilitate each of the BRI-Medical Complex Project's activities to ensure the project is successfully managed and completed within the scheduled timeframe.

8. In fulfillment of the requirement of specific objective seven, the Project Communication Plan was created with reference to the Stakeholder Management Plan, which birthed a Communication Matrix which serves as a mechanism to decrease the probability of miscommunication which may lead to grave problems during the course of the project.

9. The Risk Management Plan was created as part of the fulfillment of the deliverable for specific objective number eight using a template adapted from an online source. A risk register was also developed to capture and categorize project risks in sync with a qualitative analysis approach as a strategy or planning for effective risk responses

10.The Stakeholder Management Plan, the deliverable for specific objective nine was developed using a modified and adapted template from an online source. Addtionally , the Stakeholder Register, Stakeholder Analysis and Level of Engagement were developed to provide detailed information which would cater to the effectiveness of th BRI-Medical Complex Project' stakeholder engagement.

11.The Procurement Management Plan deliverable for specific objective ten was formulated via an adapted template from an online source as a way to highlight, identify and outline the procurement management approach .

12. All subsidiary plans were developed solely by the author in her "acting" capacity as the Assistant Project Manager, by utilizing templates from online sources, tables and charts.She also conducted interviews and meetings with the Chief resource and contact person (Mrs. A. J. Davis). Additonally the plans were developed by reviewing public meeting minutes from the Government of St. Vincent and the Grenadines as well as other similar project documents from the archives and PMO of the recently concluded Argyle International Airport Project.

6. RECOMMENDATIONS

1. As a means to increase the probability of project success, specifically as it relates to the construction of “design-build” projects like the BRI-Medical Complex Project, the AVDC should implement formal Project Management Methodologies.

2. Prior to the execution of any construction project, the AVDC should ensure that standardized project management documentsation for the initiation and planning stages are developed.

3. A project management team should control and oversee all projects assumed by the AVDC and standard project planning procedures and documentation should be carried out for the execution and overall success of the project.

4. The process of staff aquisition should take place prior to the initiation of the project and to ensure that all project planning and any related activities undertaken effectively to enhance the overall project management process of the project.

7. BIBLIOGRAPHY

1. Bennett, F. L. (2003). Project Mobilization Phase. In F. L. Bennet, The Management of Construction (p. 9). Burlington: Butterworth-Heinemann.

2.Harvard University Library. Primary, Secondary and tertiary sources. Retrieved from: www.lib.vt.edu/help/research/primary-secondary-tertiary.html

3. Kerzner, Harold. (2013). Project Management: A Systems Approach to Planning, Scheduling and Controlling (11th ed.). Hoboken, New Jersey: John Wiley & Sons, Inc. Retrieved from:http://honestyets.pbworks.com/f/Project+Management++A+Systems+Approach+-+10thEd.pdf from:

4.Module One - Information sources. Definition of Information /Information Sources. Retrieved from: http://karibouconnections.net/medlibafrica/training_module/pdf/module1.pdf

5.Project Management Institute (PMI). 2016. PMI Lexicon of Project Management Terms. Newton Square, Pennsylvania: Project Management Institute, Inc.

6.Project Management Institute (PMI). 2010. The Value of Project Management. Retrieved from: http://www.pmi.org//media/pmi/documents/public/pdf/white-papers/value-of-projectmanagement.pdf

7.Project Management Institute. (2013). A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) - Fifth Edition, Project Management Institute, Inc., 2013.

8.Schwalbe, K. (2012). An Introduction to Project Management, Fourth Edition. In K. Schwalbe, An Introduction to Project Management, Fourth Edition (pp. 73-326). Minneapolis: Kathy Schwalbe, LLC. Successful Projects. (2016).PM Methodologies [PowerPoint Slides]. Retrieved from:

http:///www.successfulprojects.com/PM-Topics/Introduction-to-Project- Management

9. University of California. (2012, January 1). Pre-Design Phase. Retrieved September 17, 2017, from University of California: http://www.ucop.edu/construction-services/facilities-manual/volume-2/vol-2-chapter-6.html

.10. Watt, Adrienne. (2014). Project Management. Retrieved from https://opentextbc.ca/projectmanagement/chapter/chapter-3-the-projectlife-cycle-phases-project-management

11.Wilson, Randal. (2014). Mastering Project Management Strategy and Processes. FT Press, 2014.

8 :APPENDICES

Appendix 1: FGP Charter

PROJECT CHARTER Formalizes the project start and confers the project manager with the authority to assign company resources to the project activities. Benefits: it provides a clear start and well defined project boundaries.	
Date	**Project Name:**
June 26th , 2017	Business Redevelopment Initiative (BRI): (Medical Complex)
Knowledge Areas / Processes	Applicacion Area (Sector / Activity)
Knowledge areas: Project Stakeholder Management Project Scope Management Project Time Management Project Cost Mangement Project Human Resource Management Project Procurement Management Project Integration Management Project Communication Management Project Risk Management Project Quality Mangement Process groups: Initiation, Planning, Monitoring and Controlling and Closing	Construction
Start date	Finish date
August 22nd, 2017	February 17th, 2018
Project Objectives (general and specific)	
General objective: To produce a Project Management Plan, (which integrates the standards and guidelines of the Project Management Institute), to assist in the effective management of the construction of the BRI (Medical Complex) by February 17th, 2018. **Specific objectives:** 1. To create a project charter to establish an understanding of the expected deliverables for the project, to provide guidance for the project manager and team in its management and completion of the project. 2. To create a scope management plan to ensure the project includes all the tasks required to successfully complete the project. 3. To create a cost management plan to detail the processes for managing project financial resources that are to be followed through all stages of the project. 4. To develop a quality management plan to describe how quality will be managed throughout the project, and define how the project team will implement, support, and communicate project quality practices for use within the project.	

5. To create a human resource management plan to ensure that all human resources are identified and manaed effectively to complete the project within time, cost and scope constraints.

6. To create a schedule management plan to support, define and manage the approach the project (team) will use in creating the project schedule that ensures the project is completed within the time constraints.

7. To develop a communications management plan to define the requirements for the project and how information will be distributd and feedback received from all stakeholders

8. To create a risk management plan to establish the framework in which the project team will identiy risk and develop strategies to mitigate or avoid risks as well as to define how risks associated with the project will be recorded and monitores throughout the project lifecycle.

9. To develop a stakeholder management plan to identify and support all the project stakeholders as well as to analyze and develop strategies to ensure effective stakeholder engagement and expectations.

10. To develop a procurement management plan to define the procurement requirements for the project and to determine how ti will be managed from developing procurement documentation through contract closure.

Over the last decade, the government of St. Vincent and the Grenadines have been involved in a series of developmental and infrastructure discussions, with international and domestics investors and partners with regards to the development of the islands infrastructure and international standing throughout the Caribbean region.With the gentrification of the now decomissioned Arnos Vale airport and it sorrounding facilities , it is invisioned that with the creation of and the State of the Art Medical Facility specializing in the treatment of Diabeties and Dialysis , the quality of life for the citiznes of St. Vincent and the Grenadines will be enhanced exponentially also there would be a better standard of living for the community and its surrounding parishes.Coupled with the creation of short and long term employment and careers for the island citiznes , the new BRI (Medical Complex) will allow the island to be more economically competative in the Caribbean and global health markets.

This project offers the following benefits:

1. The aging infrastructure of the Islands existing Hospital , cannot faciliate any type of expansion , and it does not cater to the escalating mecical issues of diabeties and dialysis specialties. This new medical facility will provide this service to the Islands citizens and also to the neighobouring islands.Economically , it will be a game changer for the Island citizens.

2. A better standart of living for the community and its surrounding parishes

3. Greater access to quality primary health services (dialysis treatment); no longer have to travel overseas for such.

4. Improved health facility.

Description of Product or Service to be generated by the Project – Project final deliverables

1. Document with the proposed project management and implementation plan for a state of the art medical complex. This plan will consist of all the subsidary documents of a project management plan which includes:

Scope Managmen Plan
Schedule Management Plan
Cost Management Plan
Quality Management Plan
Human Resource Management Plan
Communication Management Plan
Stakeholder Mangement Plan
Procurement Management Plan
Risk Management Plan
Project Integration Management Plan

PROJECT CHARTER

Process inputs: business case, statement of work, agreements, enterprise environmental factors, organizational project assets.
Tools and techniques: expert judgment, facilitation techniques.
Outputs: Charter

Assumptions

1. Project will be completed within the allocated time (5 months)
2. Project can be completed by one individual

Constraints

1. Uncertainty regarding whether the scope is beyond the time allocated due to individual planning.

Preliminary risks

1.If there are unfavourable weather conditions it will have an effect on the working hours and the amount of work completed impacting the project schedule causing milestones and completion delays.

2.If there is insuufficent labour force it will have an effect on the scheduling and completion of the project.

3.If there is a loss or reduction in government /sponsorship funding due to cabinet adjustments it would have an effect on aquiring labour and equipment hence impacting the overal cost , quality and completion of the project.

4.If proper waste management is not executed this might cause public attention from the local media and residents which may impact the time and quality of the project .

5.If proper traffic and management of the roads around the project is not done this would cause public dissatifaction and affect the entire project.

Budget

The cost of designing and constructing the new BRI (Medical Complex) project is estimated at $200 Million and assuming no change to current economic conditions and specifically steel prices and availability of qualified labour. This is a Class "C" cost estimate as provided in March 2017 and includes a contingency of 15% as recommended by the International Consulting group . This BRI project contains a significant portion of steel, and concrete which represents approximately 40% of the current estimate. Cost control measures are to be employed to track and monitor the budget.

