UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

PROJECT MANAGEMENT PLANS FOR GOVERNMENT HOUSE RESTORATION PROJECT, NEVIS

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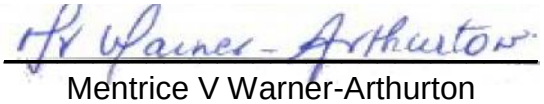

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DEDICATION

This thesis is dedicated to my dear and loving husband, Christian, to whom I owe a deep debt of gratitude for his unwavering support, never allowing me to give up; my beloved daughters, Christoria and Meutrisca, who constantly reassured me that I would get through, ("You know you can do it, mummy!"); and my grandchildren, J'nique, J'vani, Jasira and Lazarno, whom I love dearly and who give me the impetus to go on whenever I look at them.

To all my friends and extended family members who also supported and encouraged me throughout this journey, I dedicate this thesis to them, too.

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ABBREVIATIONS

FGP	Final Graduation Project
GH	Government House
HR	Human Resource
N/a	Not applicable
NHLDC	Nevis Housing, Land, Development Corporation
NIA	Nevis Island Administration
NTA	Nevis Tourism Authority
OAS	Organization of American States
PM	Project Manager
PMO	Project Management Office
PMP	Project Management Plan
POS	Positive
PWD	Public Works Department
UCI	University for International Co-operation

EXECUTIVE SUMMARY (ABSTRACT)

Taking an idea from a mere concept to being a successful project required a well-developed management plan, one which clearly defined every aspect of the project.

Governments have come to realize the importance of finding ways to reduce high domestic debt, which sometimes include substantial payments for rental of private properties. This latter practice was evident when the restoration of the Government House in Charlestown, Nevis chosen as this thesis project.

Government House housed Nevis' Deputy Governor General and his staff, and was initially one of the abandoned government buildings chosen for renovation. It was important to note, that the NIA not only allocated funds for the renovation work, but also approved that the Ministry of Communication outsource the renovation work on this historical and national landmark on the island of Nevis.

The organization in study, the Ministry of Communication, is a division of the NIA with administrative responsibility to develop and sustain the infrastructure in Nevis. Each year, a high percentage of the approved budget is allocated to the Ministry to organize and manage the execution of a number of infrastructural tasks, and to include outsourcing contract developments.

In reality, the Ministry's flexibility is somewhat constrained, as its implementing arm, the Public Works Department (PWD) does not always have the necessary skills set to undertake the repair/renovation in a manner that retains the original character of some buildings, thus resulting in incomplete undertakings or completion delays and possible cost overruns. This state of affairs imposes specific tasks on and demands of a Project Manager, who would be expected to standardize procedures and make holistic changes.

Accordingly, the application of a project management plan was important, since it provided the basis to plan and to manage the aforementioned exercise, which is subject matter for this assignment. This case study would provide a source for measuring and assessing the proposed project performance and the project management practices that should be executed in a non-standardized and non-formal way by the project manager.

The overall objective of this paper was to present a project management plan in a document format. This would be part of an intended proposal of a case study that could revamp the Economic and Planning Unit of the Ministry of Finance, as well as to provide the foundation towards the completion of a final graduation project as part of the process required of students pursuing studies in Project Management.

The general objective was to develop a project management plan framed within the PMI standards for the Government House Restoration Project, in Nevis, while the

specific objectives were to develop sub-management plans in accordance with the said PMI standards and guidelines.

These sub-plans were: a scope-management plan to ensure that the entire restoration work was achieved with minimal changes and in accordance with the approved plans; to create a time-management plan to ensure the process of completing the project was executed within a specific timeframe; to develop a cost-management plan to ensure the process of completing the budget was within range of the funds allocated for the project; to develop a quality-management plan to ensure that the process of providing quality assurance and quality control was achieved; to create a human-resource-management plan to ensure that proper guidelines were in place to meet the required skills and qualifications of the project team; to define a communication-management plan to ensure that information was exchanged through the use of mutually-understood guidelines; to create a risk-management plan to minimize the probability and consequences of adverse events; to create a procurement-management plan to ensure proper planning for purchasing materials and for selecting vendors and or suppliers in accordance with approved guidelines; and to develop a stakeholder-management plan to ensure that the project activities properly engaged the stakeholders.

The methodology for this assignment was field research and consisted of primary and secondary data. It included direct observation and face-to-face interaction conducted with persons directly and indirectly involved in the project.

The data analyzed identified strategies which assisted in creating sub-management plans as the major factor within the creation of the project management plan.

It concluded that the project management plan for the restoration of Government House met all the requirements and was developed in accordance with the PMBOK 5th Edition Guidelines.

The findings resulted in a lack for proper structure of authority and/or leadership, which led to some degrees of bureaucracy and constraints, on the availability of information.

The importance of the study offers an opportunity to examine the results and it is recommended that the NIA allocate resources and implement a project management office within the organizational structure as a matter of course.

1 INTRODUCTION

1.1 Background

While investigating potential projects that fall under the purview of the Nevis Island Administration, for a thesis assignment, the restoration work for Government House facility, which was one of the capital projects budgeted for 2015/2016, captured the attention and interest of the researcher, and from that time, was chosen for the assignment.

This leads to the realization that governments are becoming aware of the importance of finding ways to reduce the domestic debt, which often includes substantial payments for rental of private properties occupied by the government. One such way is to restore, renovate or re-construct abandoned government buildings and convert them for public use.

Government House (GH) is one of the buildings that has been abandoned for the last ten years, and restoring it to a habitable state is important. The Merriam Webster Dictionary online states, “Restoration is the act or process of returning something to its original condition by repairing it, cleaning it”.

It is important to restore old and more importantly, colonial buildings, which are a unique part of an island’s heritage. People from all over the world visit countries to enjoy the rich history, which is captured in every brick, stone or length of timber the island’s built landmarks have to offer.

With the need for fiscal prudence and proper management, not only of extant government properties but also of impending and future projects, it is proposed that the Nevis Island Administration (NIA) make provision for a Project Manager (PM) and an appropriate Project Management Office (PMO). This unit can be an arm of the Ministry of Communication, Works, Public Utilities, Physical Planning, Post, Natural Resources and Environment (hereinafter referred to as the Ministry of

Communication or the Ministry). It can also be a unit within the Ministry of Finance, mainly responsible for the management of projects under the umbrella of the NIA.

The Ministry's objectives are to maintain, repair, rehabilitate and improve the conditions of public roads and government buildings and vehicles and provide technical advice and services to the NIA in an attempt to insure sound infrastructural development (NIA Estimates 2016).

The Project Manager's role in the Government House Restoration project is to ensure that the project finishes on time, within budget, and that an assembled team completes it according to building codes, plans and guidelines. This role also includes a project management plan, which, according to PMI standards, "is the process of defining, preparing and coordinating subsidiary plans and integrating them into a comprehensive project management plan" (PMBOK Guide, 5th Edition, Annex A1 pg. 429).

1.1.2 Neglect of existing government buildings

The issue of deficiencies in maintaining government-owned buildings, has been raised repeatedly, but a lack of resources as a small developing country continues to be an eminent limiting factor. It is a reality that governments' preference goes well with medium-term strategies rather than long term, which significantly influences administering the governance of a country on a five-year term.

Fortunately, an awareness of the importance of these existing though derelict buildings is increasing, not only among governments but also the residents and citizens of the island. These buildings are not only of historical significance, but also present a sore eye to the island's pristine beauty. Some of the buildings include the former residence of the Hospital Matron, the Treasury Building and the Old Cotton House, as highlighted in Appendix 4.

1.1.3 Colonial buildings use as national assets

There are a number of colonial buildings, which are aesthetically pleasing in Nevis, and occupied by the Civil Service sector. They are government's responsibility to restore and to maintain for public use. Most of these buildings are located in the center of the island's capital, Charlestown. These buildings include, for example, the General Post Office and the Nevis Tourism Authority, which serve the public and private sectors on a daily basis, as shown in Appendix 4.

1.1.4 The Island

The uniqueness of the 1983 Constitution Order of St. Christopher and Nevis, provides credence for much autonomy for the island of Nevis, with five single-member constituencies and a majority-rule voting system (the Westminster Model) for a period of a five-year term of assembly. This allows for the composition of the Nevis Island Assembly to comprise exclusively persons directly representing the majority of the various constituencies.

Modelled off the British Westminster System, with a written constitution as the supreme law, the Federation of St. Christopher and Nevis (also known as St. Kitts and Nevis) has a democratically elected government with a unicameral structure of parliament.

As a constitutional monarchy within the Commonwealth of Nations, the Federation recognizes Queen Elizabeth II (British Monarch) or her successor as the Titular Head of Government. The Governor General (symbotic head) of the Federation appoints the Deputy Governor General as the sovereign's representative for the island of Nevis.

Nevis, since the realization of Independence in 1983, has been governed by an administrative division known as the Nevis Island Administration. As the smaller of the twin islands of St. Kitts and Nevis, Nevis is highly dependent on tourism and marketed as an upscale destination.

1.2 Statement of the problem

Construction projects undertaken by the NIA are usually managed and implemented by the Ministry of Communication through its Public Works Department (PWD). This allows the NIA to use the resources of the PWD to carry out certain aspects of construction in an effort to offset the domestic debt. Most often, the burden of executing the determined task(s) is thrust upon the Director of PWD, who is a Civil Engineer by profession.

Hence, the opportunity presents itself for a Project Manager to be in place, and one that is important in order to standardize procedures and to make holistic changes. The selected project, 'the Government House Restoration' requires a project manager, as project management is a critical strategic discipline. The Project Manager becomes the link between the strategy and the team.

1.3 Purpose

The aim of this work is to present a project management plan in a document format, and to provide the requisite basic tools and techniques of the research process, geared towards the successful executing and controlling of the Government House Restoration project, based on sound planning.

The result of this will be part of an intended proposal of a case study relating to the revamping of the Economic and Planning Unit within the Nevis Island Administration's structure; and leading to redeployment/employment of a qualified project manager and appropriate staffing who will be responsible for Project Management Planning.

1.4 General objective

To develop a project management plan framed within the PMI standards for the Government House Restoration project.

1.5 Specific objectives

1) To develop a scope-management plan to ensure that the entire restoration work achieved with minimal changes and in accordance with the approved plans.

2) To create a time-management plan to ensure the process of completing the project is executed within a specific timeframe.

3) To develop a cost-management plan to ensure the process of completing the budget is within range of the allocated funds for the project.

4) To develop a quality-management plan to ensure that the process of providing quality assurance and quality control is achieved.

5) To create a human-resource-management plan to ensure that proper guidelines are in place to meet the required skills and qualifications of the project team.

6) To define a communication-management plan to ensure that information exchanged with mutually understanding guidelines.

7) To create a risk-management plan to minimize the probability and consequences of adverse events.

8) To develop a procurement-management plan within this process that is the result of due diligence, owing to the fact that this phase of the project was completed some years ago.

9) To develop a stakeholder-management plan to ensure that the project activities engage the stakeholders and make the most effective use of their participation.

2 THEORETICAL FRAMEWORK

Restoration of government buildings play a key role in national development. Although that is true, a paradox presents itself in that the rental of private properties occupied by government for its day-to-day operations contribute substantially to the domestic debt.

Nowadays, governments are finding ways to face the challenges of reducing the domestic debt. Therefore, part of this investigation is to provide the necessary requirements that will aid in the reduction of the domestic debt. To this end, prudent measures will be developed to include, for example, curtailing excess spending, and decreasing wastage. The outsourcing of certain jobs can also be alleviated once a PM and PMO are in place.

2.1 Company/Enterprise framework

The Ministry of Communication, Works, Public Utilities, Post, Physical Planning, Natural Resources and Environment, considered as 'the Ministry', is a division of the Nevis Island Administration with administrative authority to develop and sustain the infrastructure in Nevis.

As a service provider within the public sector, its global objective 'is to formulate, implement, monitor, and supervise policies relating to work, public utilities and posts, in order to enhance the infrastructural development and to provide quality service at affordable cost to the residents of Nevis' (2016 NIA Estimates). The structure requires a Permanent Secretary as the immediate manager.

The functions of the Ministry are:

a) To develop and implement systems of planning and governance to enhance sustainable use of environment and its natural resources;

b) To implement an adequate maintenance and construction programme for public roads and government buildings in an attempt to ensure sound infrastructural development;

c) To provide administrative support to all departments and courteous efficient service to the general public;

d) To provide outstanding services related to the production, distribution and quality of water that is delivered to its valued customers and

e) To sort and dispatch mails to private letterboxes, local residents and overseas clients in a timely and secure manner; and to facilitate immediate transfer of money orders. (NIA 2016 Estimates)

2.1.1 Company/Enterprise background

The NIA allocates a certain number of budgeted funds each year to the Ministry, which allows it to organize and execute a number of infrastructural tasks as per capital expenditure projected for the ensuing year. This provides the avenue for it to collaborate with various stakeholders, to include but not limited to contractors and subcontractors who may perform different tasks as per achievements.

Depending on the scope of work, the Ministry has the authority either to outsource the activity or to provide administrative support to its Public Works Department, a subdivision of the Ministry, to execute the task.

With this in mind, the restoration work at Government House was one of the projects allocated for during the Minister of Finance's Budget Address on December 8, 2015. He noted, "Plans for the rehabilitation of Government House are being finalized…." adding, "Rehabilitation and new construction will commence on other government buildings." (NIA Budget Address 2016, pg.28)

2.1.2 Mission and Vision statements

While the Ministry of Communications implements a number of its objectives with the ensuing year in mind, a mission statement and a vision statement will tend support good governance and transparency of the government and/or the Ministry's policies.

Mission Statement: To provide administrative support to its various units and other governments ministries, while managing the development of the island's physical infrastructure to ensure sustainability.

Vision Statement:

a) To promote government activities for transparency and public access;
b) To ensure sound infrastructural development according to policy guidelines;
c) To provide high quality, cost-effective regular maintenance to historic buildings.

2.1.3 Organizational structure

The organizational structure is a system used to define a hierarchy within an organization. According to smallbusiness.com website, it defines each job, its function and where it reports to within the organization. The structure is developed to establish how an organization operates and assist an organization in obtaining its goals to allow for future growth.

The Ministry of Communication's hierarchical structure as detailed in Chart 1, reveals that additional departments, which fall under its purview, include the following: Physical Planning, Natural Resources and Environment, Public Utilities, Post, and Works.