Funding for the Project is as follows:

$100 million – SVG Government borrowing
$75 million – Reprioritization of SVG capital projects and other internal sources
$25 million – Public and Private Investment Contribution Agreement
TOTAL $200 million

Milestone	Start date	End date
Project Approval	June 26th, 2017	July 30th, 2017
Project Preparation	July 31st , 2017	August 22nd , 2017
Completion of the Project Management Plan	August 22nd, 2017	February, 17th, 2018

Relevant historical information

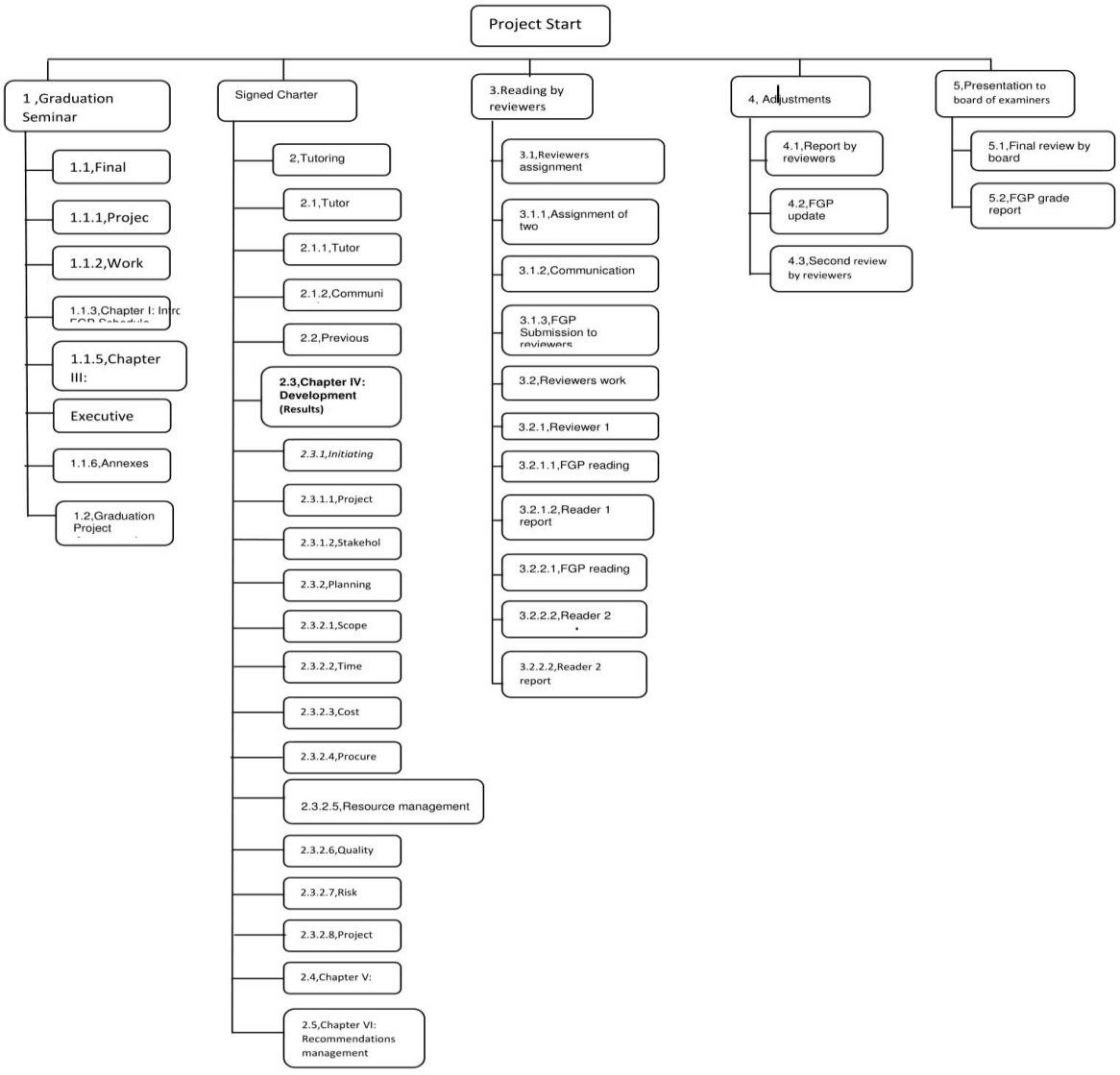
Diamond Schmitt company is a leading Canadian full- service arachitectural, renovation and restoration practice that works throughout North America,the Caribbean and Middle East which designs and implements a broad range of building types for cultural, civic, academic, healthcare, residential and commercial property clients. Previously there have not been similar efforts related to the project.

Stakeholders

Direct stakeholders: Government of St.Vincent and the Grenadines , Diamond Schmitt Architecure Company ,Industry of Business Association, Local Residents and citizens, Engineers and Construction Companies, Health Care Personnel and Admin. Policy makers, Entrepreneurs
Indirect stakeholders: Project Team, Employees

Project Manager: A. J Davis	**Signature: Jeanine Williams**
Authorized by:	**Signature:** JWilliams

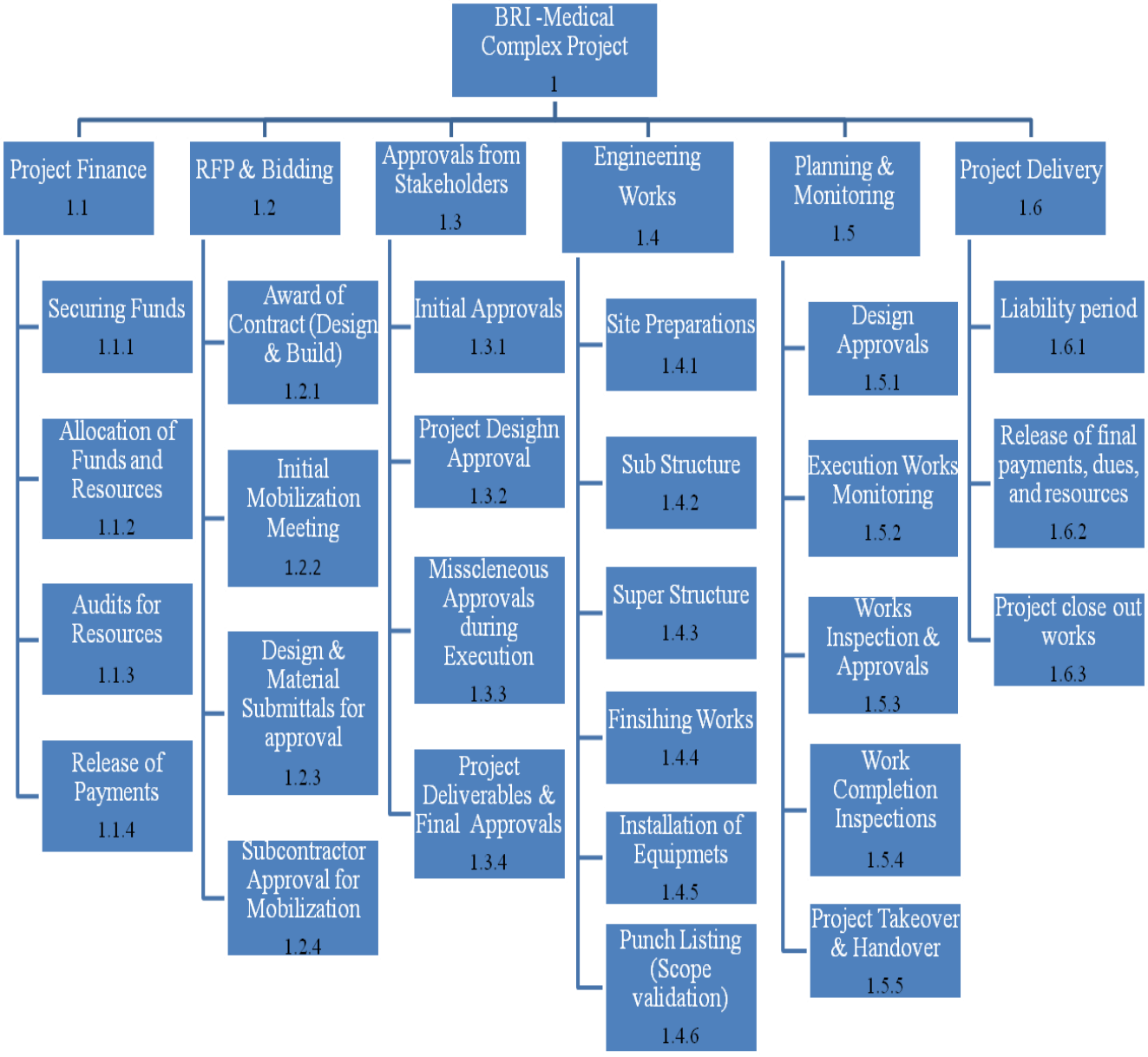
Appendix 2: FGP WBS



Appendix 3: FGP Schedule

ID	Task Name	Duration	Start	Finish	Predecessors
1	Final Graduation Project	130 days	Fri 8/25/17	Sat 2/17/18	
2	FGP Start	0 days	Tue 8/22/17	Tue 8/22/17	
3	**1,Graduation Seminar**	**25 days**	**Tue 8/22/17**	**Mon 9/25/17**	2
4	1.1,FGP Deliverables	20 days	Tue 8/22/17	Mon 9/18/17	
5	1.1.1,Charter	5 days	Tue 8/22/17	Mon 8/28/17	
6	1.1.2,WBS	5 days	Tue 8/22/17	Mon 8/28/17	
7	1,1.3,Chapter I. Introduction	5 days	Tue 8/29/17	Mon 9/4/17	6
8	1.1.4,Chapter II. Theoretical	5 days	Tue 9/5/17	Mon 9/11/17	7
9	1.1.5,Chapter III.Mehodolog	2 days	Tue 9/12/17	Wed 9/13/17	8
10	**1.1.6, Annexes**	**20 days**	**Tue 8/29/17**	**Mon 9/25/17**	
11	1.1.6.1,Bibliography	5 days	Tue 9/12/17	Mon 9/18/17	
12	1.1.6.2, Schedule	5 days	Tue 8/29/17	Mon 9/4/17	5
13	1.2,Graduation Semina	5 days	Tue 9/19/17	Mon 9/25/17	11
14	**2,Tutoring Process**	**3 days?**	**Tue 9/26/17**	**Thu 9/28/17**	13
15	**2.1,Tutor**	**3 days?**	**Tue 9/26/17**	**Thu 9/28/17**	3
16	2.1.1,Tutor Assignment	1 day?	Tue 9/26/17	Tue 9/26/17	
17	2.1.2,Communication	2 days	Wed 9/27/17	Thu 9/28/17	16
18	2.2, Adjustments of previous cha	5 days	Fri 9/29/17	Thu 10/5/17	17
19	**2.3,Chapter IV. Development (F**	**47 days**	**Fri 10/6/17**	**Mon 12/11/17**	18
20	2.3.1 Stakeholder Manager	7 days	Fri 10/6/17	Mon 10/16/17	
21	2.3.1.1, Identify Stakeholder	2 days	Fri 10/6/17	Mon 10/9/17	
22	2.3.1..2 Plan Stakeholder M	2 days	Mon 10/9/17	Tue 10/10/17	
23	Submit Chaper IV and Stake	5 days	Wed 10/11/17	Tue 10/17/17	22
24	2.3.1.3 Plan Communicatior	2 days	Fri 10/13/17	Mon 10/16/17	
25	Submit Communication Plar	5 days	Mon 10/16/17	Fri 10/20/17	
26	2.3.2, Scope Mangagement	5 days	Mon 10/16/17	Fri 10/20/17	
27	2.3.3,Time Management	9 days	Mon 10/16/17	Thu 10/26/17	
28	2.3.4,Cost Management	7 days	Fri 11/24/17	Mon 12/4/17	
29	2.3.5, Procurement Manage	2 days	Mon 12/4/17	Tue 12/5/17	
30	2.3.6, Human Resource Mai	2 days	Tue 12/5/17	Wed 12/6/17	28
31	2.3.7,Quality Management	3 days	Wed 12/6/17	Fri 12/8/17	29
32	2.3.8, Risk Management	3 days	Mon 12/4/17	Wed 12/6/17	
33	2.3.9, Project Integration	47 days	Fri 10/6/17	Mon 12/11/17	
34	2.4,Chapter V. Conclusions	5 days	Tue 12/12/17	Mon 12/18/17	33
35	2.5,Chapter VI. Recommnedatior	5 days	Tue 12/19/17	Sat 12/23/17	34
36	Tutor Approval	0 days	Sat 12/23/17	Sat 12/23/17	
37	**3,Reading by reviewers**	**5 days?**	**Tue 12/26/17**	**Sat 12/30/17**	
38	**3.1,Reviewers assignment**	**5 days?**	**Tue 12/26/17**	**Sat 12/30/17**	
39	3.1.1,Assignment of tw	2 days	Tue 12/26/17	Wed 12/27/17	
40	3.1.2,Communication	2 days	Thu 12/28/17	Fri 12/29/17	39
41	3,1.3, FGP submission	1 day?	Sat 12/30/17	Sat 12/30/17	40
42	**3.2,Reviewers work**	**10 days**	**Tue 1/2/18**	**Sat 1/13/18**	
43	**3.2.1,Reviewer**	**9 days**	**Tue 1/2/18**	**Fri 1/12/18**	
44	3.2.1.1 FGP Reading	9 days	Tue 1/2/18	Fri 1/12/18	
45	3.2.1.2,Reader 1 Report	1 day	Sat 1/13/18	Sat 1/13/18	44
46	**3.2.2, Reviewer**	**10 days**	**Tue 1/2/18**	**Sat 1/13/18**	
47	3.2.2,1, FGP reading	9 days	Tue 1/2/18	Fri 1/12/18	
48	3.2.2.2, Reader 2 report	1 day	Sat 1/13/18	Sat 1/13/18	47
49	**4,Adjustments**	**11 days?**	**Tue 1/16/18**	**Tue 1/30/18**	
50	4.1,Report for Reviewers	9 days	Tue 1/16/18	Fri 1/26/18	
51	4.2, FGP update	1 day	Mon 1/29/18	Mon 1/29/18	50
52	4.3,Second review by reviev	1 day?	Tue 1/30/18	Tue 1/30/18	51
53	**5, Presentation to board of Exa**	**5 days**	**Tue 2/13/18**	**Sat 2/17/18**	
54	5.1, Final Review by board	2 days	Tue 2/13/18	Wed 2/14/18	
55	5.2, FGP grade report	3 days	Thu 2/15/18	Sat 2/17/18	
56	FGP End	0 days	Sat 2/17/18	Sat 2/17/18	

Appendix 4: Revised BRI-Medical Complex Project WBS Requested by the BRI Consortium (Client Perspective)



Appendix 5: Revised BRI-Medical Complex Project WBS Dictionary Requested by the BRI Consortium (Client Perspective)

Level	WBS Code	Element Name	Definition
1	**1**	**BRI-Medical Complex Project**	**All works and management system to implement the construction of the new research facility.**
2	**1.1**	**Project Finance**	**All works on how the project is financed**
3	1.1.1	Securing funds	Funds for the project will be obtained from the following sources: (a) SVG Government Loan (Central Bank) (representing 50% (100million) of the total cost of project) (b) Financial sponsorship from local and international companies promoting policy prioties of CSME (representing 37.5 % (75 million) of the total cost of project) (c) Reprioritization of SVG capital projects and other internal sources 12.5% (25 million) It is the responsibility of the Government of SVG to ensure all funds estimated for the project are secured in a separate bank account allocated, with only the combined signatories of theChairman of the BRI Steering Committee , Minister of Finance and the Financial Advisor/ Accountant of the BRI-Medical Complex Project as authorized stakeholders that issues out cheques for periodic payment of project contractors as indicated in The Cost Management Plan
3	1.1.2	Allocation of funds and resources	Secured project fund shall be allocated as outlinedbelow: • $ 5,900,000 as estimated project cost for materials and labour and award to contractor: • Material Reserves : $50 million • Labour Reserves: $20 million • Permits- $100 million • Prints and Plots - $150,000 • Contingency Reserve- $3 million • Management Reserve- $3 million • VAT- $10 milliom

			• Project Insurance- $107, 850,000 Funds for project execution shall commence disbursement only after conclusion of WBS1.2.2 (Initial mobilization meeting), and AVDC has shown significant commitment to begin actual project execution. The AVDC shall obtain all cheques from the office of the Minister of Finance, who ensures all issued cheques have been duly signed and completed by the Sponsor's authorized signatories.
3	1.1.3	Audits for resources	Expended/disbursed project resources to be periodically audited (every 4 weeks), and report submitted to the project sponsor. The project manager along with the BRI-Steering Committee shall execute all financial audits pertaining to the project (including invoices submitted by building contractor). Deliverables: Project audit report submitted to Research Advisory Council of the BRI Consortium and Minister of Finance, ETSU.
3	1.1.4	Release of payments	The first payment shall be made only after sufficient personnel, materials, equipment, and facilities have been mobilized by the building contractor (DSACC) and has demonstrated intent to undertake the bulk of the work at the project site. Building contractor to issue payment invoice one month prior to all cheques collection. The Project Manager (as corresponding to respective project percentage completion as stated in WBS1.1.2 above shall verify stipulated amounts on invoices. All disbursements of funds shall be in the following order: (i). Mobilization – 45% ($90000)of project estimate as stipulated on agreed contract (ii). Achieving 50% of project percentage completion - 30% ($7.2 million) of project estimate as stipulated on agreed contract (iii). At project completion and acceptance by project sponsor as satisfactory - 30% ($7.2 million) of project estimate as stipulated on agreed contract. This represents final payment to building contractor