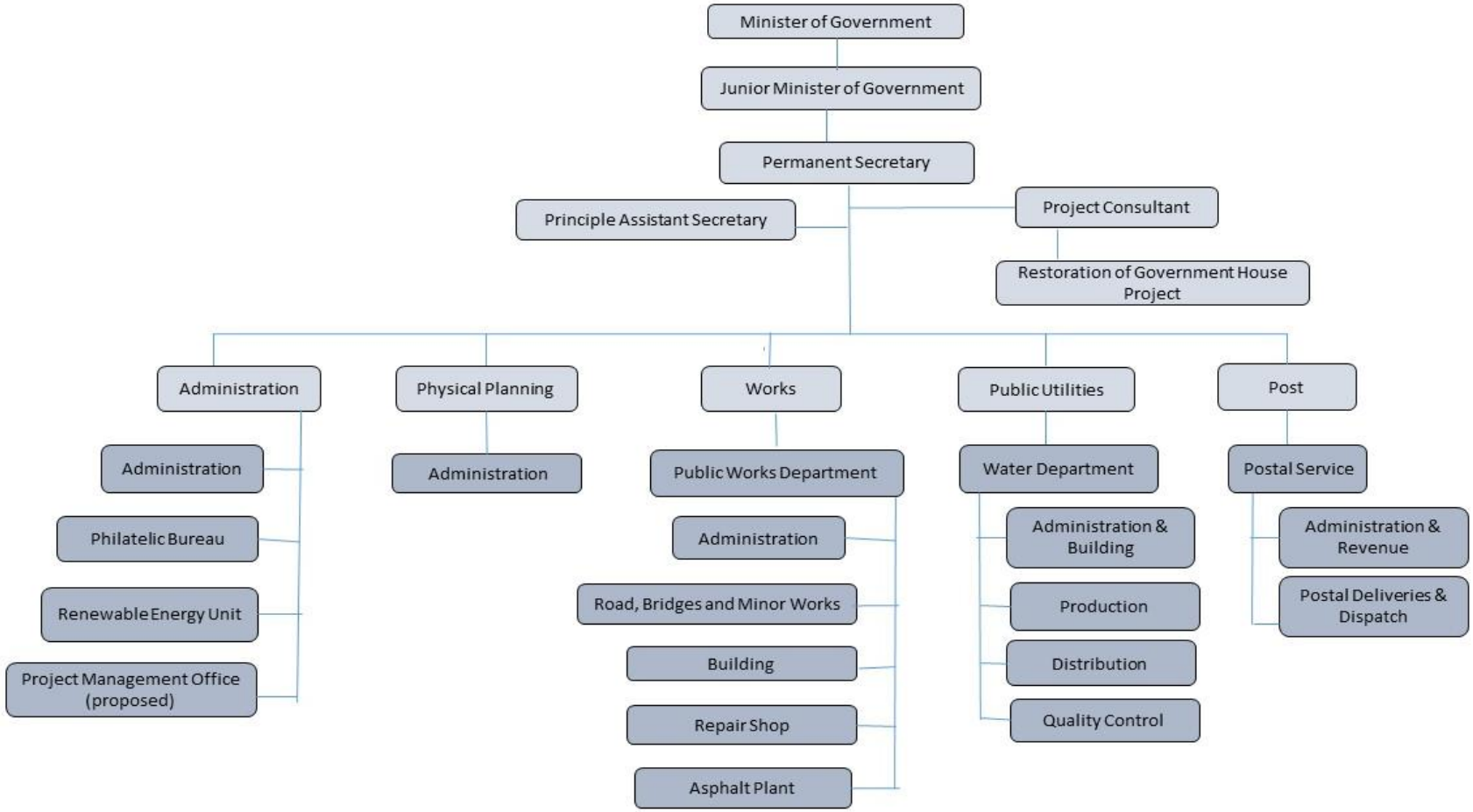


Chart 1. Organizational Structure, Ministry of Communication (Source: Author)

The Ministry works in collaboration with various stakeholders, thus the organizational structure, as set out below, is an example of outsourcing a task. The structure, (Chart 2) outlines stakeholders who are directly and indirectly involved in the GH restoration. A Project Consultant, employed by the NIA, is one of the indirect stakeholders.

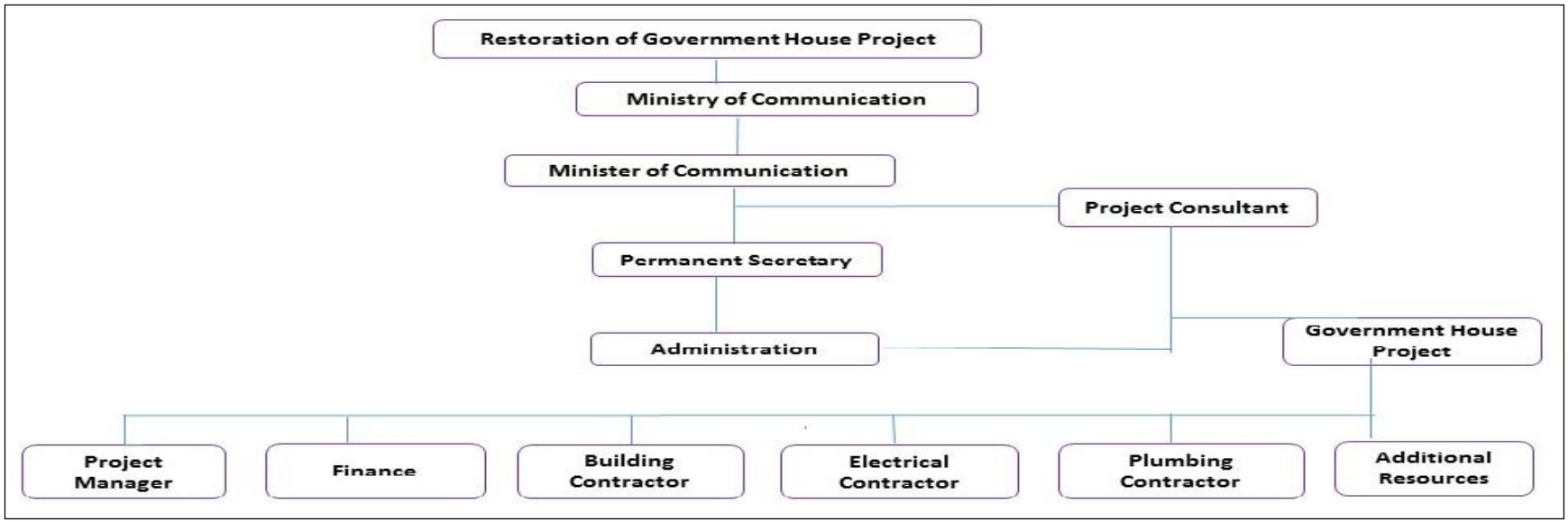


Chart 2. Organizational Structure, Restoration of GH Project (Source: Author)

2.1.4 Products offered by the Ministry of Communications

The products offered are service-oriented, and are normally used by citizens and residents of Nevis. These services indirectly relate to the current project, during the construction phase. The services offered include water services, postal services, and the provision of asphalt for road construction. Additionally, services offered by the Physical Planning Unit include assessment and approval of building plans and building permits for development of projects on the island.

2.2 Project Management Concepts

The overall project concept calls for the initial planning and groundwork to be completed by the end of a pre-determined timeframe, giving way for the project manager to assume all responsibilities, to coordinate all management tasks related to the development and implementation, including construction, of all activities. These concepts include the project, project management, project lifecycle, knowledge areas, process groups, and any other applicable project-management-related concepts.

2.2.1 Project Description

Normally, one sees projects assume various shapes and sizes, whether they are for research or development purposes. The term “project” refers to a temporary endeavour undertaken to create a unique product, service or result. (PMBOK Guide 5th Edition).

This project – the Government House Restoration Project, is a unique project, based on the restoration work entailed.

Built in 1909, offering a panoramic view of the island’s capital, Charlestown, the two-storey building is situated on a hillside overlooking the sister island’s capital Basseterre, which is approximately 12 miles away. It is 72ft x 38ft in area, and the restoration work includes repairs to the roofs, floors, mouldings and frames, windows, doors, electrical wiring, plumbing, and termite treatment. Rebuilding guardhouse and the reconstruction of a new kitchen, along with two verandas, are included.

2.2.2 Project management

PMBOK Guide 5th Edition (Annex A1, pg. 417), defines Project Management as “the application of knowledge, skills, tools and techniques to project activities to meet the project requirements. It is accomplished through the appropriate application and integration of logically-grouped project management processes.”

These processes include initiating, planning, executing, monitoring, controlling, and closing. The project must include two main points: starting and closing, and performance measured against cost, time and quality.

Managing a project is focus-driven by different requirements, and demands attention in order to realize a successful outcome. The GH project required special skills sets that the PWD was not equipped to provide. Consequently, there is need for an in-house project manager, not only to manage the GH project itself, but all future projects thereafter. As previously mentioned, the Director of PWD undertakes those responsibilities in addition to his current duties, coupled with his professional duty as a Civil Engineer.

2.2.3 Project life cycle

The project's life cycle consists of a series of phases that it passes through from conception to closure. According to PMBOK Guide 5th Edition, "These phases are generally sequential, and their names and numbers are determined by the management and control needs of the organization(s) involved in the project, the nature of the project itself, and its area of application."

These phases can be broken down by functional or partial objectives, intermediate results or deliverables, specific results in the overall scope of work, or financial availability. Figure 1 displays the phases of a project life cycle.

Figure 1. Phases of a project life cycle (Source: Author)

For this assignment, the project life cycle is a single-phase project, and emphasis is placed on planning, monitoring and controlling the GH project. A phase structure allows a project to segment into logical subsets for ease of management, planning and control. PMBok Guide 5th Edition also explains that regardless of the number

of phases comprising a project, all phases have similar characteristics. Figure 2 displays a single-phase project for the monitoring and controlling processes.

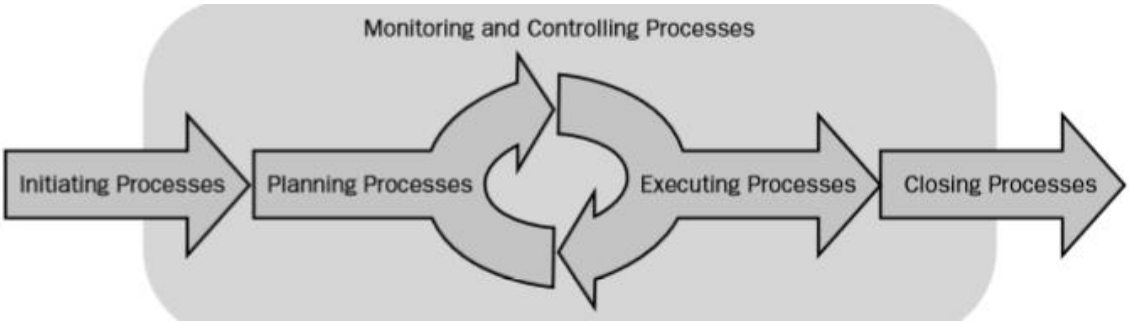


Figure 2. Single-phase project (Source: PMBOK Guide, 5th Edition)

2.2.4 Project management processes

The Project management process are five groups of procedures required for any project development. These groups have clear dependencies and highly interact with one another. The process groups are initiating, planning, executing, monitoring and controlling, and closing as displayed in Figure 3, levels of interaction in a project life cycle.

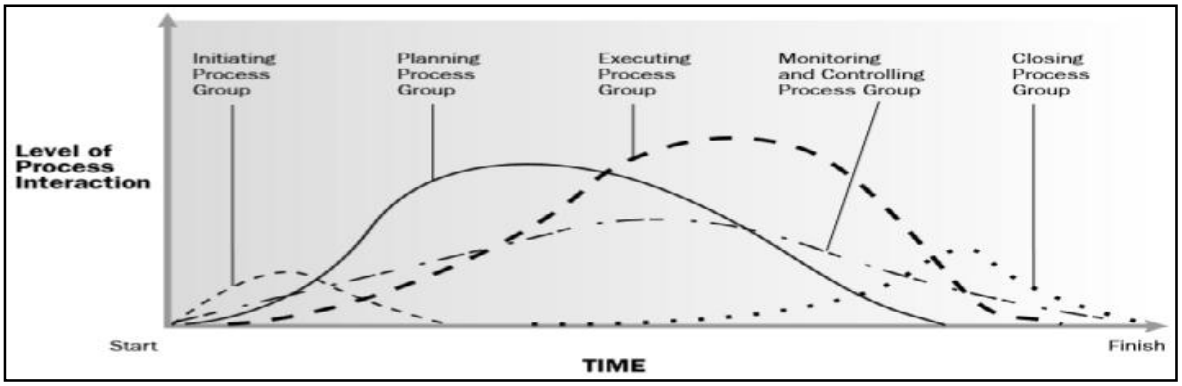


Figure 3. Level of process interaction in time management (Source: PMBOK Guide, 5th Edition)

Within this context, the operating organization recommends the need for proper monitoring and controlling of projects, to curtail the excessive cost overruns reflected from time to time upon completion of project(s).

As part of this assignment, three of the project management processes groups to be developed, include: initiating, planning and monitoring and controlling processes, as displayed in Table 1.

Table 1. Project Management Process Groups mapping (Source: Author)

Process Group	Description	
Initiating	This process involves all the processes required to authorize the commencement of the project.	o The Ministry authorizes the start of construction. o The internal and external stakeholders identified. o The initial financial resources committed by NIA. o The high-level requirements defined.
Planning	This process involves all the processes required to establish the scope of the project, and to define the course of action required to attain the objectives, that the project was undertaken to achieve.	o Architectural plans and drawings pre-approved. o Contractors and subcontractors pre-approved. o Vendors and suppliers selected. o Management plan to be developed. o Ministry assumed all responsibilities for procuring all building materials. o Payment terms and agreement executed through labour contract.
Monitoring and controlling	This process involves all the processes required to track, review, and regulate the progress and performance	o The project team will track the progress of the project and will report on a frequent basis. o A risk register will be created

	of the project.	and developed to document the events and to identify any changes made during the life cycle. o The project manager will perform quality control, and monitor and control risks, which may develop from time to time.

2.2.5 Project management knowledge areas

According to PMBOK 5th Edition, a knowledge area represents a complete set of concepts, terms, and activities that make a professional field, project management field, or area of specialization. There are nine knowledge areas applied within this project, and defined according to their needs.

Table 2 depicts the knowledge areas interaction with the applicable process groups that will be developed during the restoration process.

Table 2. Knowledge areas mapping with process groups (Source: Author)

No	Knowledge Areas	Definition (PMBOK Guide, 5th edition)	Process Group
1	Scope Management	The process required to ensure that the projects includes all the work necessary, and only the work required to complete the work successfully.	Planning and Monitoring and Control
2	Time Management	The process required to manage the timely completion of the project.	Planning and Monitoring and Control
3	Cost Management	The process involved in planning, estimating, budgeting, financing, funding, managing and controlling cost	Planning and Monitoring and Control

		so that the project can be completed within the approved budget.	
4	Quality Management	The process 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.	Planning and Monitoring and Control
5	Human Resources Management	The process that organize, manages and lead the project team.	Planning
6	Communication Management	The process that is required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring and the ultimate disposition of project information.	Planning and Monitoring and Control
7	Risk Management	The process of conducting risk management planning, identification, analysis, response planning, and controlling risk on a project.	Planning and Monitoring and Control
8	Procurement Management	The process necessary to purchase or acquire products, services, or results needed from outside the project team.	Planning and Monitoring and Control
9	Stakeholders Management	The process 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.	Initiating, Planning And Monitoring and Control

Scope Management Plan

This entails authorizing the job, developing a scope statement that will define the boundaries of the project, subdividing the work into manageable components with deliverables, verifying that the amount of work planned achieved, and specifying control procedures.

This knowledge area is applied within the NIA. For example, the organization authorized the Ministry of Communication to outsource the project and to select various contractors for the various phases.

Time Management Plan

This process is required to manage the timely completion of the project. It provides the feasible delivery date for each phase of the project as well as a final date for completion.

This knowledge area is applied within the organization. For example, one of the outcomes of the project is to get it completed within a specified timeframe. This was mentioned within the budget estimates for 2015/2016.

Cost Management Plan

The cost management plan involves estimating the cost of resources, including labour, equipment, materials, and other things such as, travel and support system.

This knowledge area is applied within the organization. For example, the organization budgeted the amount of $1.5million. (NIA Estimates 2015). The cost included labour, electrical, plumbing and construction.

Quality Management Plan

This includes quality assurance and quality control. In this area, the monitoring of the project will be an ongoing process to make sure that the conformance of the project and the quality requirements are achieved.

This knowledge area is applied within the organization, but the enforcement of it is lacking when observing the executing project.

Human Resources Management Plan

The project manager should have the requisite skills and ability to identify persons to do the job, defining their roles and responsibilities, and managing them throughout the project.

With reference to the knowledge area, no PM, PMO, HR is in place. This is a reality that calls for the implementation of the PM and the PMO to enable and assist the project's ultimate completion.

Communication Management Plan

This involves planning, executing and controlling the acquisition and disseminating of all information relevant to the stakeholders.

This knowledge area seems to be lacking within this process. Investigation revealed that there is a minimal flow of communication among stakeholders. There is need for this knowledge area to be strengthened.

Risk Management Plan

This involves the process of identifying, quantifying, analyzing, and responding to risk, whether it be to maximize the probability and consequences of positive events, or to minimize the probability and consequences of adverse events on the project objectives.

This knowledge area will developed as the project progresses during its lifecycle.

Procurement Management Plan

This involves deciding what must be procured, issuing requests for bids or quotations, selecting vendors, administrating contracts, and closing them when the job is finished.

This knowledge area is applied within the organization. For example, the project to be developed has seen the completion of the bidding process and the selection of contractors.

Stakeholder Management Plan

This also involves the development of appropriate management strategies for effectively engaging stakeholders in project decisions and executions.

This knowledge area is applied within the organization, but the enforcement of it seems lacking for shared information, as the author observes and make inquiries in reference to this project.

3 METHODOLOGICAL FRAMEWORK

This section involves the collection of general information, including first-hand and second-hand data, in order to identify requirements needed to conduct the investigation. Inspections and interviews were conducted with persons directly and indirectly involved in the project.

3.1 Information sources

“The information sources are the sites or data, whether physical or documentary, where digital information needed to conduct the investigation is found, and they are converted into a working tool for researchers and members of the project team.” (Weekly notes)

3.1.1 Primary sources

The loc.gov/teachers/usingprimarysources website, states that, “Primary sources are the raw materials of history – original documents and objects which were created at the time under study.” They may include people or organizations. (http://www.loc.gov/teachers/usingprimarysources, Library of Congress).

The primary information sources used on the FGP are interviews, inspections, photographs, government document and archive’s data. For this project, interviews were conducted with people directly and indirectly involved and photographs were taken of the ongoing construction to document stages of progress and development.

3.1.2 Secondary sources

The Village website states that, “Secondary source of information is one that was created later by someone who did not experience first-hand or participate in the events or conditions you’re researching”. (https://www.google.com/#q=what+are+secondary+sources)

The secondary information sources used on the FGP are textbooks and paraphrased quotations. For this project, all documentation found was analyzed to extract information related to the area.

Chart 3. Information Sources (Source: Author)

Objectives	Information sources	
	Primary	**Secondary**
To develop a Scope Management Plan	Government document	PMBok 5th Ed
To develop a Time Management Plan	Government document	PMBok 5th Ed
To develop a Cost Management Plan	Government document Contractors document	PMBok 5th Ed
To develop a Quality Management Plan	Contractors document	PMBok 5th Ed
To develop a Human Resources Management Plan	Project Manager plan	PMBok 5th Ed
To develop a Communication Management Plan	Project Manager plan	PMBok 5th Ed
To develop a Risk Management Plan	Contractors document Project Manager plan	PMBok 5th Ed
To develop a Procurement Management Plan	Government document	PMBok 5th Ed
To develop a Stakeholders Management Plan	Government document	PMBok 5th Ed

3.2 Research methods

Research method can be defined according to thefreedictionary.com as, “Careful study of a given subject, field or problem undertaken to discover facts or principles.” (http://www.thefreedictionary.com/Research+methods)

Businessdictionary.com defines research methodology as, “The process used to collect information and data for the purpose of making business decisions”.

There are various types of research methods used to develop a thesis and/or a dissertation, to include surveys, interviews, and hands-on. Several methods are mentioned in this project, but the hands-on method will be the practical research method best used in developing the project plan.

Chart 4. Research Methods (Source: Author)

Objectives	Research Method	Application
To develop a Scope Management Plan	Face-to-face interviews and hands-on	The data gathered from this method will be analyzed and apply the necessary data to the scope plan.
To develop a Time Management Plan	Face-to-face interviews and hands-on	The data gathered from this method will apply to the time plan when developing the schedule.
To develop a Cost Management Plan	Face-to-face interviews and hands-on	Interviews from the various contractors, vendors, suppliers, etc. The data gathered will assist with the planning of the cost management plan.
To develop a Quality Management Plan	Observation Face-to-face interviews and hands-on	Observation from previous projects and interviews from people involve with the project. The data will assist with the quality management plan.
To develop a Human Resources Management Plan	Not applicable	PMBok 5th Edition
To develop a Communication Management Plan	Not applicable	PMBok 5th Edition
To develop a Risk	Questionnaires	Data gather from people involve

Management Plan	Face-to-face interviews and hands-on	with the project either directly or indirectly. The data gathered will assist with the development of the risk management plan.
To develop a Procurement Management Plan	Surveys Face-to-face interviews and hands-on	Historical data gather from previous surveys interviews/questionnaires. The information gather will help in narrowing the amount of contractors that will be bidding.
To develop a Stakeholders Management Plan	Not applicable	PMBok 5th Edition

3.3 Tools

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. PMBOK Guide 5th Edition). Several tools are mentioned in this project, but only a few will be utilized to include but not limited to meetings, interviews, and observations

Chart 5. Tools (Source: Author)

Objectives	Tools
To develop a Scope Management Plan to define the amount of work planned and achieved,	Expert judgment, meetings, interview, questionnaires, surveys, observations, product analysis, decomposition, group decision-making technique and variance analysis.
To develop a Time Management Plan to manage a timely completion of the project.	Precedence diagramming method, leads and lags, critical path method, critical chain method, and scheduling tool.

To develop a Cost Management Plan to ensure that the project stays within budget.	Analytical technique, analogous estimating, parametric estimating, bottom-up estimating, three point estimating, cost of quality, vendor bid analysis, cost aggregation, funding limit reconciliation, earned value management, and forecasting.
To develop a Quality Management Plan to ensure the output meets the quality requirements.	Seven basic quality tools, design of experiments, quality auditing, process analysis, inspection and approved change request reviews.
To develop a Human Resources Management Plan to ensure that the team has the required skills.	Organization chart and position description, organizational theory, pre-assignments, negotiation, virtual team, interpersonal skills, training, team building activities, ground rules, recognition and awards, and personnel assessment tool.
To develop a Communication Management Plan to ensure the dissemination of information to all stakeholders.	Communication technology, meetings, information management system, and communication methods.
To develop a Risk Management Plan to ensure identification, risks analyze and control the risk.	Analytical technique, SWOT analysis, assumption analysis, documentation reviews, risk probability and impact assessment, probability and impact matrix, quantitative risk analysis, contingency response strategies, risk reassessment and audits.
To develop a Procurement Management Plan to ensure that what should be procured includes selecting vendors and administering contracts.	Make or buy analysis, market research, bidder conference, proposal evaluation techniques, advertisement, independent estimates, procurement negotiations, payment systems, claim administration, and

	procurement audit.
To develop a Stakeholders Management Plan to ensure that all stakeholders identified are involved in the project.	Stakeholders analysis, expert judgment, interpersonal skills, and management skills.

3.4 Assumptions and constraints

Assumptions and constraints are an important-part of the project's life cycle, and plays a distinct role in the planning process. As a project manager, it is imperative to keep an eye on the project's assumptions and constraints, which can be identified and documented throughout the project's life cycle.

Assumptions

Assumptions are based on knowledge, experience and/or information readily available. They are anticipated events that are likely to take place. Additionally, it is a factor in the planning process considered true, real, or certain, without proof, or demonstration. (PMBOK guide 5th Edition). Some of the assumptions perceived are:

a) It is assumed that the timeframe to complete the assignment will be sufficient.
b) It is assumed that the information to complete the FGP will be readily available.
c) It is assumed that important stakeholders will play their roles.

Constraints

Constraint is a limiting factor that affects the execution of a project, program, portfolio or process. (PMBOK Guide 5th Edition). Some of the constraints perceived are:

a) The limited resources to complete the development process for the FGP.
b) Time can increased if necessary resources are unavailable.

Chart 6. Assumptions and Constraints (Source: Author)

Objectives	Assumptions	Constraints
To develop a Scope Management Plan to define that amount of work planned achieved.	It is assumed that the scope of work planned will be achieved.	Changes in the scope management plan can affect the outcome.
To develop a Time Management Plan to manage a timely completion of the project.	It is assumed that the project will be completed within the time planned.	A delay in materials can affect the time plan for completion.
To develop a Cost Management Plan to ensure that the project stays within budget.	It is assumed that the project will be completed within allotted budget.	Lack of proper management can affect the project and create cost overruns.
To develop a Quality Management Plan to ensure the output meet the quality requirements.	It is assumed that the quality management plan will meet the quality requirements planned for.	Changes during the monitoring and controlling phase can affect the quality outcome.
To develop a Human Resources Management Plan to ensure that the team has the required skills.	It is assumed that the human resource management plan will produced the required team for the project.	Lack of advertisement for certain positions can affect the quality of persons applying for the position.
To develop a Communication	It is assumed that the communication management plan	The information management

Objectives	Assumptions	Constraints
Management Plan to ensure the dissemination of information to all stakeholders.	developed will improve relationship among stakeholders.	system is outdated and will impact the communication channel.
To develop a Risk Management Plan to ensure identification, analyze and control the risk.	It is assumed that the risk management plan developed will play a significant role in identifying potential risks.	Resources are limited, and this hampers the ability to purchase certain equipment.
To develop a Procurement Management Plan to ensure what should be procure to include selecting vendors and administering contracts.	It is assumed that the EIA assessment will impact the outcome of the development phase.	All potential contractors to bid for the project strike one hour before the bidding start.
To develop a Stakeholders Management Plan to ensure that all stakeholders identified are involve in the project.	It is assumed that the stakeholders involved with the project will be satisfied at the end of completion.	The main sponsor pulls the contract for the project.

3.5 Deliverables

‘Any unique and verifiable product, result, or capacity to perform a service that is required to be produced to complete a process, phase or project.’ (PMBOK guide 5th Edition)

In accordance with the Charter, the following deliverables were identified: Project Budget, Project Reviews and Governance Planning. In a continual effort to improve

on the project being investigated, the following chart will provide additional deliverables.

Chart 7. Deliverables (Source: Author)

Objectives	Deliverables
To develop a Scope Management Plan	Scope Management Plan
To develop a Time Management Plan	Time Management Plan
To develop a Cost Management Plan	Cost Management Plan
To develop a Quality Management Plan	Quality Management Plan
To develop a Human Resources Management Plan	Human Resources Management Plan
To develop a Communication Management Plan	Communication Management Plan
To develop a Risk Management Plan	Risk Management Plan
To develop a Procurement Management Plan	Procurement Management Plan
To develop a Stakeholders Management Plan	Stakeholders Management Plan

4 RESULTS

Development is an active progression, and according to PMBOK guide, 5th Edition guidelines, developing a project management plan is the process of defining, preparing and coordinating all subsidiary plans and integrating them into a comprehensive project plan. Figure 4.1 describes the processes that will be used to develop this project management plan for the Government House Restoration.

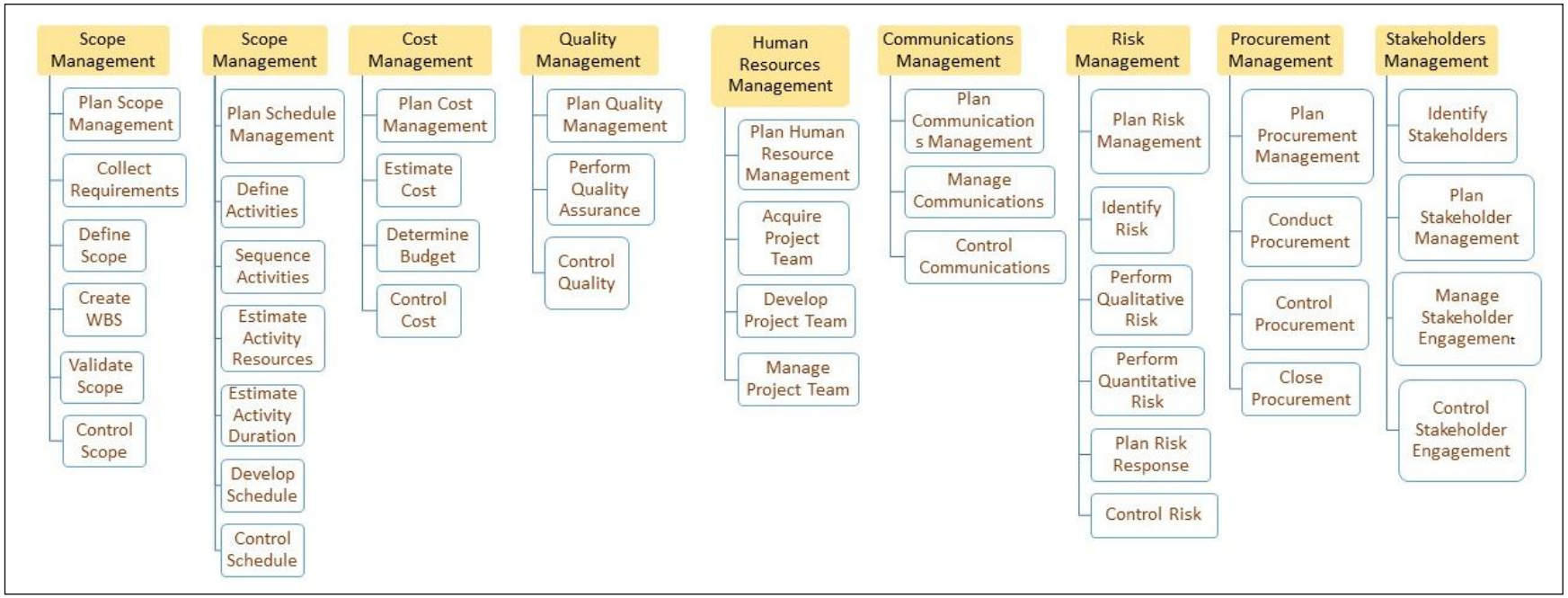


Figure 4.1. Project Management Processes (Source: Author)

The project focuses on developing a project management plan, and while all the knowledge areas will be mentioned, some will not be developed in detail, as part of the planning process for this project.

The Project Manager, Mentrice Arthurton has the overall responsibility and authority for managing and executing this project according to this project plan and its subsidiary management plans. Appendix 4 displays a list of approvals for this assignment.

The task of executing this project (Figure 4.2) is small in magnitude, and the project team will consist of personnel from the Ministry of Communication and the HR of the NHLDC. The project manager will work with all available resources to execute a successful project, to include the builder, the electrical and plumbing engineers, and internal and external stakeholders identified. The Ministry of Communication authorized the commencement of the project. Payment terms and agreement were finalized as a labour contract, and the responsibility for procuring all building material, sourcing vendors and or suppliers were to be absorbed by the Ministry of Communication.

Figure 4.2. Government House, project assignment (Source: Author)

Other project team members identified will track the progress and will be managed by the Project Manager, who will report to the stakeholders on an ongoing basis during the lifecycle of the project. Figure 4.3 illustrates an accountability structure, and Table 4.1 illustrates identified stakeholders.