			All coordination and project monitoring as per contractor's compliance with project scope, baselines and requirements before payments are released shall be the responsibility of the Project Manager Deliverables: Building contractor invoices, copy of issued cheques.
2	**1.2**	**RFP & Bidding**	**All works pertaining to RFP, Bidding and contract award**
3	1.2.1	Award of Contracts (Design & Build)	Bids are the submissions by contractors that outline each contractor's proposed cost for completing the research facility project. The following shall be the criteria for awarding the research facility project: (a) Sponsor's advert - Request for Proposal (RFP) (b) Research Advisory Council of the AVDC to collect and assess received proposals (c) Technical and commercial bids assessed for best performing proposals (d) Contract awarded to best performing bidder on the basis of design quality, cost effectiveness, business strength and historical performance on similar projects (e) Award of contract This scope of work does not include the process by which the project sponsor manages the submission of bids for advertised work from firms or corporations.
3	1.2.2	Design & material submittals for reviews and approval	All submittals shall follow timeline (dates and sequence) as specified on project time/schedule within the detailed project management plan. The building contractor proceeds to actual physical work after all submitted designs are reviewed and approved by project sponsor. It is the responsibility of the Project Manager to follow up with DSACC construction team in ensuring all submittals are made available for sponsor's reviews as and when due. Deliverables: (1). Shop drawings to include all designs for earth works, concrete works, rough and finishing works, roofing, mechanical and electrical works. (2). Materials

			specifications.
3	1.2.3	Subcontractor Approval for Mobilization	The planning process is officially started with a project kickoff meeting which includes the Project Manager and business representatives from contractor, Project Manager (client side), Project Sponsor. Deliverable: Approved shop drawings and construction/building materials
2	**1.3**	**Approvals from Stakeholders**	**All decisions and works needing reviews and approvals of project stakeholders**
3	1.3.1	Initial approvals	Project Manager to work with the Construciton Manager (DASCC) to ensure the following documents/deliverables are prepared in details by contractor and made available according to the timeline specified in project schedules for approvals: (a) The project charter (b) Project scope (c) Detailed project plan (d) And others listed in WBS 1.3.4
3	1.3.2	Design approval	The project plan is approved by BRI-Consortium and the Project Manager has permission to proceed to execute the project according to the project plan.
2	1.3.3	Miscellaneous approvals during execution	Miscellaneous items or request may arise during the course of the project, and in such cases, complete approval of the Project Sponsor must be obtained for further actions. In addition to the defined periodic project/stakeholders meetings as reflected on the project schedules and milestones, special/emergency meetings may be called by the project manager (client or contractor) to address particular urgent situations or problems and develop solutions. Some of these anticipated items are: (a) Change Request (b) Project performance audit report that warrants undelayed stakeholders approvals for critical issues or development (c) Subcontractors/suppliers approvals
3	1.3.4	Project deliverables and final approvals	Project deliverables are submitted at the periodic project/stakeholders meetings as and when indicated on the project schedule and respective milestones.

			Submissions and approvals of deliverables shall be throughout the course of the project life cycle. It is the responsibility of the Project Manager (client; but working harmoniously with Project Manager (contractor)) to ensure the deliverables are made available for reviews and subsequent approvals. To achieve this, it is recommended that the Project Manager (client) to monitor the performance of the contractor on weekly and bi-weekly basis on all the construction activities, and to track submittal status, request for information, schedules and budget. Deliverables to monitor and manage include but not limited to the following: **1. Pre-Construction Phase – July, 2017 – September, 2017** • Project feasibility studies and Business Case • Project scope • Shop drawings and material submittals • Sponsor's specifications and requirements • Pre-bid documents • Initial and Final Request for Proposal • Contractor'sbid evaluation report • Signed contracts with chosen contractor • Baseline schedule • Construction permits • Resolutions at Pre-construction meetings **2. Construction Phase – October, 2017 – November, 2018** • Bi-weekly meetings and reports: ➢ Project percentage performance ➢ Project safety reports ➢ Project QA inspection reports ➢ Budget performance reports • Scope updates • Schedule updates

			• Change Requests • Acceptance documents at milestone achievements • Contractor invoices • Other called meetings to address special items **3. Closing – September, 2019** • Final invoicing • Punch list • Occupancy permit • As-built documentation • Final acceptance documents • Wrap-up
2	**1.4**	**Engineering Works**	**All engineering and related technical works for executing the project**
3	1.4.1	Site preparation	This includes all pre-construction works/activities, which includes: • Site selection studies and acquisition is to be accomplished by the Town and Planning Committee of the Ministry of Housing and Urban Development. The DASCC shall ensure the following activities are adequately executed: • Establish connections to the regional infrastructure of roads and utilities. This includesthe following major elements: ➢ Both shop drawings/designs and actual construction work to connect to existing road networks, sidewalks and parking areas and utility systems (such as electrical power, fuels, water and waste systems, and communications systems) ➢ Allocated space for contractor laydown areas, temporary utility systems for use during construction • Clearing and grubbing to remove unwanted vegetation • Removal and stockpiling of topsoil from

			construction site to a suitable location for later use in landscaping of immediate vicinity of the building • Grading works related to drainage construction for erosion control • Evaluation of soil conditions (soil geotechnical data may help improve substructure designs and cost evaluation in order to prevent costly change orders and claims) • Fencing to control access or to provide security for selected areas is also part of this WBS element • Contractor to provide on-site equipment lists for reviews and approvals by client It is the responsibility of the Project Manager to ensure these listed activities are executed in accordance to the project scope requirements and project schedule timeline. Deliverables: As indicated in WBS 1.3.4, section 2.
3	1.4.1	Substructure	This includes early construction works, namely: excavation, footings, columns and beams, slab-on-grade, concrete mix, backfilling, waterproofing and masonry works. All highlighted requirements in WBS 1.4.2 are applicable and to be complied with. Deliverables: As indicated in WBS 1.3.4, section 2.

3	1.4.2	Superstructure	DSACC Construction team to perform the work as per approved construction drawings/designs, specifications, bills of materials, regulations, policy as defined in the contract documents and/or outlined in the detailed project management plan as relating the superstructure phase of the construction works. • All construction activities to be performed in compliance with approved project scope, project management plan, sponsor's specifications and requirements • All activities to be executed in compliance to the health and safety elements of the technical specifications • The Project Manager (contractor) to alert project sponsor on any unforeseen circumstances occuring during or before the performance of the work that can affect the activities sequence, unplanned incidents and safety related developments. Deliverables: As indicated in WBS 1.3.4, section 2.
3	1.4.3	Finishing works	This includes all finishing works, including but not limited to: Electrical works, mechanical works, masonry works, plaster works, ceramic tiles, doors and windows, plumbing, painting, lift/conveying systems, etc. All highlighted requirements in WBS 1.4.2 are applicable and to be complied with. Deliverables: As indicated in WBS 1.3.4, section 2.

3	1.4.4	Installation of equipment	• An approved subcontractor will have the responsibility to procure and install all lab equipment, including but not limited to special-purpose laboratory equipment, PCs, printing devices, etc. that meets the requirements and specifications of the user/project owner and also as specified in contracts awarded to the subcontractor. • The subcontractor shall be responsible for the complete procurement, transportation, storage, installations and testing of all equipment as covered by the contract. • It is the responsibility of the project manager (client) to ensure subcontractor executes all defined job on its contract scope within the approved schedule and budget. Deliverables: • Scope of work package • Approved installation drawings and materials • User's specifications and requirements • Pre-bid documents • Initial and Final Request for Proposal • Subcontractor's bid evaluation report • Signed contracts with chosen subcontractor • Baseline schedules • All equipment/facility installation permits • Bi-weekly meetings and reports: ➢ Project percentage performance ➢ Project safety reports ➢ Project QA inspection reports ➢ Budget performance reports • Scope updates • Schedule updates • Change Requests • Acceptance documents at milestone achievements • Subcontractor invoices • Final QA inspections and equipment testing • Final acceptance documents

3	1.4.5	Punch listing (Scope validation)	This are all works such as to minor repairs to make corrections, finishing operations, cleanup after completion, works related to completing installations and uncompleted work on changes made to project scope.These would have been identified during execution of the job that does not conform to client requirement. It is the responsibility of the Project Manager (client) to have a walkthrough exercise with the building contractor in ensuring that all identified items on the punch list are completely addressed. Deliverables: Punch list timeline, Project record deliverables updates
2	**1.5**	**Planning & Monitoring**	
3	1.5.1	Design approvals	Shop drawings for the entire construction work must be submitted for stakeholder/sponsor's approval as and when indicated on project schedule milestones. The project manager (client) to follow up on contractor to ensure designs are done with stated tools and techniques in contract and client requirements. Deliverables: Shop drawings and material submittals
2	1.5.2	Execution works monitoring	Monitoring and control is throughout the project life cycle. Monitoring efforts shall be intensified during the actual construction phases to ensure building contractor adheres to approved designs, resources, schedule and enterprise stated factors. Fulfilling stakeholder's interest is critical at this stage. All highlighted requirements in WBS 1.4.1 – 1.4.4are applicable and to be complied with. Deliverables:As indicated in WBS 1.3.3; 1.3.4, sections 1 and 2.
3	1.5.3	Works inspection and approvals	All works must be inspected by the project inspection team/project manager (client) to ensure client's requirements are satisfied in all aspects. The Project Manager (client shall call the attention of the contractor to any identified work that does not meet the client's requirements, and document such on project punch list for walkthrough on a later date. Deliverables: Project percentage performance report, Project safety reports and Project QA inspection reports

3	1.5.4	Work completion inspections	Thorough inspection of project upon completion to be carried out and shall cover as aspects of work from WBS 1.4.1 – 1.4.4. The inspection exercise be in two stages: 1. Client's inspection team (including Project Manager – client) and the contractor shall execute complete inspection and walkthrough of all works done, including ensuring items on punch list have been addressed and closed-out. 2. Stakeholder's inspection of completed project. Deliverables: Project acceptance/reject documentation, Project percentage performance report, Project safety reports and Project QA inspection reports
3	1.5.5	Project takeover and handover	Client to formally accept project as a post inspection exercise. Deliverable: Final acceptance document
2	**1.6**	**Project Delivery**	**All works related to project handover and commissioning**
2	1.6.1	Liability period	During the project life cycle, it is the contractor's responsibility to manage both legal and risk management services associated with the execution of the job, in areas of contracting issues, union relations, personnel issues, facility or equipment issue or losses,and workers compensation. It is also the contractor's liability to pay state sales tax for all materials or equipment leased or acquired for the project. It is the client's responsibility to reimburse the contractor for state sales tax for work performed during the contract execution. However, contractor must follow due process to include all anticipated taxes within project costing, bid markup cost or cost adjustments during the course of the project.
3	1.6.2	Release of final payments, dues and resources	Upon completion of work and all inspections have been concluded in WBS 1.6.3, contractor is to submit final invoices for unpaid balances to the client for approval and onward payments. Deliverables: Contractor and subcontractor payment invoices