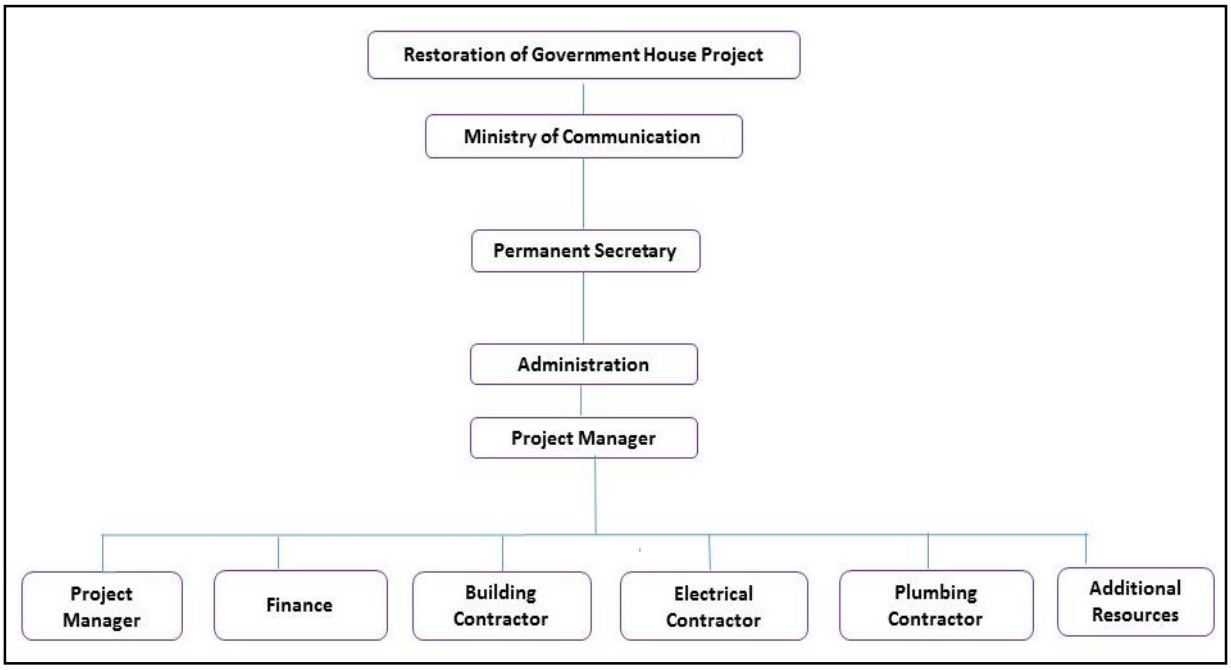


Figure 4.3 Accountability Structure (Source: Author)

Table 4.1. Stakeholders Register (Source: Author)

Stakeholder Name	Description/Position	Role in Project	Phone
Earl Stapleton	Ministry of Communication	Sponsor	469 5521
John Eustace	Deputy Governor General	Main stakeholder	469 5521
Alton Browne	Manager of Company	Builder	469 2125
PECO	Electrical Contractor	Engineers	469 6523
Marcus Warner	Plumbing Contractor	Engineers	469 5521
Mentrice Arthurton	Project Manager	Executing Officer	469 6656
Nevisian Community	n/a	Indirect Stakeholders	n/a
Company Employees	n/a	Indirect Stakeholders	n/a
Harold Banks	External Source	Expert Stakeholder	763 8780
Rene Taylor	External Source	Expert Stakeholder	763 2480
Ramish Sheen	External Source	Expert Stakeholder	763 2015

n/a –not applicable

4.1 Scope Management Plan

The scope management plan includes the processes described in Figure 4.4 that will be essential to ensure the development of all documentation used to complete this project.

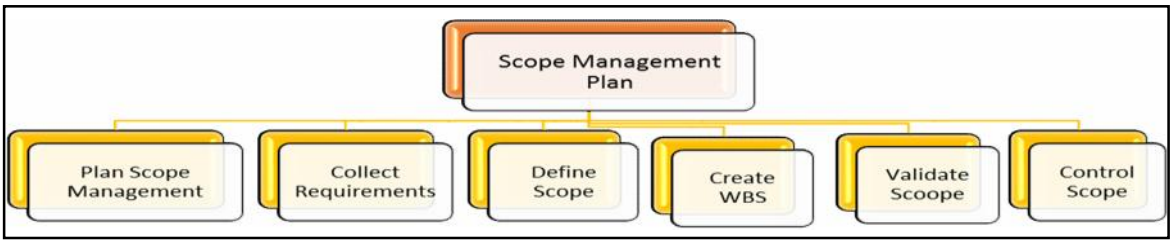


Figure 4.4 Scope Management Plan processes (Source: Author)

4.1.1 Plan scope management

The scope of the government house restoration includes the planning, monitoring and controlling of the construction process. The restoration work will meet the expectations of organizational standards. The management plan will be defined using a scope statement, a requirement traceability matrix and a WBS. Meetings, expert judgment and observation will be the major tools utilized.

The Project Manager and key stakeholders will define the scope baseline and develop a project charter to provide a clear start and well-defined project boundaries. The scope of the project also includes the enterprise environmental factors and the organizational process assets. The Chart 8 depicts the project charter in details.

Chart 8. Project Charter, GH Restoration (Source: Author)

Date	**Project Name:**
August 2016	Project Management Plan for the Government House Restoration
Knowledge Areas / Processes	**Applicacion Area (Sector / Activity)**
Knowledge areas: Scope, Cost, Time, Quality, Human Resource, Communiations, Risk, Procurement, and Stakeholders **Process groups:** Intiating, Planning,	Construction

Controlling and Monitoring	
Start date	**Finish date**
August 2016	April 2017

Project Objectives (general and specific)

General objective:
To develop a Project Management Plan framed within the PMI standards for the Government House Restoration Project.

Specific objectives:

1 To develp a scope management plan to ensure that the entire restoration work is achieved with minimal changes and in accordance with the approved plans.
2 To develop a cost management plan to ensure the process of completing the budget is within range of the allocated funds for the project.
3 To develop a quality mangement plan to ensure that the process of providing quality assurance and quality control is achieved.
4 To create a human resource management plan to ensure that proper guidelines are in place to meet the required skills and qualifications of the project team.
5 To define a communication management plan to ensure that information is exchanged through the use of mutually-understood guidelines.
6 To create a risk management plan to minimize the probability and consequences of adverse events.
7 To create a time management plan to ensure the process of completing the project is executed within a specific timeframe.
8 To develop a procurement management plan within this process is of due diligence; due to the fact that this phase of the project was completed some years ago.
9 To develop a stakeholder management plan to ensure that the project activities engage the stakeholders and to make the most effective use of their participation.

Project purpose or justification (merit and expected results)

The purpose is to complete a Final Graduation Project as part of the process for the requirements of students pursuing studies with the UCI in the Master's In Project Management Program.

Prior to this step, a graduation seminar project was conducted and the opportunity was provided to choose a graduation project topic. This topic was chosen simply because, as an employee of the Nevis Island Government, sole sponsor of the project, access to the property was readily available. Additionally, the author's view that putting a project management plan together for this work would assist the government to implement and or develop a project management office which purports to be integrally embedded within the structure of the Ministry of Communication.

The structure is a historical landmark as well as a national asset, thus giving credence to plans that it be restored. It once housed the Deputy Governor General office and staff, along with a guard house/security detail. Once completed, it is expected that the Deputy Governor General and his staff will re-occupy the asthetically pleasing compound; and in addition, the ground, which was once used for official engagements and other community events, will be used again.

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

Project final deliverables include:

A document with the proposed knowledge areas being develop into a management plan according to the established guidelines within the PMI Standards;

A document will be developed and will be aceeptable according to the quality standard of the university.

Assumptions

- It is assumed that the timber price does not significantly increase;
- It is assumed that the project will be completed within the time frame (8 months);
- It is assumed that the weather during the preparatory phase remains within normal seasonal parameters;
- It is assumed that the delivery of materials will be on time.

Constraints

1. The inadequate labour force to install the restoration work;
2. Inadequate management team to execute the project;
3. The timeframe in which decisions are made;
4. The chain of command for the project is unclear.

Preliminary risks

The project is a conservation and or restoration project, highly prone to experience risks. These include:

- Cost overruns;
- Delay in the delivery of furniture and fittings;
- Hazardous risks during the preparation phase.

Budget

Estimated Eastern Caribbean Currency of $1.5million.

Milestones and dates

Milestone	Start date	End date
Creation of a project management plan	August 2016	January 2017
Restoration to main building	August 2016	April 2017
Restore external structure	November 2016	January 2017
Remove/replace internal structure	September 2016	November 2016
Restore in accordance with architectural designs	September 2016	March 2016
Replace electrical/plumbing	October 2016	January 2017
Environment/Removal of spoils	February 2017	March 2017

Enterprise Environmental Factors

The Enterprise Environmental factors, an input into the scope management plan, refer to conditions, not under the control of the project team that can influence, constrain, or direct the project. These include but are not limited to:

- Organizational culture, structural and governance,
- Stakeholder risk tolerance,
- Personnel administration,

- Organization established communications channel,
- Government standards, (product quality and regulations)
- Existing human resources, (legal contracting and purchasing)
- Political climate, and
- Project management information system (automated tool to include a scheduling software tool and information collection and distributing system).

Organizational Process Assets

The Organizational process assets are the plans processes, policies, procedures and knowledge specific to and used by the performing organization. These assets can influence the develop project charter process. Our history has helped us to execute similar projects. These assets include but are not limited to:

- Organizational standard processes, policies and process definition,
- Templates, (project charter)
- Historical information and lessons learned knowledge base.

4.1.2 Collect Requirements

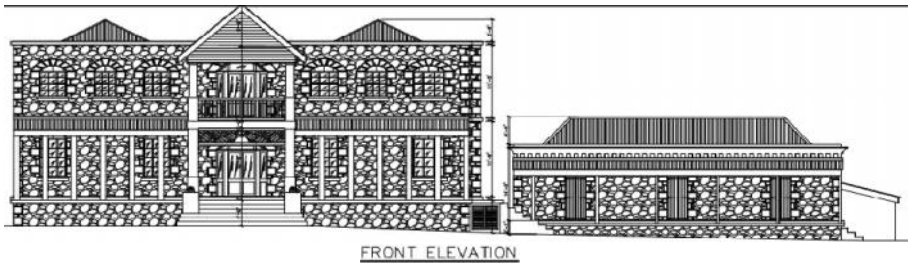
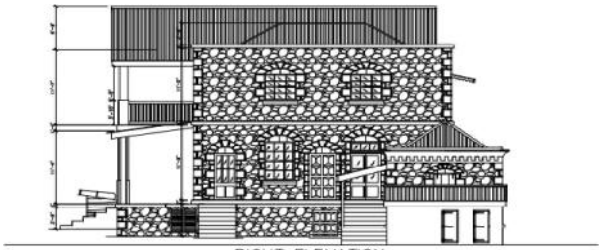
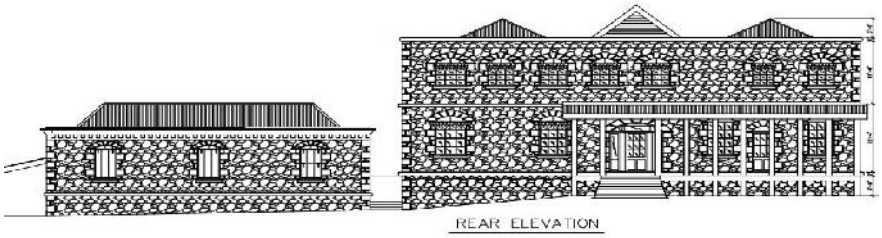
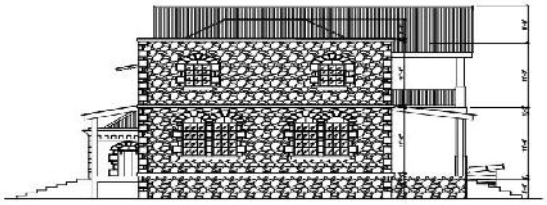
Collect requirements is the process that provides the basis for managing the stakeholders need requirements to meet the objectives. The output is the Requirement Traceability Matrix as illustrated in Table 4.2, and is a grid that links project requirements to its origin. It will be fashioned to identify the processes involved.

Table 4.2. Illustrates a requirement traceability matrix (Source: Author)

Associate ID	Requirements	Business Needs			Organization		WBS Deliverables	Contracts		Priority		
		Opportunity	Goals	Objectives	Internal	External		Yes	No	Low	Med	High
1	Restore External Structure			X		X		X				X
1.1	Power Wash		X				1.1.1 to 1.1.3					
1.2	Restore exterior masonry work		X				1.2.1 to 1.2.3					
1.3	Rebuild front and back verandas		X				1.3.1 to 1.3.3					
2	Remove/replace internal structure			X		X		X				
2.1	Remove vaulted entry slab		X				2.1.1 to 2.1.3					
2.2	Restore Floor upper and ground		X				2.2.1 to 2.2.6					
2.3	Restore Interior Walls		X				2.3.1 to2.3.4					
3	Architectural Structure			X	X				X			X
3.1	Replicate Framing		X				3.1.1 to 3.1.3					
3.2	Replicate Flooring		X				3.2.1 to 3.2.3					
3.3	Remove and Replace vaulted ceiling		X				3.3.1 to 3.3.3					
4	Electrical Mechanic			X		X		X				X
4.1	Electrical wiring		X				4.1.1 to 4.1.3					
4.2	Plumbing inside		X				4.2.1 to 4.2.3					
4.3	Plumbing outside		X				4.3.1 to 4.3.4					
5	Environment			X		X		X				X
5.1	Remove all spoils		X				5.1.1 to 5.1.3					
5.2	Landscaping		X				5.2.1 to 5.2.4					

4.1.3 Define Scope

The scope of the GH restoration project is defined by the processes use to describe the product, service or the result boundaries. This is created by developing a detailed scope statement, as illustrated in Table 4.3.

Project Scope Statement	
Project Scope Description	To restore, renovate and construct the historic government house within 8 months at a cost not exceeding $1.5 million (EC Currency)
Acceptance criteria	The building be restore according to approve plans. Drawings execute in accordance with approved plans and building codes.
Deliverables	 FRONT ELEVATION  RIGHT ELEVATION  REAR ELEVATION  LEFT ELEVATION • Restored external structure with exterior masonry stonewall • Remove/replace internal structure • The architectural structure as approved • The electrical mechanic according to plans • A refurbished and or rebuilt guard house
Exclusion	Landscaping is the responsibility of sponsor Air condition is not included Furniture is the responsibility of sponsor
Technical	Install 4” X 10” greenheart girder in walls supporting existing steel bean.

Requirements	Remove and replace exterior with ASTM type N mortar. Install new steel plates and new corrugated metal forms. Laying of tiles 14” X 14” in vaulted ceiling. Laying of tiles 16” X 16” and grout in the kitchen. Install 24” X 24” engraved tin ceiling tiles
Constraints	Natural weather – hurricane season (June – November annually) Shipment of material delayed Availability of funding Hazardous risk and man-made disaster Site work limited - Mondays through Fridays
Assumptions	The construction will be completed within 8 months The contractors and subcontractors will deliver the requirements according to architectural plans The project will be completed within budget

Table 4.3. Project Scope Statement, GH Restoration Project (Source: Author)

4.1.4 Create WBS

Creating a WBS provides the project with a structured vision of what will be delivered. This WBS comprises of a level-4 structure producing 100 work packages decomposed from 15 activities. It also includes the project final deliverables listed in the project charter and illustrated in details in the structure, Figure 4.5.

WBS Dictionary

WBS dictionary is another document that will provide a description of the work carried out for each WBS work package and will help to ensure that the resulting work accommodates the project requirements and objectives. This dictionary will also be used as a tool in preventing scope creep while establishing project boundaries for what will be included in the work package.

4.1.5 Validate scope

Validating the scope of the project is the process where in the formal acceptance of the deliverables take effect and the project is monitored. The project manager will convene a meeting with all team members and discuss the outcome of the project before handing over to the key stakeholders. If any changes are deemed necessary, the project team members will correct those changes. Having completed that task, the project manager makes contact with the relevant stakeholders to hand over the facility, during which an inspection be conducted. If

there is need for changes after the inspection, the project manager will comply. Once accepted, a formal acceptance takes place, and subsequently, approval is procured.

4.1.6 Control Scope

Control scope of the project allows the scope baseline to be maintained throughout the lifecycle of the project. The project manager will provide a template on a weekly basis to be complete in accordance with the completed areas and or tasks. This keeps track of the progress of the project and also keeps the relevant stakeholders informed of the project. The template includes but is not limited to:

a) Work performance
b) Change requests
c) Project management plan updates
d) Project documents updates
e) Organizational process assets updates

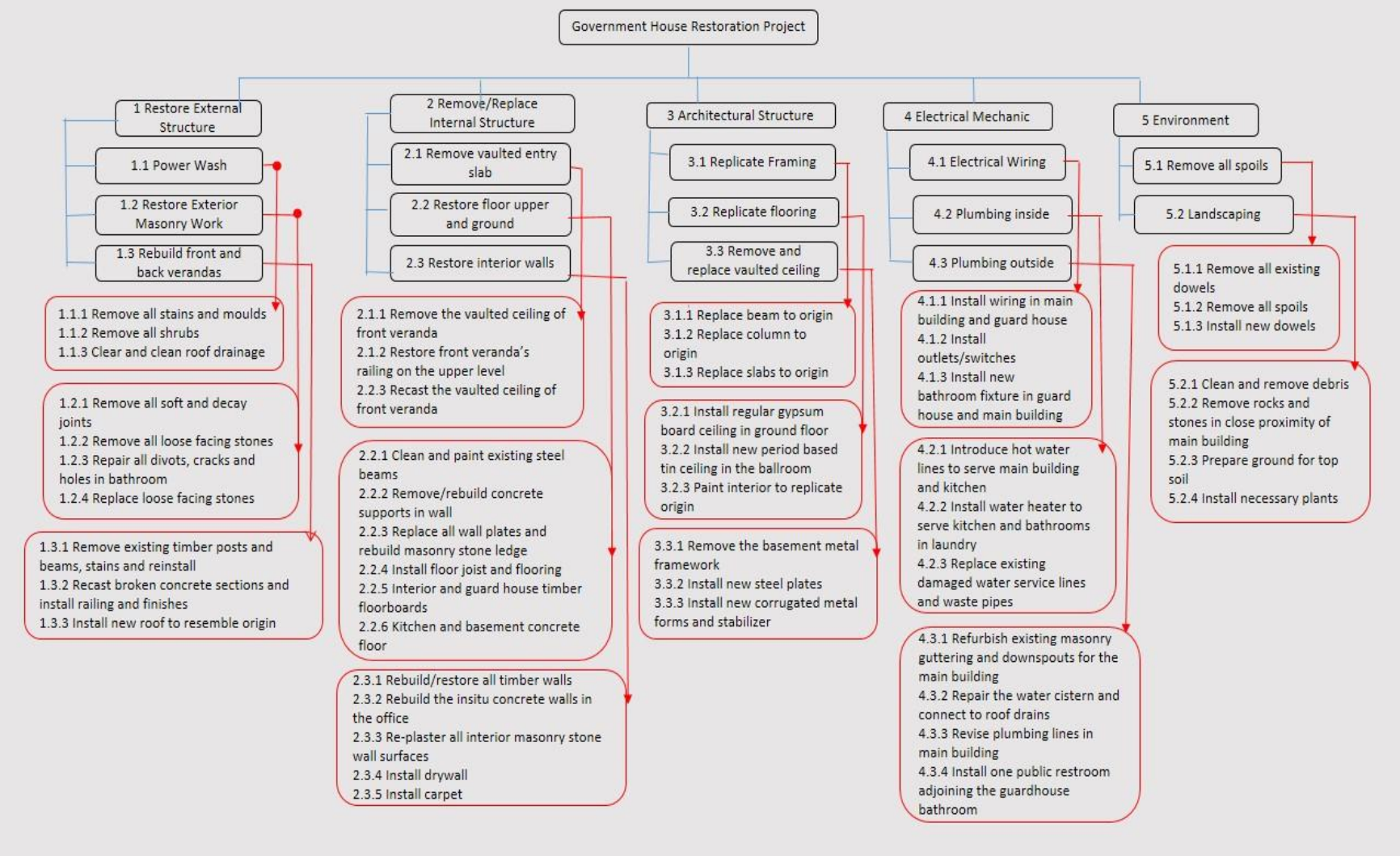


Figure 4.5. WBS for GH Restoration Project (Source: Author)

4.2 Time Management Plan

Time management plan involves seven processes as shown in Figure 4.6 that will aid in creating a management plan for timely completion of the GH project.

Figure 4.6. Time Management Processes (Source: Author)

4.2.1 Plan schedule management

Plan schedule management for this project will be created using MS Project 2013 software. It will be utilized in areas such as activity duration estimations. It will start with the deliverables identified in the project's WBS. Activity sequencing will determine the order of work to be accomplished and will estimate the resources that will identify the assigned packages to develop the schedule, and the start and finish dates of the project. This plan may also detail ways to fast track or crash the project schedule, should any changes occurred.

4.2.2 Define activities

Define activities is the process used to verify the specific actions that will be performed to produce the project deliverables. This process will involve work packages broken down into smaller components that will be manageable to execute and be kept track of. These smaller components detailed in Annex 1 and the resulting activities and milestones, are included.

Figure 4.7 demonstrates an example of one of the deliverable work packages for the restoration work. This defines the given components for a specific task.

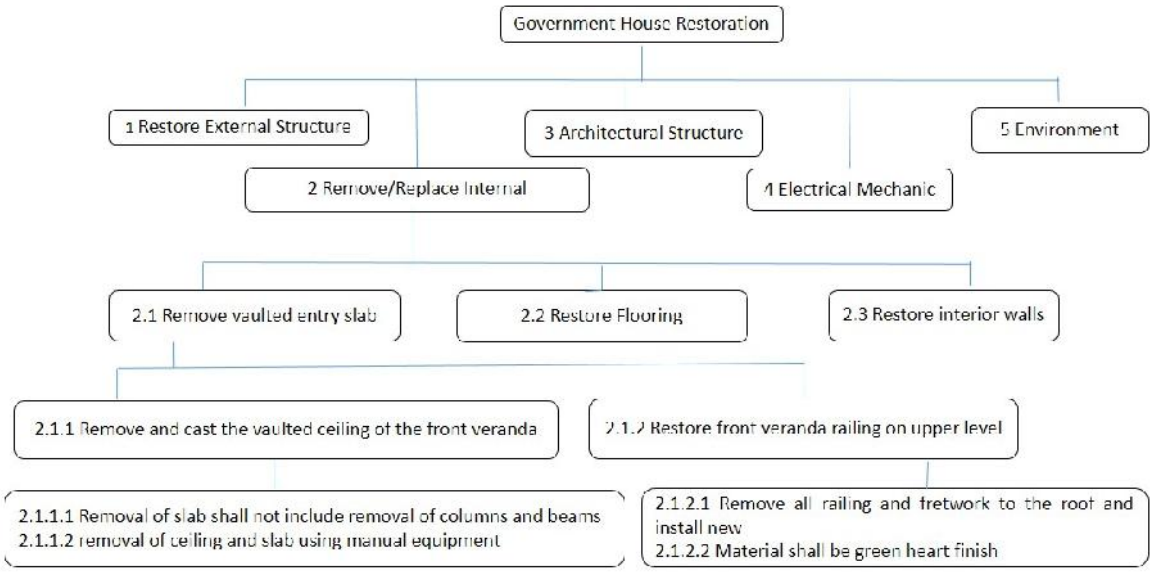


Figure 4.7. Sample WBS decomposed structure (Source: Author)

The above WBS is illustrative only, and does not imply that this is the only way to organize a WBS on this type of project.

4.2.3 Sequence activities

Sequence activities is the process that will define the logical sequence of work to obtain the greatest efficiency. This sequence of activities is defined in the work breakdown structure and seen in the project schedule.

One of the tools and techniques use in developing such results is the precedence diagramming method, as described below and depicted in Figure 4.8.

Finish to start (FS) – Successor activity cannot start until a predecessor activity has finished. (Removal work must be completed before the restoration work begins)
Finish to Finish (FF) – Successor activity cannot finish until a predecessor activity has finished. (Restoration work cannot finish before the removal work finish).
Start to Start (SS) – Successor activity cannot start until a predecessor activity has started. (Restoration work cannot start until the removal work starts).

Start to finish (SF) – Successor activity cannot finish until a predecessor activity has started. (Restoration work cannot finish until the removal work start).

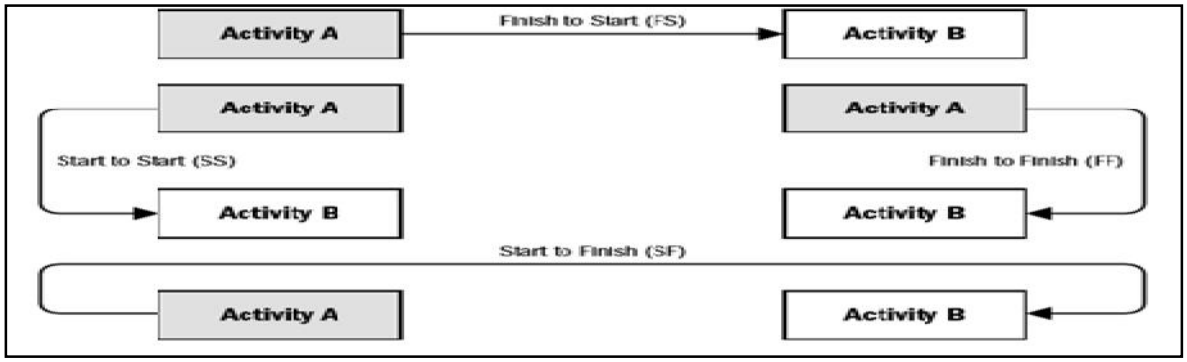


Figure 4.8. Precedence Diagramming Method (Source: PMBOK 5th Edition)

4.2.3 Estimate activities resources

Estimate activity resources is the process that is used to identify the type, quantity, and characteristics of resources required. Table 4.4 illustrates the type of resources and requirements needed for the project.

Table 4.4. Example of resources/requirements (Source: Author)

Type of Resource	Requirement
Human	Skilled workers/labourers, payment per work package
Software	Program used in architectural drawing, MS Project 2013
Transportation	Transportation for delivering material and supplies
Materials and Supplies	Cement, timber, pipes, electrical wires, fittings
Equipment	Power tools, cement mixer, rule, hammer

The resource breakdown structure is a hierarchical representation of resources by category and type to include labour, material, equipment and supplies. Figure 4.9 illustrates a Resource Breakdown Structure.

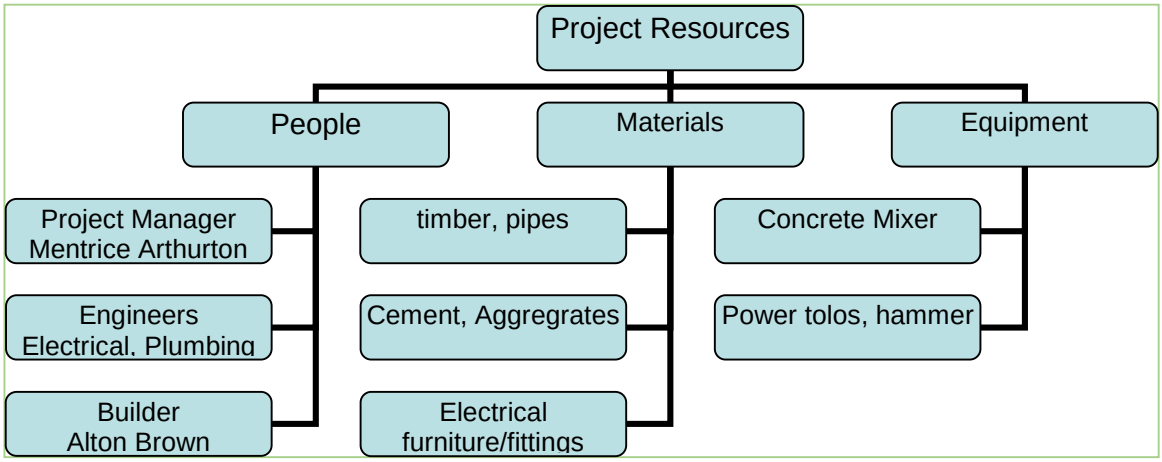


Figure 4.9. Resource Breakdown Structure (Source: Author)

4.2.5 Estimate Activity Durations

Estimate activity durations is the process that is used to estimate the number of work periods needed to complete individual activities with estimated resources. This process will be calculated based on work effort per hour and activity duration per day.

Table 4.5. List of activities for the duration of the project (Source: Author)

ID	Associate ID	Activities	Estimate Duration (days)
1	1	Restore External Structure	
2	1.1	Power Wash	
3	1.1.1	Remove all stains and moulds	1
4	1.1.2	Remove all shrubs	1
5	1.1.3	Clear and clean roof drainage	1
6	1.2	Restore exterior masonry work	
7	1.2.1	Remove all soft and decay joints	14
8	1.2.2	Remove/replace all loose facing stones	28
9	1.2.3	Repair all divots, cracks and holes in bathroom	21
10	1.3	Rebuild front and back verandas	
11	1.3.1	Remove existing timber posts and beams, stains and reinstall	7
12	1.3.2	Recast broken concrete sections and install railing and finishes	21
13	1.3.3	Install new roof to resemble the origin	42

14	2	Remove/replace internal structure	
15	2.1	Remove vaulted entry slab	
16	2.1.1	Remove the vaulted ceiling of front veranda	14
17	2.1.2	Restore front veranda	21
18	2.1.3	Recast the vaulted ceiling of front veranda	21
19	2.2	Restore Floor upper and ground	
20	2.2.1	Clean and paint existing steel beam	14
21	2.2.2	Remove/rebuild concrete supports in wall	2
22	2.2.3	Replace all wall plates and rebuild masonry stone ledge	2
23	2.2.4	Install floor joist and flooring	35
24	2.2.5	Interior and guard house timber floorboards	14
25	2.2.6	Kitchen and basement concrete floor	21
26	2.3	Restore Interior Walls	
27	2.3.1	Rebuild/restore all timber walls	35
28	2.3.2	Rebuild the insitu concrete walls in the office	21
29	2.3.4	Re-plaster all interior masonry stone wall surfaces	14
30	2.3.5	Install dry wall and carpet	7
31	3	Architectural Structure	
32	3.1	Replicate Framing	
33	3.1.1	Replace beam to origin	7
34	3.1.2	Replace column to origin	10
35	3.1.3	Replace slab to origin	14
36	3.2	Replicate Flooring	
37	3.2.1	Install regular gypsum board ceiling in ground floor	35
38	3.2.2	Install new period based tin ceiling in the ballroom	21
39	3.2.3	Paint interior to replicate origin	35
40	3.3	Remove and Replace vaulted ceiling	
41	3.3.1	Remove the basement metal framework	14
42	3.3.2	Install new steel plates	14
43	3.3.3	Install new corrugated metal forms and stabilizer	7
44	4	Electrical Mechanic	
45	4.1	Electrical wiring	
46	4.1.1	Install wiring in main building and guard house	7
47	4.1.2	Install outlets/switches	7
48	4.1.3	Installing new bathroom fixture in guard house and main building	14
49	4.2	Plumbing inside	
50	4.2.1	Introduce hot water lines to service main building and kitchen	7
51	4.2.2	Install water heater to serve kitchen, bathrooms and laundry	2

52	4.2.3	Replace existing damage water service lines and waste pipes	7
53	4.3	Plumbing outside	
54	4.3.1	Refurbish existing masonry guttering and downspouts for the main building	7
55	4.3.2	Repair the water cistern and connect to roof drains	7
56	4.3.3	Revise plumbing lines in main building	7
57	4.3.4	Install one public restroom adjoining the guardhouse bathroom	14
58	5	Environment	
59	5.1	Remove all spoils	
60	5.1.1	Remove all existing dowels	7
61	5.1.2	Remove all spoils	14
62	5.1.3	Install new dowels	14
63	5.2	Landscaping	
64	5.2.1	Clean and remove debris	7
65	5.2.2	Remove rocks and stones in close proximity to main building	2
66	5.2.3	Prepare ground for top soil	2
67	5.2.4	Install necessary plants	7

4.2.6 Develop Schedule

Develop schedule is the process that is utilized in analyzing the activity sequences, durations, resource requirements and schedule constraints to create the project schedule model. This process will show the start and finish dates and other components of the schedule, where the project manager will be responsible of assigning a specific task to the project team member. A sample for this schedule is appended to the FGP Schedule on page 92.