3		Project closeout works	At close out, the Project Manager (client) must ensure the following are completed on the Project Close out checklist: • Project Charter • Project Management Plan • Project Management Control documents • Contract files • Correspondence • Status reports • Meeting notes • Technical Documents • Project resources (equipment/facilities, PCs, staff, etc.) utilized at client office during the project are turned in to the office of Facilities Management, Planning & Construction and signed out. • All financial records pertaining to the project • All Checklists • Documentation of project successes • Lessons Learned • Post-project Review/evaluation The Project Manager, along with the project team the above activities are completed

Appendix 6 : Preliminary base floor plan for the BRI-Medical Complex Project

Appendix 7 Sample Summary of Captial Costs/Unit and specifics for the Construction of the BRI-Medical Complex as adapted from Medical Services Financial Report

		Cost/Unit	# of Units	Total Cost
Construction (sq Ft.)	**Cost/sq.foot Cost/station**	**125.00**	**2000**	**$250,000**
Land and Parking lot building				**$41,667**
Concrete Structure for Medical Complex				
Utlities Hookup				
Communications				
Telephone System				
Emergency Call System				
Build Out Construction Subtotal				**$250,000**
Water Treatment				
R/O system-capacity up to 30 tx/day		25650	1	$25,650
Drum dolly		307.8	1	$308
central system		2052	1	$2,052
WaterTreatment Subtotal				**$28,010**
	Cost/station			**$4,668**
Bio-medical Equipment				
Electrical analyzer/tester		2252.07	1	$2,252
Conductivity meter		239.058	1	$239
Dialysate meter		282.15		$282
r/o tds water meter		62.586		$63
Water analysis test kit		25.65		$26
Heat block		474.012		$474
Portable tool chest and tools		30.78		$31
Parts storage cart		244.188		$244
Miscellaneous tools, fittings, tubing		3078		$3,078
Harness test kit		30.78		$31
Medical Supplies Inc (for machine repair)		2052		$2052
Bio-Medical Equipment Subtotal				**$8,771**
	Cost/station			**$1,462**
Clinical Equipment				
Dialysis machine		16980.3	7	$118,862
Patient lift		1282.5	1	$1,283
Wheelchair/standup scales		2565	1	$2,565
Lab refrigerator		153.9	1	$154

Lab freezer		282.15	1	$282
Meds refrigerator (tx)		153.9	1	$154
EPO refrigerator		153.9	1	$154
Ice machine		410.4	1	$410
Ambu bag		256.5	1	$257
Oxygen equipment (portable)		711.018	1	$711
Infusion pump		2000.7	1	$2001
Iv pole		128.25	1	$128
Glucometer		90.288	1	$90
Thermometer		153.9	2	$308
Stethoscope		10.26	4	$41
Ultrasonic mini Doppler		559.17	1	$559
Mobile BP modules		205.2	3	$616
Infectious waste hampers		102.6	2	$205
Emergency evacuation kit		153.9	1	$154
Misc. clinical		1026	1	$1026
Bed pan		4.104	4	$16
Trash can		35.91	4	$144
Clincal Equipment Subtotal				**$130,119**
	Cost/Station			**$21,689**
Clincal Furniture/Fixtures				
Dialysis chair		918.27	6	$5,510
Task stool		102.6	3	$308
Privacy screen		151.848	1	$152
Chart rack		718.2	1	$718
Wheelchair		307.8	1	$308
Medical computer system		3078	1	$3078
Clinical Furniture Subtotal				**$10,073**
	Cost/Station			**$1679**
Staff Lounge/Fixtures				
Refrigerator		769.5	1	$770
Microwave		153.9	1	$154
Coffee machine		51.3	1	$51
Toaster oven		20.52	1	$21
Lockers (3/unit)		513	2	$1026
Table		615.6	1	$616
Chair		167.238	6	$1003
Staff Lounge Subtotal				**$3640**
	Cost/Station			**$607**
Storage Fixtures/Equipment				
Supply cart		436.05	1	$436
Shelving		646.38	1	$646
Hand dolly		141.588	1	$142
Flatbed truck (hand)		358.074	1	$358
Utility cart		137.484	3	$412
Floor pallets		59.508	2	$119
Storage Subtotal				**$2114**

	Cost/Station			**$352**
Medical Office Fixtures				
Copier machine		1530.792	1	$1531
Facsimile		513	1	$513
Time clock		307.8	1	$308
Answering machine		90.288	1	$90
Desk		564.3	2	$1129
Chairs		249.318	4	$997
Filing cabinet with locks		820.8	2	$1642
Computer system/printer/scanner		1436.4	1	$1436
Business Office Subtotal				**$7646**
	Cost/Station			**$1274**
Reception/Wating Area				
Chairs		249.318	8	$1995
Side tables		307.8	4	$1231
Television		307.8	1	$308
Reading lamps		79.95	4	$308
Art drawings/paintings		513	1	$513
Clock		25.65	1	$26
Coffe/water machine/fountain		82.08	1	$82
Reception Subtotal				**$4,462**
	Cost/Station			**$744**
Signage				
Interior		102.6	6	$616
Exterior		3078	1	$3078
Signage Subtotal				**$3,694**
	Cost/Station			**$616**
TOTAL CAPITAL COST				**$448,529**
	TOTAL Cost/Station			**$74,755**

Appendix 8 Resource Assignment and Activity Durations

TASK NAME	DURATION	RESOURCE NAMES
1.0 BRI Medical Complex Prject	614 days	
1.1 Initiation	21 days	Architect, Assistant Project Manager, Project Manager
Project Kick Off	0 days	Project Manager, Architect, Assistant Project Manager
1.1.1 Obtain client requirments and regulatory necessities	4 days	Architect, Project Manager
1.1.1.1 Meeting with client	1 day	Architect, Assistant Project Manager, Project Manager
1.1.1.2 Clients' requirements	20 days	Architect, Assistant Project Manager, Project Manager
1.1.1.3 Permits and Regulatory agency requirements	1 day	Architect
1.1.2 Client briefing and architectural research	3 days	Architect, Project Manager
1.1.2.1 Building code research/Meeting with Planning department	9 days	Architect
Project Definition	5 days	Architect
1.1.3 Research materials and methods	10 days	Architect
1.1.3.1 Research	45 days	Architect
1.1.3.2 Schematic design	14 days	Architect
1.1.4 Perform cost analysis and determine initial budget	11 days	Project Manager
1.1.4.1 Preliminary costing 2	12days	Architect, Assistant Project Manager, Project Manager
1.1.5 Preliminary environmental impact assessment	3 days	Project Manager
1.2 DESIGN PHASE	22 days	Architect, Draftsman
1.2.1 Architectural designxd	31 days	Architect, Draftsman
1.2.1.1 Conceptual	14 days	Architect

Conceptual and Comprehensive Site Survey Complete	0 days	Architect
1.2.1.2 Design documents	1 wk	Architect
1.2.1.3 Design review by client	5 days	Architect, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3
Design approval by client	0 days	Architect, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3
1.2.2 Project Design drawings	22 days	Architect, Draftsman, Project Clerk/Office Assistant
1.2.2.1 Steel Superstructure Design and Quote	4 wks	Fabricators
1.2.2.2 Structural Engineering/Structural Steel Fabricators	6 wks	. Fabricators,Structural Engineer
1.2.2.3 MEP Engineer	2 wks	.M.E.P. Engineer
1.2.2.4 Geo-tech Engineer	1 wk.	Geo-technician
1.2.2.5Fire Suppression Engineer	3 days	Fire and Safety
1.2.2.6 3D Illustrations	14 days	Architect
1.2.2.7 Interior Design Drawings	14 days	. Interior Designer
1.2.2.8 Alarm, Security, Data, etc.	3 days	AV Consultants
1.2.2.9 Landscape Design	2 wks.	Landscape architect
1.2.2.10 Civil Engineering	2 wks	. Civil engineer
1.2.2.11 Medical Technology	1 wk	Medical Technician
1.2.2.12 Printing and Plotting	2 days	Project Clerk/Office Assistant
1.3 PRECONSTRUCTION PHASE	30 days	Architect, Assistant Project Manager, Project Manager
1.3.1 Steel framework	100 days	Allied Steel (Fabricators),Assistant Project Manager, Project Manager
1.3.1.1 1st floor steel components delivered to site	5 days	Assistant Project Manager
1.3.1.2 2nd floor steel components delivered to site	2 days	Assistant Project Manager
1.3.1.3 3rd floor steel components delivered to site	2 days	Assistant Project Manager
1.3.1.4 4th floor steel components delivered to sit	2 days	Assistant Project Manager
1.3.2 Permits and approval: Submission of	21 days	Assistant Project Manager,

Documents to Ministry of Housing, Planning and Urban Development		Draftsman
Submit Design Documents to Planning department for Permit	12 days	Architect
Soil	0 days	Architect
Apply for Medical Construction License at MCMHB	0 days	Architect
Building Permit Issued	1 day	Architect
1.3.3 Mobilization	123 days	Assistant Project Manager, Field Superintendent, Project Manager, Site Foreman
1.3.4 Working drawings	11days	. Architect, Draftsman
1.3.5 Pre-Construction	100 days	Assistant Project Manager, Field Superintendent, Project Manager
Site Works begin	0 days	Assistant Project Manager, Field Superintendent, Project Manager, Site Foreman, skill site worker-1,skill site worker-2
1.3.5.1 Dewatering ,drilling and piling	27 days	Heavy Marine Fabricators (HMF),skill site worker-
1.3.5.1 Excavating, backfilling and compaction	52days	Architect, Land Surveyor, skilled site worker, site foreman, field superintendent, contracted worker
1.3.5.1.1 Surveying and layout	21 days	Heavy Marine Fabricators
1.3.5.1.2 Slope protection	45days	Assistant Project Manager, Field Superintendent
1.3.5.1.3 Ministry of Transport , Works Inspection	0 days Assistant Project Manager, Site Foreman	

Approval	O day	Assistant Project Manager, Site Foreman
1.3.5.1.4 Foundation Laying/Pouring Concrete	3 days	Fabricators ,Assistant Project Manager, Field Superintendent, Site Foreman
1.4 CONSTRUCTION PHASE	100 days	Assistant Project Manager, Project Manager
Vertical Construction begin	0 days	Assistant Project Manager, Field Superintendent, Site Foreman
1.4.1 Concrete	140 days	Masonry workers, Site labourer
1.4.1.1 Shoring and underpinning	90days	Masonry workers, Site labourer 1
1.4.1.1.1 Steel column form	67 days	. Assistant Project Manager, Field Superintendent, Site Foreman, skill site worker-1,skill site worker2,Common labourers
1.4.1.1.2. Steel caging	1.4 wks.	Steel fabricators
1.4.1.1.3. Foundation Completion	4 days	ACE, Masonry workers
1.4.1.2 Capping & Levelling Stilts	55 days	Masonry workers, Site labourer
1.4.1.2.1 Levelling	30 days	Architect, Draftsman, Field Superintendent, Masonry workers, Site Foreman
1.4.1.2.2 Capping	13 days	Architect, Draftsman, Field Superintendent, Masonry workers, Site Foreman
STEEL SUPERSTRUCTURE 1ST FLOOR	12 days	Architect, Draftsman, Field Superintendent, Masonry workers, Site Foreman
Foundation laying preparation for base 1	5 days	Architect, Draftsman, Field Superintendent, Masonry workers, Site Foreman
Pouring concrete for foundatiton for base 1	7 days	Architect, Draftsman, Field Superintendent, Masonry

		workers, Site Foreman
STEEL SUPERSTRUCTURE SECOND FLOOR	12 days	Architect, Draftsman, Field Superintendent, Masonry workers, Site Foreman
Concrete flooring preparatin for base 2	5 days	Architect, Draftsman, Field Superintendent, Masonry workers, Site Foreman
Pouring concrete flooring for base 2	7 days	Architect, Draftsman, Field Superintendent, Masonry workers, Site Foreman
1.4.2 Masonry	80 days	Field Superintendent, Masonry workers, Site Foreman
1.4.3 Metals	40 days	Field Superintendent
1.4.3.1 Structural Exterior in-Wall	12 days	Field Superintendent
1.4.3.2 ClarkDietrich in-wall installation	14 days	Steel fabricators
1.4.3.3 Cladding and in-walls completed	11days	Assistant Project Manager, Field Superintendent
1.4.3.4 Sheathing	21days	Field Superintendent, Site Foreman, Site labourer, skill site worker-1
1.4.4 Wood, Plastics and Composites	45days	skill site worker-2,Speciality services
1.4.5 Thermal and Moisture Protection	15days	Carpenter, Site labourer
1.4.6 Openings	27days	Field Superintendent
1.4.6.1 Installing Windows	14days	Carpenter, Site labourer
1.4.6.2 Installing doors	12days	Carpenter, Site labourer, Speciality services
1.4.6.3 Caulking	23days	Carpenter, Site labourer, Speciality services
1.4.7 Finishes and ceilings, chandiliers and fixtures	30days	Speciality services, Dry wall subcontractor

1.4.8 Specialities	45days	Speciality services
1.4.9 Furnishings	60days	Assistant Project Manager, Interior Designer, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3
1.4.10 Plumbing and Sewerage and wáter tank installation	22 days	Plumbing subcontractor
1.4.11 Heating, Ventilation and Air Conditioning	12 days	AC subcontractor, Assistant Project Manager
1.4.12 Integrated Automation and Management		Speciality services
1.4.13 Electrical	60 days	Electrician
1.4.14 Communications	1 day	AVDC Consultants, Speciality services
1.4.15 Electronic Safety and Security (alarms)	15 days	Speciality services, Fire and Safety
1.4.16 Storm Water Detention Basin	35 days	Hydrologist
1.4.17 Elevators , Escallators and Stairs	14 days	Assistant Project Manager, Field Superintendent
1.4.17.1 Stairwells and stairways	20 days	Allied Steel (Fabricators),Carpenter, Speciality services, Assistant Project Manager
1.4.17.2 Elevator Hoist and Escallator layout and installation	50 days	Elevator Mechanics
1.4.18 Erection of Super Structure	160 days	Assistant Project Manager, Field Superintendent, Project Manager
1.4.18.1 STEEL SUPERSTRUCTURE - 1st floor	14 days	Allied Steel (Fabricators),Steel Erectors
1.4.18.1.1 Steel Superstructure erection	12 days	. Steel Erectors, (Fabricators),Assistant Project Manager
1.4.18.2 STEEL SUPERSTRUCTURE - 2nd floor	10 days	Fabricators),Steel Erectors

1.4.18.2.1 Structural steel erection	70 days	, Fabricators),Assistant Project Manager Steel Erectors
1.4.18.3.1 Structural Steel compiling and setting	15 days	. Steel Erectors Fabricators,Assistant Project Manager
1.4.18.4 STEEL SUPERSTRUCTURE - - 3rd floor	15 days	Fabricators,Steel Erectors, Assistant Project Manager
1.4.18.4.1 Structural Steel erection	18 days	Allied Steel (Fabricators),Steel Erectors
1.4.19 Site Works	48 days	skill site worker-1,skill site worker-2,Site labourer
1.4.20 Medical Machinery Installation	35 days	Medical Technician
1.4.21 Interior Design	12 dasy	Assistant Project Manager, Interior Designer, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3
1.4.22 Landscaping	90days	Assistant Project Manager, Landscape architect, Owner, Owner rep. 1, Owner rep. 2, Owner rep. 3 1
1.4.23 Ambulance Offload bay	25 days	Carpenter, Mason contractor, Speciality services,
1.4.23.1 Preparation for gorundwork and tiling Cafeteria and Lounge area	50 days	Assistant Project Manager, Field Superintendent, Masonry workers, Site Foreman, Site labourer, Speciality services
1.4.24 Completed	10 days	Assistant Project Manager, Field Superintendent, Masonry workers, Site Foreman, Site labourer, Speciality services
1.4.25 Emergency Room	85 days	Allied Steel (Fabricators),Steel Erectors
1.4.25.1 Steel stud framing	15 days	. Site Foreman, Steel Erectors

1.4.25.2 Roof framing for annex building 1.2 wks. Site Foreman, Steel Erectors	14 days	
1.4.25.3 Cladding for emergency room	8 days	Site Foreman, Steel Erectors, Carpenter
1.4.26 Nurses stations	14 days	Masonry workers, Site Foreman, Steel Erectors Carpenter, Field Superintendent,
1.4.26.1 Gable Roofing	100days	Carpenter, Field Superintendent, Masonry workers, Site Foreman, Steel Erectors
1.4.26.1.1 Steel framing for Seminar Room	16 days	. Carpenter, Field Superintendent, Masonry workers, Site Foreman, Steel Erectors
1.4.26.1.2 Sheeting and finishes	100 days	. Carpenter, Field Superintendent, Masonry workers, Site Foreman, Steel Erectors
1.4.26.2 Dialaysis treatment roons	30 days	Carpenter, Field Superintendent, Masonry workers, Site Foreman, Steel Erectors
1.4.26.2.1 Sanitary Fitting and Lavatories installation	10 days	. Carpenter, Masonry workers, Site labourer, skill site worker-1
1.4.26.2.2 Lift Installations	14 days	. Carpenter, Roofing Contractor, Steel Erectors
1.4.26.2.3 Theatre sterile supply unit	28 days	Carpenter, Field Superintendent, Masonry workers, Site Foreman, Speciality services
1.4.26.2.4 Laboratory	11 days	Masonry workers, Site labourer, skill site worker2,Steel Erectors 1
1.4.26.2.5 Main floor exterior walls	18 days	Carpenter, Masonry workers, Steel Erectors

General Conditions	60 days	Assistant Project Manager, Field Superintendent, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3,Project Manager
Misc. Work on Steel Superstructure completed	0 days	Assistant Project Manager, Field Superintendent
Misc. Works Completed	0 days	Assistant Project Manager, Field Superintendent
1.5 POST CONSTRUCTION PHASE	90 days	Assistant Project Manager, Project Manager
Substantial completion	0 days	Assistant Project Manager, Field Superintendent, Project Manage
1.5.1 Punch list	5 days	Assistant Project Manager, Field Superintendent
1.5.2 Site Clean-up and Pre- Inspection	14 days	Assistant Project Manager, Field Superintendent, Site labourer
1.5.3 Final Complex Building Inspection	0 days	Assistant Project Manager, Field Superintendent, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3,Project Manager
1.5.4 Apply for a cerificate of occupancy	0 days	Architect, Project Manager
1.6 PROJECT CLOSURE	1 day	Assistant Project Manager, Project Manager
1.6.1 Final Account and Fincanial Report	13days	Accountant, Project Manager
1.6.2 Warranties from Manufacturers	40 days	Assistant Project Manager, Architect
1.6.3 Counstruction Manual and Guideline for the complex	121days	Architect
1.7 PROJECT MANAGEMENT	150 days	Assistant Project Manager, Project Manager
1.7.1 Planning	85 days	Assistant Project Manager, Project Manager