4.2.7 Control Schedule

Control schedule is the last process of the Project Time Management. It monitors the status of project activities to update project progress, and manage changes to the schedule baseline to achieve the plan.

A template will be provided to explain how the schedule will be updated, what information is required to be updated, and at the rate at which the template will be

updated. An area will be available to report on the process in case of changes, and to the extent that the delay will affect the completion date. Additional information to be gathered from the project team member includes the proposed timing to get back on schedule as well as what is required to avoid future delays.

4.3 Cost Management Plan

Cost Management Planning is the process concerned with the cost of resources needed to complete the project activities. Figure 4.10 defines the processes involved in how the cost will be managed throughout the project life cycle.

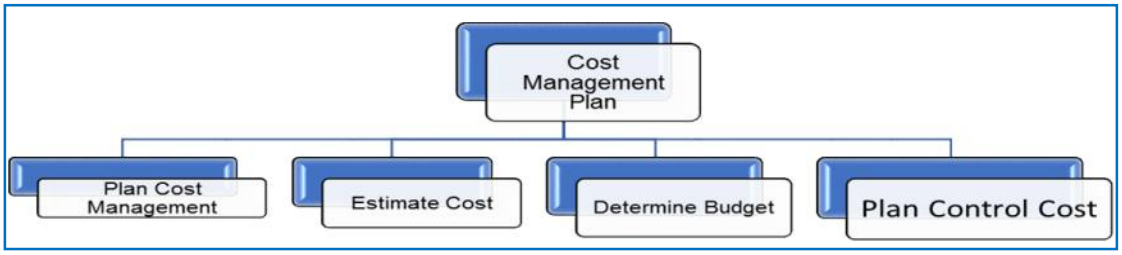


Figure 4.10. Cost Management Plan processes (Source: Author)

4.3.1 Plan cost management

Plan cost management is the process that will be used to plan, estimate, and control the costs in order that the project can be executed within the budgeted figure.

For this project, the project manager will be responsible for managing and reporting on the project cost throughout the duration of the project. The project manager will present a review of the project cost performance for the period under review at a monthly project status meeting that will be implemented. All budget authority and decisions to include budget changes will be vested in the project sponsor. Figure 4.11, taken from google.com, illustrates a cost management plan data flow.

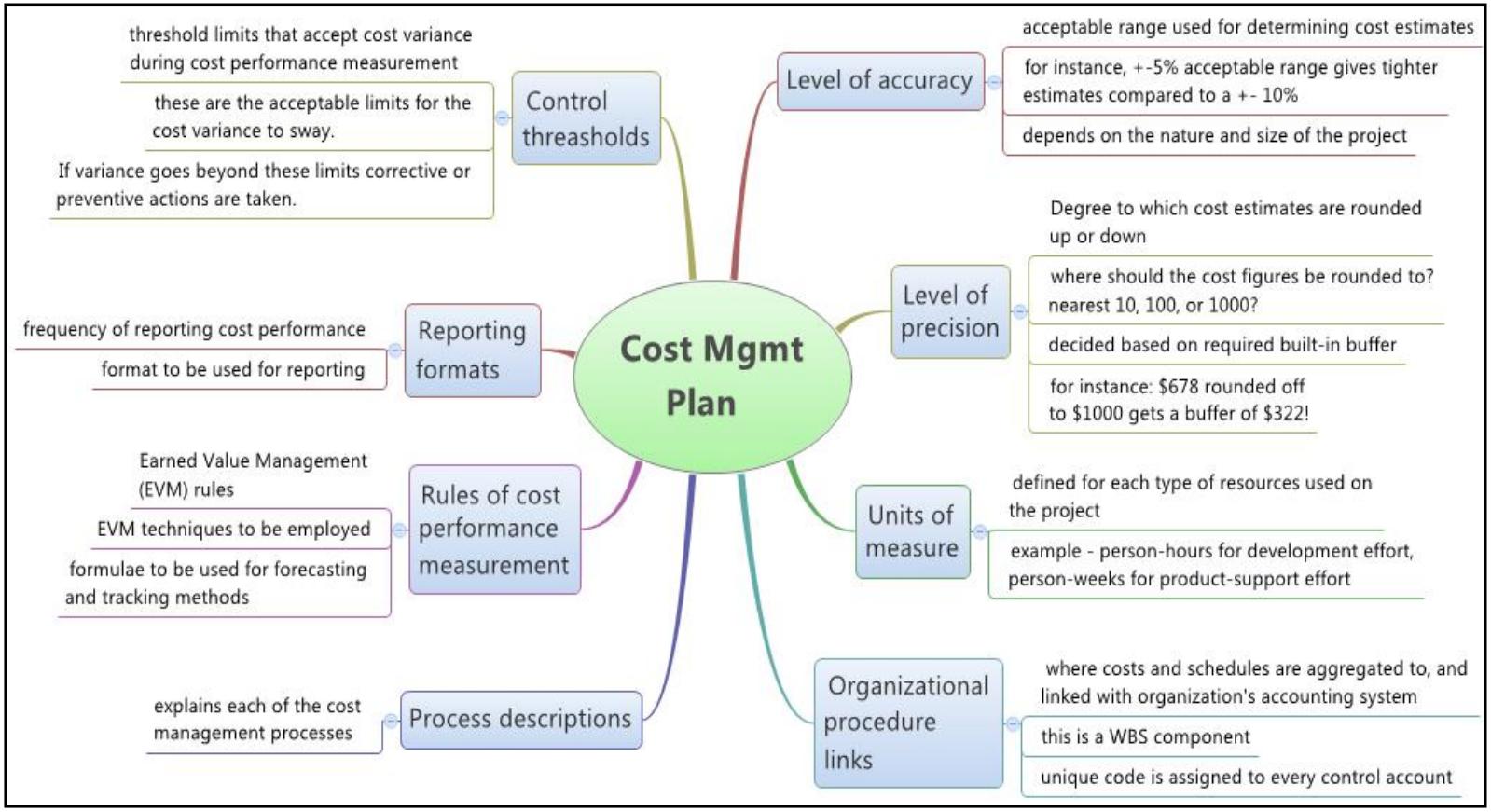


Figure 4.11. Cost Management Plan data flow (Source: Google.com)

4.3.2 Estimate cost

Estimate cost is the process that involves the calculation of the amount of cost required to complete the project work, by estimating the monetary resources needed to complete each one of the project activities. The labour cost calculated for each component, is displayed in Table 4.6.

Table 4. 6. depicts an estimated cost for areas of work (Source: Author)

Areas of Work	Description of Work (Builder)	Labour Cost
Main Building (first floor)	Roof Repairs:	108,970.00
	Windows/Doors	
	Staircase Banisters – Replace with duplicate of existing ones	
	Partition Walls	
	Flooring – install sub floor and flooring	
	Flooring – install sub floor and floor boards	
	Masonry walls – manually remove mortar	
	Paint (prime caulk and paint all roof trusses etc)	
	Bathrooms/all plumbing works including hot water supply	
Main Building (ground floor)	Window/Doors	168,400.00
	Ballroom – Restore structure and flooring Ceiling	
	Front and Back Verandas	
	Foyer	
	Office/Hall way	
	Dining Room	
	Interior walls	
	Remove the vaulted entry slab and replicate	
	Remove/rebuild vaulted ceiling of basement as original	
	Bathroom/toilets	
	Aprons	
	New ceilings	
	Kitchen	
Guard House	Guard House	60,500.00
	Interior walls	
	Plumbing – All outside drainage/trenching	
	Cistern – refurbish cistern	
	Restore all exterior masonry stonewalls	
	Total	371,020.00
Electrical	Description of Work (Electrical)	
	Install step-down transformer/standby	

	generator	138,000.00
	Install service lines, exterior receptacle	
	Install period-based Georgian style fixtures	
	Install new electrical circuits in yard	
	Additional labour cost for work in yard	

4.3.3 Determine budget

Determine budget is the process that is used to aggregate the estimated costs of individual activities or work packages to establish an authorized cost baseline. This process determines the cost baseline against the project performance when monitoring the deliverables during its lifecycle. While the labour cost totaled $470,450.00, and other costs are estimated to include:

Electrical Materials	$335,588.00
Labour cost (electrical)	$180,000.00
Rental of equipment	$ 13,400.00
Out of scope work	$ 14,350.00
Furniture and fittings	$415,063.00
Overhead expenses	$ 71,149.00

4.3.4 Control Cost

Control cost is the process of monitoring the status of the project to update the project costs and managing changes to the cost baseline. One of the outputs of this process is work performance information, which is calculated using various methods. I have decided to use an S-Curve, and according to study.com, “an s-curve is a project management tool that tracks progress over time and allows for a quick visual to determine project status”.

Figure 4.12 displays an S-Curve for labour cost for this project, and “I have decided to use project costs because cost are cumulative over time. As you can see, in the beginning of the project, costs are low. As resources are added and the project is in execution, there is a rise in the cumulative costs. Towards the end of the project, costs tend to level off as spending decreases and resources are released”. (Source: study.com website)

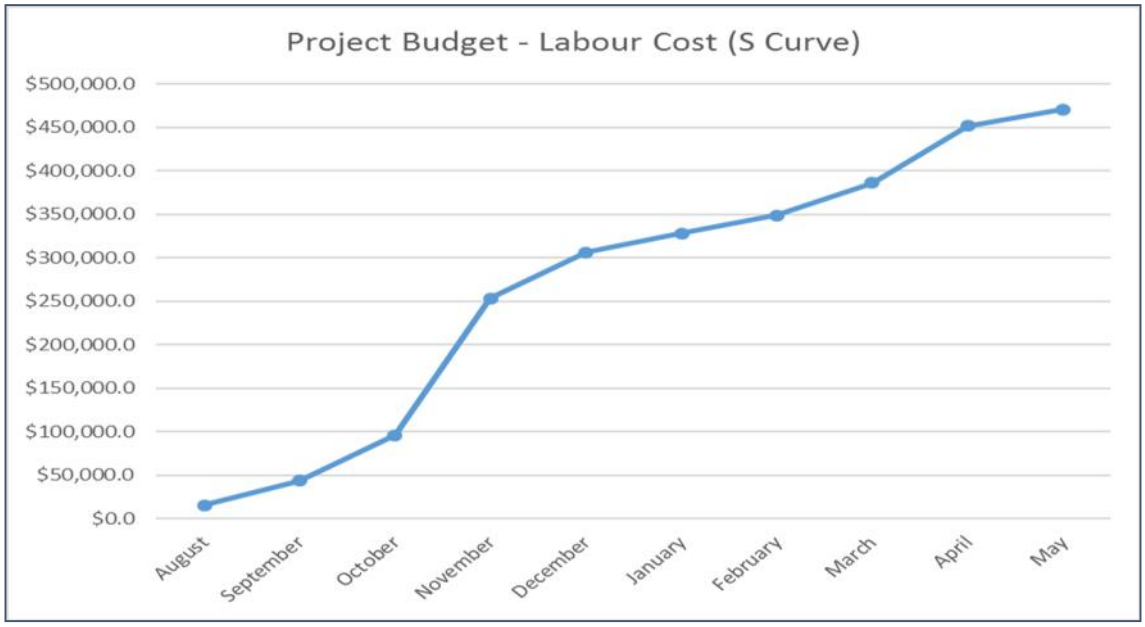


Figure 4.12. S-Curve for labour cost for GH Project (Source: Carlos Brenes)

4.4 Quality Management Plan

Quality management plan includes the processes such as Plan Quality Management, Perform Quality Assurance and Control Quality Plan, that activities that will determine the quality of the policies, objectives and responsibilities to satisfy the needs of the project for which it will be undertaken.

4.4.1 Plan quality management

The plan quality management is the process which establishes the activities, processes and procedures for ensuring a quality product at the conclusion of the restoration phase. The inputs, tools and techniques, and output processes of plan quality management depicted in Figure 4.13, are taken from PMBOK 5th Edition.

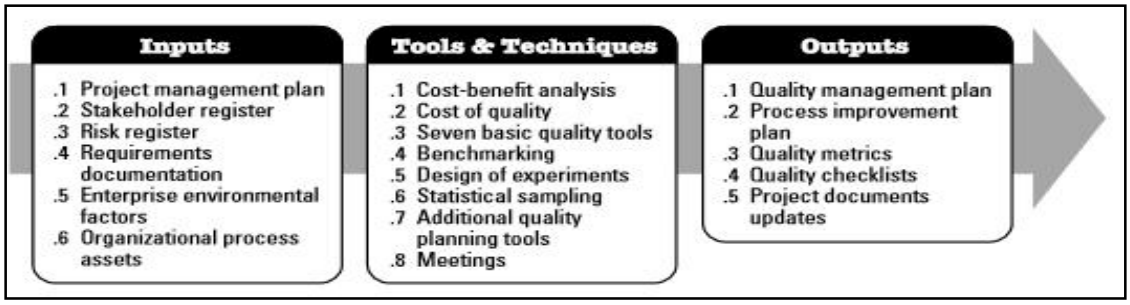


Figure 4.13. Plan quality management inputs,outputs (Source: PMBOK 5th Edition)

Plan quality management also identifies the requirements and or standards for the project deliverables using the schedule baseline and the scope baseline to validate them. A quality checklist will be created as one of the tools and techniques used in performing the results and will be implemented by all personnel involved in the project. A sample of a draft quality checklist taken from google.com, is illustrated in Table 4.7.

Table 4.7 depicts a sample of a quality checklist template (Source: Author)

Quality Management Checklist								
Checklist Number	Date Issue	Issue Number	Review Date	Review Number				
Date & Time:	Project Manager:		Team Member:					
Status: C-conformance NC-nonconformance IO-improvement opportunity NA-not applicable								
No	Observation Point	Document Evidence	Status	Root cause	Corrective Action	Preventive Action	Target Date	Cause No

4.4.2 Perform quality assurance

In performing quality assurance, the process of auditing the quality requirements and the results from quality control measurements will be used to ensure the facilitation of improved quality processes. One of the tools and techniques in developing the assurance is the process analysis, which will examine problems that may develop during the construction phase. Figure 4.14, which is taken from PMBOK 5th Edition, depicts the perform quality assurance data flow during the development of a project management plan.

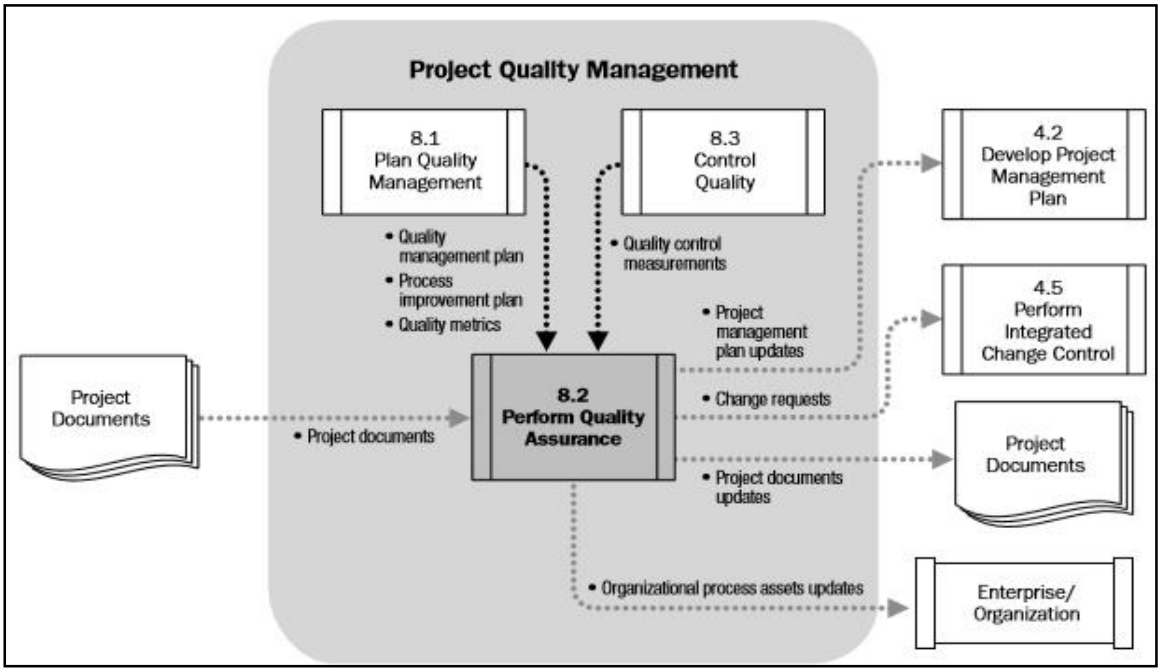


Figure 4.14. Perform quality assurance data flow (Source: PMBOK 5th Edition)

4.4.3 Control Quality Plan

Control quality plan is the process of monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes. Weekly cost performance reports will be issued. Inspection, control checks and scatter plot diagram will be available to analyze schedule performance as well as team members.

This plan will be created by using a template to identify the causes of poor process or product quality and recommending taking action to eliminate them. This plan will be updated from time to time as an ongoing process of the project lifecycle and will be the project manager's responsibility.

4.5 Human Resource Management Plan

The human resource management plan involves several processes, as seen in Figure 4.15, used to organize, manage and lead the project team. The project team will comprise personnel with assigned duties and/or varied skilled sets, and will be added and/or removed from the project team as the project is developed and changes occur.

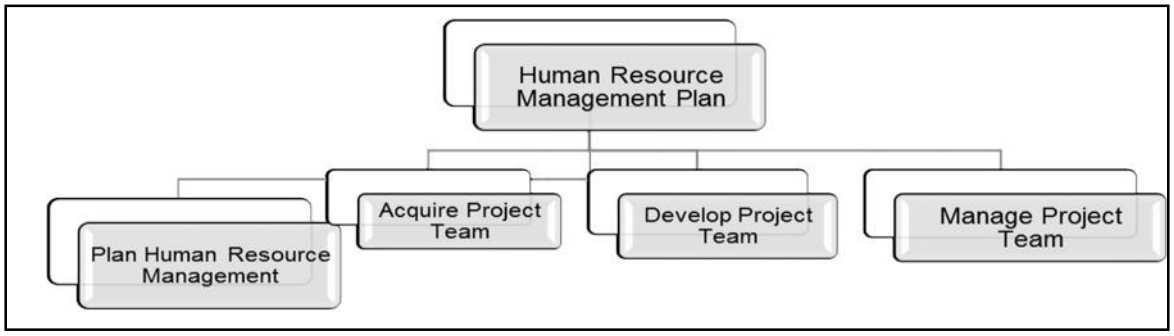


Figure 4.15. Human Resource Management Plan processes (Source: Author)

4.5.1 Plan human resource management

Plan human resource management is the planning stage that is used to establish the project roles and responsibilities, project organization charts and create a staffing management plan.

Networking is a tool which will be utilized during this process, as it is essential to any organization. This will also improve on the day-to-day communication between the project manager and human resource personnel.

4.5.2 Acquire project team

Acquire project team is the process of confirming the human resource availability and obtaining the team necessary to complete project activities. For this assignment, the contractors will be required to advertise, interview and employ the persons with the requisite skills for the job. Chart 9 demonstrates the organizational structure for the restoration process of GH.

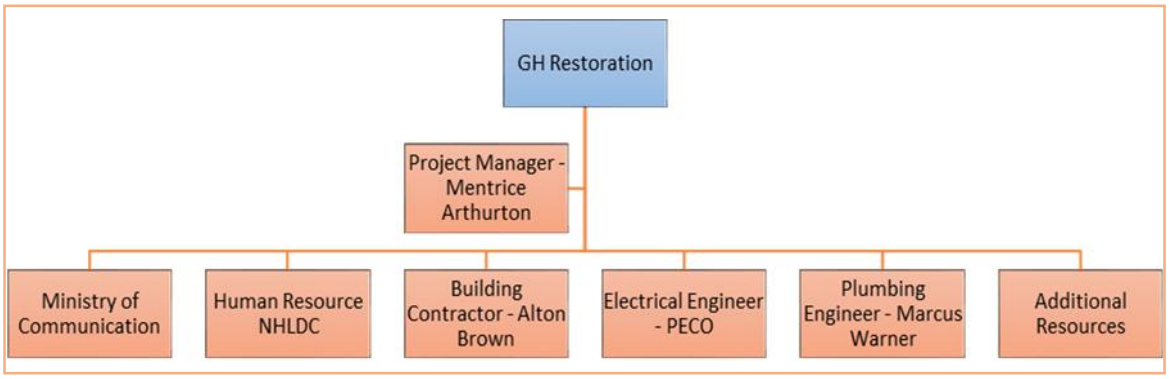


Chart 9. Organizational structure, restoration of GH (Source: Author)

The Human Resource at NHLDC is responsible for disbursement of funds as per a prescribed schedule. An example of a Schedule of Payments that will be considered during the planning stages of this project is as follows:-

a) Mobilization 10%
b) Ground floor works 30%
c) First floor works 25%
d) Guard house work 15%
e) Finishes 15%
f) Retention 5%

As part of the process to acquire a project team, a resource calendar template will be developed once the project is staffed with the appropriate people, and they are assigned to specific tasks. The resource calendar will document the time each project team member is available to work and will include the vacation days, the work hours and local holidays.

4.5.3 Develop Project Team

Developing a project team is the process of improving competencies, team members' interaction, and overall team environment to enhance project performances. For this assignment, developing a project team is not a requisite at this time. However, a responsibility matrix, as shown in Chart 10, illustrating a

RACI Chart for a project, can be used as one of the tools and techniques in the development process.

This chart will show the work to be done in the left column as activities, while the assigned resources can be displayed as individual/person or groups. It also demonstrates which activity is assigned to individuals, to include the project sponsor, the team leader, the project manager, and their priority level.

Chart 10. Sample of Raci Chart for construction project (Source: Author)

RACI CHART			
Activity	Individuals (Authority)		
	Sponsor	Team Leader	Project Manager
Design	R	I	I
Collect requirements	I	A	R
Submit change request	C	R	R
Develop test plan	I	C	I
R= Responsible A= Accountable C= Consult I= Inform			

4.5.4 Manage project team

Manage project team is the process of tracking team member performance, providing feedback, resolving issues, and managing team changes to optimize project performance. The key benefit of this process is that it influences team behaviours and manages conflicts.

While this section of the human resource management plan will not be developed during this assignment, it is vital to note that one of the outputs of managing project team is change request. According to PMBOK 5th Edition, “When staffing issues disrupt the project team from adhering to the project management plan, such as causing the schedule to be extended or the budget to be exceeded, a change request can be processed through the Perform Integrated Change Control process.”

4.6 Communication Management Plan

Communication management plan is the process of developing an appropriate approach and plan for project communications based on stakeholder's needs and requirements, and available assets. It addresses both internal communications among the project team members and external communications with other stakeholders.

This plan will document and organize the various communications needed for this project to provide timely and appropriate collection and dissemination of information. Figure 4.16 illustrates the processes involved in communication management plan.

Figure 4.16. Communication Management Plan processes (Source: Author)

4.6.1 Plan communication management

Plan communications management involves identifying and documenting the approach to communicate effectively and efficiently with stakeholders. The approach involves the following, but are not limited to:

a) Communication Directory – Develop a communication directory as an approach in communicating between team members, stakeholders and project manager.

b) Internal Communications – The project manager will schedule weekly meetings with the project team, coordinating sessions at which issues ranging from work progress and technical problems to administrative question will be addressed. This working session will affect changes to the project scope or schedule, which may arise from time to time.

c) External Communications – The project manager will provide status reports to stakeholders and receive feedback on an ongoing basis. This exchange should be scheduled around prominent milestones or at the completion of major project phases.

Methods to be used to transfer information among project stakeholders for this project include but are not limited to techniques such as brief conversations, meetings and written documents (websites, emails). Table 4.8 illustrates a type of format setting that will be used throughout this project.

Table 4.8. Information communicating format (Source: Author)

No	Communication Type	Owner	Frequency	Agenda
1	Scrum or Daily Meeting	Project Manager	Daily	Update from everyone to include; what was done the day before, what is the plan for the next day, and what are the challenges being faced. Look at what is expected to be accomplished throughout the day
2	Team Meetings (if necessary)	Team Manager	Weekly	Discuss project progress giving upcoming milestones; review the risks and issues logs.
3	Project Status Report	Project Manager	Monthly	Report on key project parameters, schedule, risks, issues and benefits
4	Project update meeting	Sponsor	Weekly	60-minute one-on-one meeting with project sponsor for full update

The communication plan also involves the following approach to be taken during the execution of this project.

(a) Daily schedule distributed via email every Monday morning at 5 a. m.

(b) A notice board will be in place for those who do not have access to emails.

(c) A reminder to check notice board will be done via the intercom twice daily (6 a.m and 12 noon)

(d) Telephone will be used depending on the quality of information to be distributed among the stakeholders.

4.6.2 Managed communication

Managed communication is the process of creating, collecting, distributing, storing, retrieving, and the ultimate disposing of project information in accordance to the communications management plan. The key benefit for this process is that it enables an efficient and effective communications flow between project stakeholders. Figure 4.17, depicts the data flow diagram of the manage communication plan.

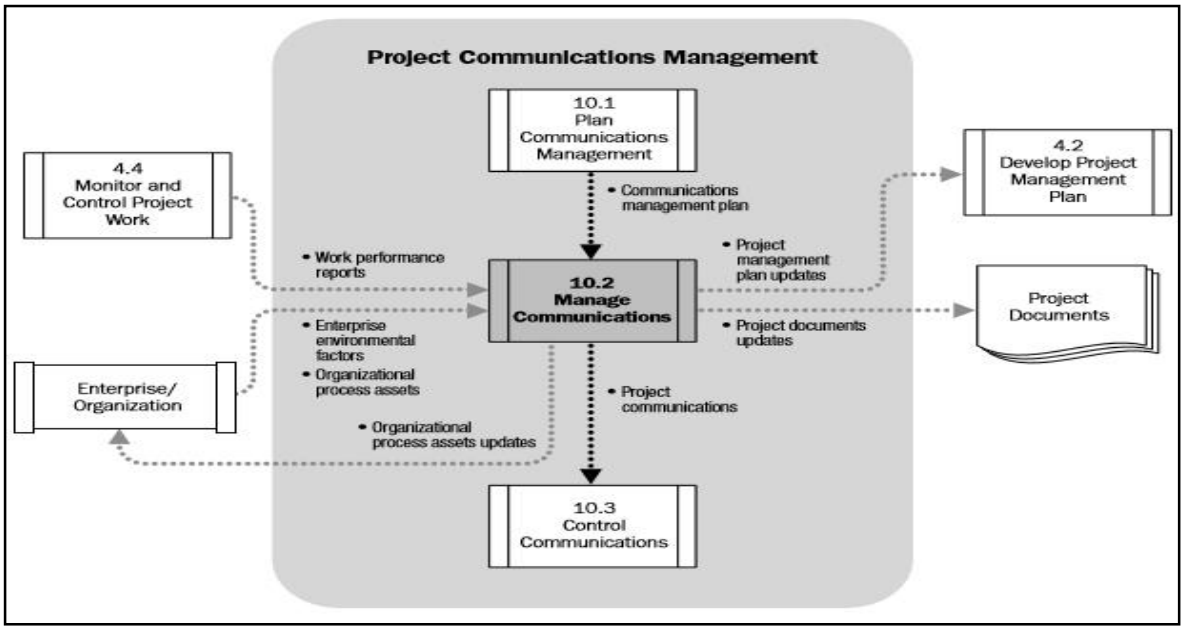


Figure 4.17. Management Communications data flow (Source: PMBOK 5th Edition)

4.6.3 Control Communication

Control communications involves keeping track of progress reports distributed among stakeholders. The following template, Figure 4.18, is a sample of what will be issued to disseminate the information gathered, a sample of what a standard agenda template resembles.

Government House Restoration Project Progress Report for the period ending December 31, 2016___
Table of Content
1. Accomplishment since first meeting: Re-plaster all interior masonry stonewall surfaces.
2. Present state of performance: **Cost**: **Schedule**: **Work scope**:
3. Problems/issues identified:
4. Resolutions of identified problems/issues:
5. Potential problems/issues since last meeting:
6. Plan corrective actions:
7. Milestones expected to be reach during the next reporting period:

Figure 4.18. Project Progress Report template (Source: Author)

Government House Restoration Project
Meetings of project teams – (date)
Agenda

1. Accomplishments since last meeting
2. Cost schedule work scope
3. Risk assessment update
4. Stakeholders issues update

5. Corrective actions if necessary
6. Opportunities for improvement
7. Open discussion
8. Action item assignment
9. Adjournment

4.7 Risk Management Plan

The risk management planning is the process of determining which risks may affect the project, how the project manager should assess and analyze the risks identified, and plan the necessary responses. Figure 4.19 depicts the processes used to develop the project management plan.

Figure 4.19. Risk Management Plan processes (Source: Author)

4.7.1 Plan risk management

In conducting the risk management activity for this project, a risk breakdown structure is developed to assist the project team to look at the many resources that a potential risk may develop. The risk management plan is vital to obtain agreement and support from all stakeholders involved.