1.7.1.1 Initial Impact Assessment	30 days	Architect, Project Manager
1.7.1.2 Comprehensive Site Investigation Report 3 days		Project Manager
1.7.1.3 Feasibility study	10 days	Project Manager, Quantity Surveyor
1.7.1.3.1 Quantity surveyor final costing	18 days	Quantity Surveyor
1.7.1.4 Project Charter commissioned	4 days	Assistant Project Manager, Project Manager
1.7.1.5 Approval of Project Charter	1 days	Assistant Project Manager, Project Manager, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3
1.7.1.6 Design expedited for fee proposals	14 days	Architect
1.7.1.7 Budget/Preliminary Costing	15 days	Project Manager, Quantity Surveyor
1.7.1.8 Project management team; alterations to management	67 days	Assistant Project Manager, Project Manage
1.7.1.9 Approval of Roles and Responsibilities	30days	Assistant Project Manager, Project Manager
1.7.1.10 PM Plan	30 days	Assistant Project Manager, Project Manager
1.7.1.11 Procurements	23 days	Assistant Project Manager
1.7.1.11.1 Sub-Contractor Tendering and Bidding process	90 days	Assistant Project Manager, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3,Project Manager
1.7.1.11.1.1 Tender Meeting/Bid Documents	21days	Assistant Project Manager, Project Manager, Subcontractors
1.7.1.11.1.2 Tender evaluation period	25 days	Assistant Project Manager, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3,Project Manager
1.7.1.11.1.3 Contract review and overseeing	14 days	Assistant Project Manager,

		Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3,Project Manager
Contract granting	30 days	Assistant Project Manager, Owner, Owner rep. 1,Owner rep. 2,Owner rep. 3,Project Manager
1.7.1.11.2 Procurement and Contracts	60 days	Assistant Project Manager, Project Manager
1.7.1.11.2.1 Project management team selected and in place	12 days	Assistant Project Manager, Project Manager
1.7.1.11.2.2 Scheduling baselined - confirmed/altered	1 day	Project Manager
1.7.1.11.2.3 Procurement and Sourcing	20 days	Assistant Project Manager
1.7.1.11.2.4 Long lead items sourced	14 days	Assistant Project Manager
1.7.2 Scheduling	100 days	Assistant Project Manager
1.7.3 Accounting and Financial management	50 days	Accountant
1.7.4 Reporting and Communications	30days	Accountant, Assistant Project Manager, Field Superintendent, Project Manager
1.7.5 Meetings and Review	25 days	Assistant Project Manager, Project Manager
1.7.6 Site Management	100 days	Field Superintendent

Appendix 9 :SWOT Analysis for the BRI-Medical Complex Project

	Strength		**Weakness**
S1	Secure Funding (Government financing and international sponsors)	W1	Site location in area where there is heavy traffic flow and residential
S2	Repeated project Experience (DSACC)	W2	Resources shared with other Projects (International Airport recently concluded)
S3	Past projects have had a good Reputation (DSACC)		
S4	Highly skilled Professionals	W3	First building aimed at being used for Dialysis treatment
S5	Using advance equipment and Superior technology in business		
S6	Management is committed and Confident	W4	Outsourcing(Dependency on contractor, High Dependency on Component Suppliers)
S7	High Employee Benefits (Tying Rewards to Achievement of Key Strategic targets)		
	Opportunities		**Threats**
O1	No other Dialysis treatment centers in this area	T1	Time shortage
O2	Project/company publicity	T2	Other government projects might start in parallel
O3	Diversify our business interests		
O4	Good economic Outlook	T3	Seasonality, weather effects
		T4	Material Price Uncertainty
		T5	Too many International Competitors attempting to imítate the project
		T6	Unknown Land condition

Apprendix 10: Notice of Invitation to Bid for the Construction of the BRI Medical Complex

GOVERNMENT OF ST.VINCENT AND THE GRENADINES

MINISTRY OF COMMUNICATIONS, WORKS

PHYSICAL DEVELOPMENT, PUBLIC UTILITIES, ICT & COMMUNITY DEVELOPMENT

NOTICE OF INVITATION TO BID

CONSTRUCTION OF THE BRI MEDICAL COMPLEX

MAY 14, 2017

1. **1. Background**

The Government of St.Vincent, with financial support from 11th European Development Fund (EDF) Programme intends to use part of this financing to make eligible payments under a contract for **the Construction of BRI-Medical Complex, Arnos Vale.** The selection process and award of a contract will be in accordance with the Procurement regulations and laws of St. Vincent and the Grenadines

The Ministry of Works now invites eligible bidders to submit sealed bids for **the Construction of BRI-Medical Complex, Arnos Vale.**

1. **2. Description of required work**

The required works is the construction of a four-story medical complex of sixteen thousand and nineteen (16,019) square feet, which includes, but is not limited to the following:

- **The ground floor** – to accommodate and facilitate emergency services
- **The first floor –** to accommodate a Consultation Area, an Administrative Area, a Conference Room, and Dialysis treatment facilities.
- **The Basement** – to facilitate/house storage, laundry, generator and electrical /mechanical services areas.
- **Top Floor/Roof Deck**- to accomodate operating rooms, recovery lounge, patient rooms

1. **3. Eligibility**

Bids are opened to all suppliers of construction works.

1. **4. Availability of Bidding Documents**

Bidding documents can be obtained from the Services Commissions Department, Kingstown from October 2nd to October 13th, 2017, at a non-refundable cost of five hundred dollars XCD $ 500.00.

Any queries relating to this tender are to be referred to the following persons:

Jaya Rodriguez, Ministry of Works – 784 456-1111

Natalia Smith Ministry of Works –784 456-1706 or nsmithmw@gov.vc

The fee for obtaining the bidding documents must be paid at the Government Treasury located at the Financial Complex or any of the District Revenue Offices. The corresponding receipt must be presented to the Ministry of Works to collect the bid documents.

1. **5. Time Frames /Duration**

The expected duration of the bidding process is eight weeks.

The Works is expected to begin on July 1st, 2017 and completed within twelve-eighteen months.

Bids must be received by the Procurement Board Ministry of Finance **no later than 3:00 pm** August **8, 2017**. Bid opening will take place immediately after the deadline of submission at the Financial Complex Conference Room, in the presence of bidders or their approved representatives.

1. **6. Address for submission Bids**

Bidders are to submit their bids in sealed envelopes clearly marked " Vendor **Bid for the Construction of the BRI-Medical Center",** and the following address:

The Chairman

Public Procurement Board

Ministry of Finance and Security

Kingstown

All Bids must be accompanied by a Bid Security of five thousand Eastern Caribbean Dollars XCD $5,000.00 which shall be enclosed in the Bid Documents. Bid Security shall not be in cash or cheque.

1. **7. Award Criteria**

Bids will be evaluated by an Evaluation Committee and the most economically advantageous bid will be selected based on the following criteria;

- Price
- Technical Competence
- Past Performance
- Financial Stability

1. **8. Other Information**

The Public Procurement Board reserves the right to accept or reject any bid, and to annul the process and reject all bids, at any time prior to Award of Contract, without thereby incurring any liability to the affected prospective bidder(s) or any obligation to inform the affected prospective bidders.

Appendix 11: Revision Dictum

CERTIFICATE OF REVIEW

FOR

MISS JEANINE NATALIA WILLIAMS

(Final Graduation Project, Master in Project Management Degree in Project Management Plan for the Construction of the BRI-Medical Complex at Arnos Vale St.Vincent and the Grenadines)

Comments: Grammatical, typographical corrections, lengthy sentences were reconstructed to make the document more fluent and some repetition words were changed to create a more a more interesting read. Some comments were made in the margins. The paper's strength lies in its structure/outline largely throughout the paper. The paper's greatest weakness is the reliance upon the template's structure for the "project management plans" derived from an internet source, some repetition of subject matter which has been addressed to the author. Ultimately, this paper is very convincing in its methodological approach and one is left with the impression that large projects should never be undertaken without the PMBOK Guide as the compass.

Susan Lawrence (Ms) (BA, LLB, LEC,MA)

F41
I am certifying that Ms Jeanine Williams is proficient in English. She is a native English speaker and all previous assesments were conducted in English.
In addition English is tested up to the grade 11 at the Secondary level in SVG, therefore Ms. Williams would

Kristen Jack

Appendix 12 : Linguists Credentials

Ann-Marie Kay Martin Jack

Prospect, P.O.567, Kingstown, St.Vincent, West Indies
Telephone# :(784) 456-5015(Home) or (784)456-0043(Work)
E-mail:kmartinjack@hotmail.com

NATIONALITY	Vincentian
SEX	Female
DATE OF BIRTH	19th September 1966
MARITAL STATUS	Married
CHILDREN	One

ACADEMIC QUALIFICATIONS

University of Technology, Jamaica
Postgraduate Diploma in Management **2007**

Mount Saint Vincent University, Halifax
Masters in Education - Literacy **2002-2003**

University of Stirling, Scotland
Bachelor of Educational Studies **1994-1995**

University of the West Indies (St. Vincent Teachers College)
Teacher Trained Certificate **1985-1987**

St. Vincent Girls' High School
High School Diploma – CSEC – Seven (7) **1977-1983**

TEACHING EXPERIENCE

Belair Government School **1983-1994**
Primary School Teacher
- Taught classes from Grade 5-8
- Teaching all aspects of the curriculum

St. Vincent Grammar School **1995-2002**
Secondary School Teacher
- Taught both English Language and English Literature – Forms 1 to 5
- Preparation of students for the regional examination, the Caribbean Examination Council (CXC/CSEC) in the above mentioned subject areas – Form 5
- Performed the duties of Prefect Mistress and House Mistress (Sports Department)

St. Vincent Teachers College **2004-Present**
Tertiary Experience
- Prepared students at the St. Vincent Teachers College in the Use of English Module for the UWI Teachers' Certificate Programme and for the Associate Degree programme in Secondary Education
- Assessing of Individual Studies in Language Arts for Partial Fulfillment of the UWI Certificate Programme
- Supervision and Assessment of Bachelor of Education Studies UWI– Literacy students in Module ED30Z: Investigating Our Teaching

PROFESSIONAL ACTIVITIES

Ministry of Education **2016 – Present**

Senior Education Officer – Secondary Schools

Ministry of Education – Buccament Bay Secondary School **2010 - 2016**

Principal

Ministry of Education – Curriculum Development Unit

Education Officer - Literacy **2003-2010**

- Assisting in the identification, development and implementation of effective English/Literacy instructional programmes in schools throughout the country
- Providing training and technical assistance in the delivery of effective instructional programmes for all students
- Monitoring and evaluating effectiveness of English/Literacy Programmes
- Ensuring all institutions are supplied with available curricular and necessary materials and equipment relating to literacy development
- Promoting Literacy in the education system by ensuring that schools participate in organized competitions and exhibitions
- Assisting with the assessment programme of the Ministry of Education
- Facilitating workshops in Literacy for CTF/SVGTU programme
- Preparation of Resource Material for Counseling
- Writing lower school (primary) material in Social Studies for the Macmillan Publishing Company
- Developing Social Studies Curriculum for the Senior School (Primary – Ages 13-15 yrs)

Pearson Education Limited (2010-2011)

Developing materials for the revision of:

The Students' Companion

The Students' Companion Practice Book

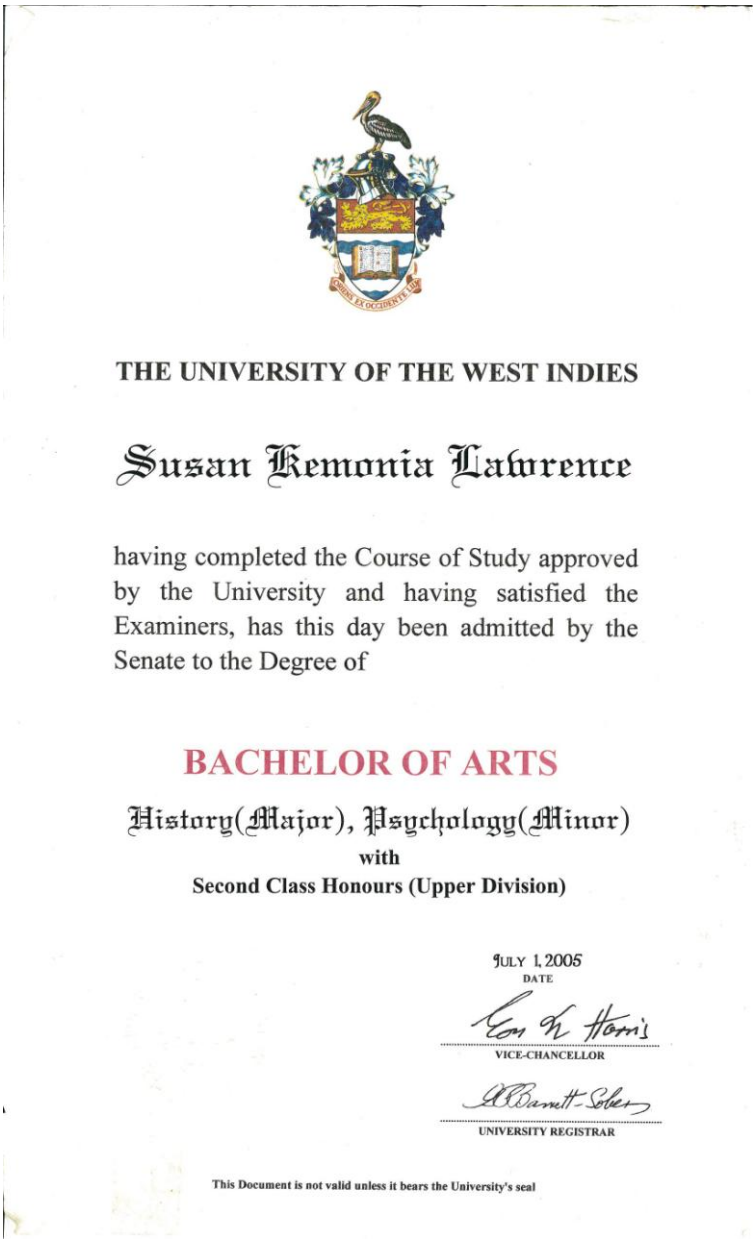
New Junior English Revised

Caribbean Examinations Council

SVG Representative on SEC (School Examination Committee) ***2010-Present***

OECS Early Learners Programme

SVG Representative on the Advisory Council **2015 - Present**



THE UNIVERSITY OF THE WEST INDIES

Susan Kemonia Lawrence

having completed the Course of Study approved by the University and having satisfied the Examiners, has this day been admitted by the Senate to the Degree of

BACHELOR OF ARTS

History(Major), Psychology(Minor)

with

Second Class Honours (Upper Division)

JULY 1, 2005
DATE

VICE-CHANCELLOR

UNIVERSITY REGISTRAR

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IMLI

IMO International Maritime Law Institute

It is hereby certified that

Susan Kemonia Lawrence

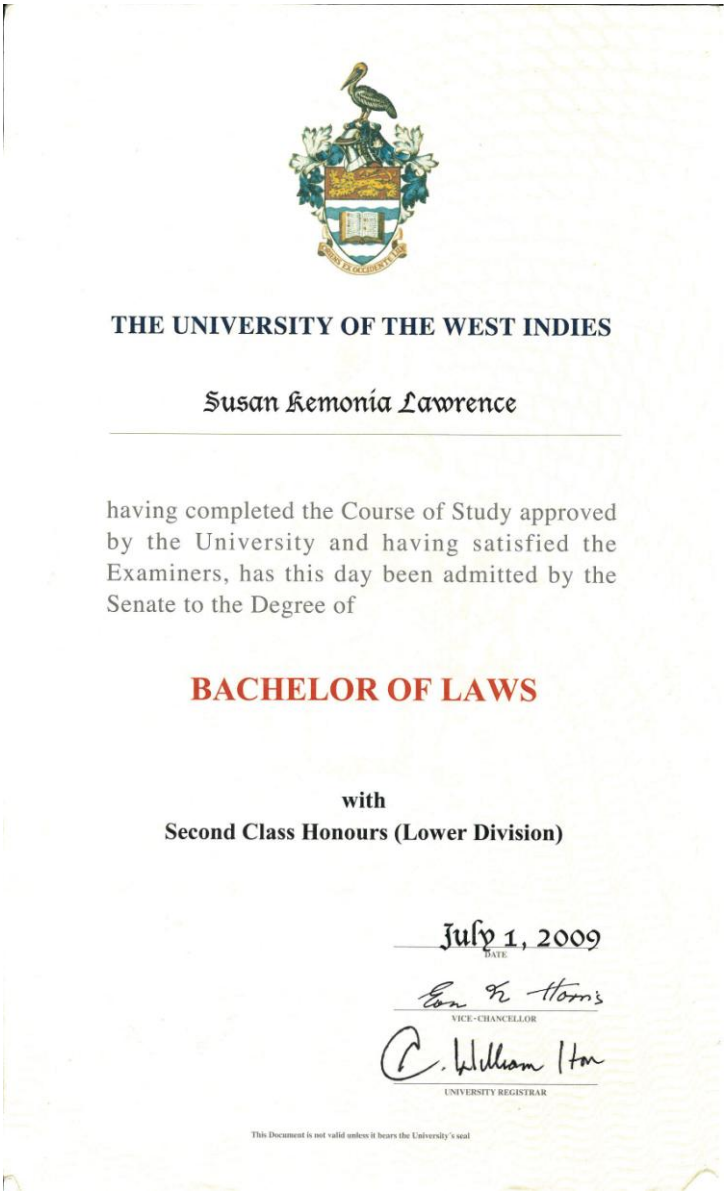
Having successfully completed the course of study
and having fulfilled all requirements
established by this Institute,
has been awarded the Degree of

Master of Laws
in
International Maritime Law

under the authority granted by the Statute of this Institute

Dated at Malta this 27th day of May 2017

Prof David Attard
Director



THE UNIVERSITY OF THE WEST INDIES

Susan Kemonia Lawrence

having completed the Course of Study approved by the University and having satisfied the Examiners, has this day been admitted by the Senate to the Degree of

BACHELOR OF LAWS

with
Second Class Honours (Lower Division)

July 1, 2009
DATE

VICE-CHANCELLOR

UNIVERSITY REGISTRAR

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