A risk breakdown structure is a hierarchical representation of risks according to their risk categories. An example shown in Figure 4.20

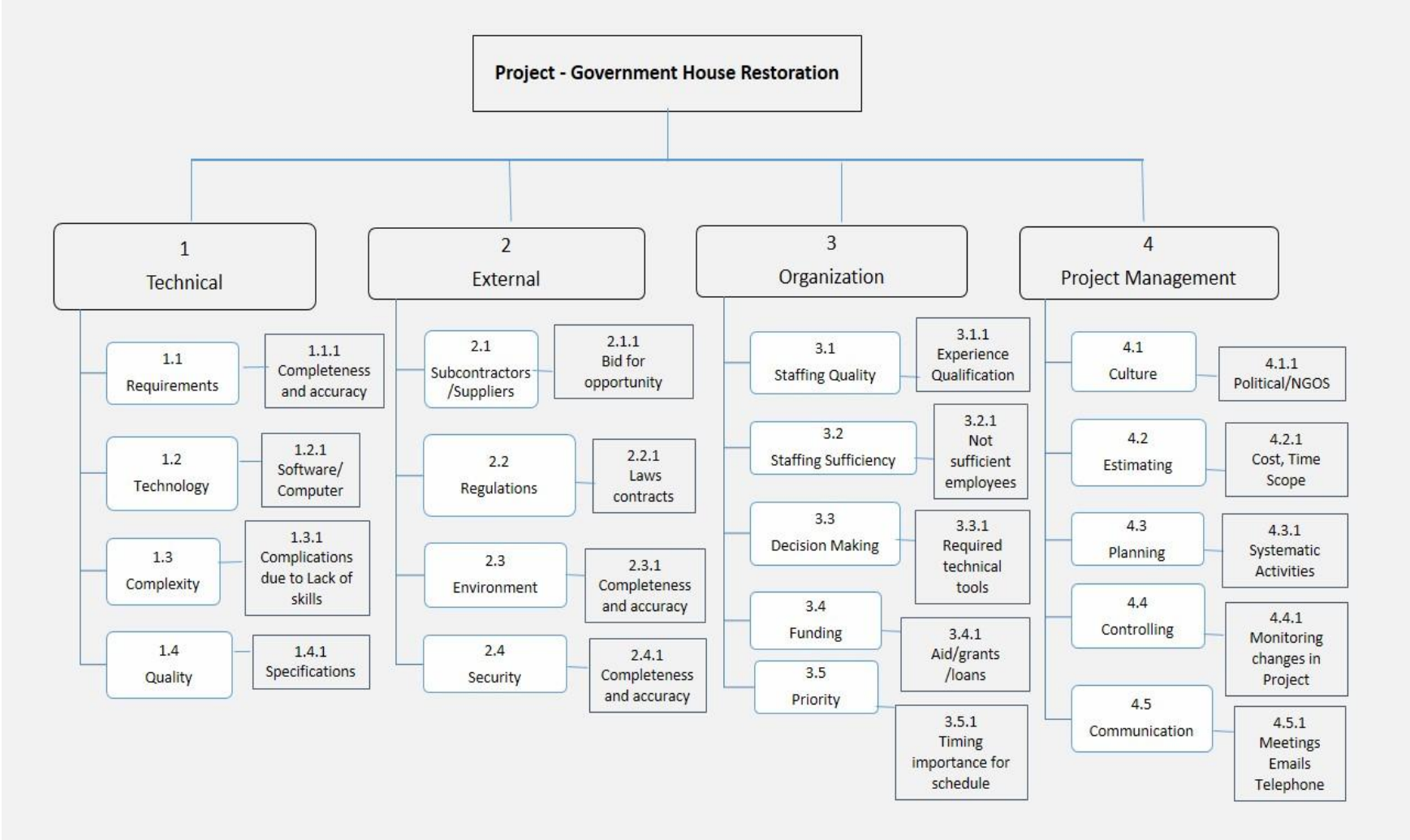


Figure 4.20. Risk Breakdown Structure for GH Project (Source: Author)

4.7.2 Identify risk

Identify risk is an iterative process that treats the possibility that new risks may evolve or become known as the project processes through its lifecycle. Table 4.9 illustrates ten risks factors, which may affect the GH project. While a number of tools and techniques will be used in developing this process, the output of it is the risk register, a tool used to list the identified risks and potential responses.

Table 4.9 illustrates ten identify risks (Source: Author)

No	Identified Risks	Cause	Control	Standard /Legislation
1	Injuries/Health	a) Improper installation of building support mechanisms, example, scaffolds and ladders not correctly angled. b) Exposure to injurious materials. For example asbestos, dust particles	Test to ensure building mechanisms are secured correctly. Carry out periodic checks to ensure no displacements exist. b) Assess existing buildings for the presence of asbestos and use dust control measures like wetting dusts, and removed promptly from close proximity of workers and/or to a location that is not prone to wind path.	Building codes and guidelines Health and safety guidelines
2	Collapse of Building	Structural integrity compromised by and not using the appropriate building material, or not enough.	Regular inspection to ensure contractor/builder	Building codes and guidelines

		For example, inadequate size or spacing of steel.	builds according to approved plans and codes b) Contractor competent	
3	Theft	Absence of appropriate security systems on site	Employment of site security officer	General safety guidelines
4	Delay in meeting project completion deadline	a) Unexpected increases in cost of raw material that was not budgeted for. b) Unavailability of key tools/equipment or raw material. c) Project was under budgeted d) Incompetent contractors and/or builders.	a) Budget preparation should have appropriate contingency plan for sudden change in prices. b) In the pre-planning stage, ensure availability and accountability. c) Secure at least 3 quotes from reputable suppliers. d) Background checks on contractor's track-record in similar projects.	General guidelines
5	No public "buy in/support" of	"Poor public perception of project due to lack of public	Public consultation to gain invaluable	General guidelines

	the project	involvement/consultation/relation information campaign.	feedback to charter a beneficial project direction.	
6	Budgetary constraint/shock	Impact of natural disasters. For example, hurricanes that may require government to allocate already limited budgeted funds	Proper checks and balances of projects prior to implementation. For example, ensure feasibility tests, EIAs are completed and recommended mitigative measures are implemented/followed.	General safety guidelines
7	Parking	Workers trapped in an emergency situation for lack of clear passage.	Remove rubbish and clear entrance in the event that Emergency Management Service is required.	General safety guidelines
8	Ergonomic hazard	Inappropriate workstation to avoid the frequent disturbance of work noise.	Avoid placing work stations in close proximity to construction noise	Not applicable
9	Fire and Safety	Injury from a fire outbreak in the absence of fire distinguishers	Availability of fire distinguishers and clear emergency exits.	Health and safety guidelines
10	Building Access	Slippery access to entrance due to damage spouting	Employers to ensure that the entrance to the work site is clear, clean and risk free.	General safety guidelines

4.7.3 Perform Quantitative Risk Analysis

Perform quantitative risk analysis is the process of numerically analyzing the effect of identified risks. The below table 4.10 represents prioritized list of quantified risks consequences, and Table 4.11 represents prioritized list of quantified risks strategies that pose an effect on cost contingency and are likely to influence the critical path.

Table 4.10. Quantify Risk consequences (Source: Author)

Risk	Code	Cause	Risk	Consequence
1	RB3.1	Staffing is inexperienced to handle the quality and quantity of work.	Staffers are not qualified and not likely to handle the type of work required.	This is likely to cause a lapse in the timing for completion of tasks, and on the quality of the output.
2	RB1.2	Technology changes in the way the timber was produced.	The vendor plans to withdraw the current type of timber.	Existing timber will be unsupported and it is likely the company will have to source another vendor.
3	RB2.2	Improved regulations on how the restoration work should be completed.	Task is being done not according to guidelines.	This is likely to have an impact on the quality of the work.
4	RB1.3	Complexity on the general environment /work stressors.	Lack of cohesiveness and poor communication	Lack of support from stakeholder and is likely to cause

			between stakeholders.	delay and cost overruns.
5	RB3.2	Insufficiency of staff for security.	Lack of security for workers and protection of job site.	This can result in theft of materials from job site.
6	RB2.4	Lack of equipment where fire and safety is concerned.	A fire outbreak and no fire extinguisher available.	Injuries can be sustained in the absence of fire extinguisher.
7	RB3.4	Lack of sufficient materials for the restoration work.	A delay on restoration work due to the lag in purchase of material.	Lack of insufficient funds to order material on a timely basis.
8	RB4.1	Stakeholders and their political affiliation.	Loyalty to political party can cause a breakdown in communication.	This is likely to cause a delay in the delivery date and cost overruns.
9	RB4.3	No opportunity for workers to give input on daily operations.	Lack of meetings and communication among workers.	Workers become demotivated and work at a slow pace.
10	RB3.5	Lack of prioritizing work schedule	Workers working on their own schedule instead of the one planned for the task	The milestone is off-target, and/or a delay in the deliverables.

Table 4.11. Quantify Risks Strategy (Source: Author)

Code	Trigger	Owner	Strategy	Cost
RB3.1	The number of days and/or amount of time taken to complete a particular task.	Human Resource Manager	To avoid this risk, an assessment should be done.	$38,400.00 (3 workers for 8 months). They work 8 hours a day for five days in a week, at $10.00 an hour.
RB1.2	Communiquè received from the vendor about the change in timber.	Project Manager	Present situation for this unexpected information requires a transfer of the risk to the Ministry.	Cost for replacement of vendor and material could exceed $10,000 but less than $200,000.
RB2.2	Unforeseen replacement of document with rules and regulations/guideline for executing task.	Project Manager	Present situation for this unexpected information is acceptable. PM can strategize to eliminate any risk, which may arise.	While there is no monetary value to this, a tangible value could exist where staff could request a physical copy of the guidelines.
RB1.3	Request for formal or informal	Contractor	The Contractor transfers risk to	While there is no monetary

	meetings and lapse in responding to correspondences, timing for release of funds.	Stakeholder	stakeholder and sponsor, since his contract emphasis is on labour.	value to the communication , this could have an added cost on the timing of responding to release of funds.
RB3.2	The entrance has an ordinary lock where it can easily be removed to gain entry, and the lack of security guard.	Sponsor Ministry/ Permanent Secretary	The employment of security guard as well as appropriate security devices. This risk transferred to the Ministry.	$375.00 For a job to replace locks on the entrance. Additional. $14,400 annual for employment of security guard.
RB2.4	Safety escaping fire hazards as well as unforeseen electrical mishaps.	Contractor	Redesign of building and or changes of design in building to include emergency exits. Meet with stakeholders to avoid the risk.	This cost could exceed $10,000 but less than $1M, in the event that fire breakout and personal injuries and or loss of life.
RB3.4	Work temporary stopped since no material is	Stakeholder Sponsor	This risk is transferred to the Stakeholder and/or	This cost could exceed $50,000 but

	available to continue.		the sponsor. The release of funding is timely in ordering the material in advance to eliminate this risk.	less than $250,000 in the event that there are delays on shipment
RB4.1	Stakeholders conversations and or political relationship	Sponsor Stakeholder	This risk could be avoided by assessing prior to employing and by avoiding political interferences.	There is no monetary value associated to this.
RB4.3	The consistency of employees working at a certain pace daily gives cause for concern.	Project Manager	This risk is avoided by keeping meetings on a regular basis, giving the employees an input in the day-to-day operations	There is no monetary value associated to this, unless the pace output can lead to a lapse in schedule.
RB3.5	The decrease in the output due to the unavailability of schedules.	Project Manager	This risk is avoided by producing a work schedule on a weekly basis.	There is monetary value associated with this, unless there is avoidance of overtime.

4.7.4 Perform qualitative risk analysis

Perform qualitative risk analysis is the process of prioritizing risk for further analysis or action by assessing or combing their probability of occurrence and impact. This process will aid the project manager to reduce the level of uncertainty. One of the tools and techniques used to perform this risk analysis is the probability and impact assessment and/or probability and impact matrix.

The GH restoration project is susceptible to developing certain risks because of its structural age. The probability factor determines that an event is likely to occur and the impact factor determines the degree of the impact. Table 4.12 depicts the conditions for probability scales of a risk for negative impacts, and Table 4.13 depicts conditions for impact scales.

Table 4.12 Illustrates Probability conditions on a risk (Source: Author)

Scale	Probability conditions
2	Minimal (probability that certain risks, if they occur, will have little or no impact at the end of the project).
4	Minor (probability that certain risks, if they occur, will have minor impact, to the extent that the outcome will be below expectation but higher than the minimal acceptable level)
6	Moderate (probability that certain risks, if they occur, will have moderate impact, to the extent that the change/quality of the type of material is likely to be circulated within a few weeks)
8	Significant (probability that certain risks will occur and the result will be significant to the extent that one or more of the employees' performance will be unacceptable and will not meet the required level.
10	Severe (probability that certain risk will occur and the result will be severe to the extent that one or more of the employees will have broken bones).

Table 4.13. Illustrates Impact condition on a risk (Source: Author)

Scale	Impact conditions	
1	Negligible	Impact is such that it could not result in injuries or illness, and the business is not interrupted for that day. The loss could exceed $5,000.00, but less than $10,000.00, or minor environmental damage not violating regulations
3	Marginal	Impact is such that it could result in occupational injuries resulting in one or more workdays being lost. The loss could exceed $10,000.00, but is less than $50,000.00, or marginal environmental damage. (electrical wires sparking fire).
5	Moderate	Impact is such that it could result in personal injuries and hospitalization. This could interrupt the business for that day; loss of workdays for employee(s). The loss could exceed $50,000.00, but is less than $100,000.00. The damage is moderate, resulting from a natural disaster, (falling on slippery grounds), violating contractual agreement.
7	Critical	Impact is critical such that it could result in workplace violence. This could interrupt the business for more than one day; loss of workday(s) for employees. The damage, which is a result of breach of security to infrastructure of building, and loss of work equipment, could exceed $100,000.00, but is less than $1,000,000.00.
9	Catastrophic	Impact is major to the point of catastrophic outcomes, resulting in fatalities and/or disabilities. This could be the result of a fire. This loss could exceed $1million, and includes irreversible environmental damage that violates regulations and laws, utility outage and financial damages.

Table 4.14, which represents the probability, impact and risk matrix, displays the significant level of risk, if such occurs. This diagram accounts for 10 qualitative risk factors, whereby the green shade represents minimal, yellow represents moderate, and the red represents critical.

Table 4.14 Illustrates Impact Matrix of a risk (Source: Author)

Probability	Impact	PXI
2	1	2
6	5	30
4	1	4
2	7	14
6	7	42
8	9	72
10	9	90
8	10	80
6	5	30
4	3	12

4.7.5 Plan risk response

Plan risk response is the process where the project manager will develop options and actions to enhance opportunities and reduce threats to project objectives, which may develop during the project lifecycle. This will be done by inserting resources and activities into the budget schedule and into the project management plan from time to time.

4.7.6 Control risk

Control risk is the process whereby the project manager will be implementing risk response plans, to track identified risks, be monitoring residual risk, identifying new risks, and evaluating risk process effectiveness throughout the project. This allows the project manager to improve efficiency of the risk approach throughout the project life cycle, to continuously optimize risk responses.

4.8 Procurement Management Plan

The procurement management plan involves the processes necessary to purchase or acquire products, services or results needed from outside the project team. Figure 4.21 depicts these processes, which involves agreements to include a contract, which is a legal document between a seller and a buyer.

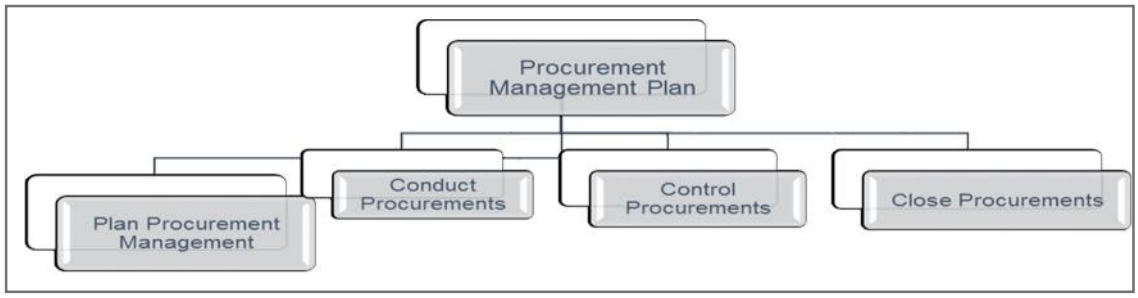


Figure 4.21. Procurement Management plan processes (Source: Author)

4.8.1 Plan Procurement Management

The plan procurement management is the process that will serve as a guide for managing the procurements during the lifecycle of the project. For this project, the Project Manager, whose role is to identify the items to be procured and the type of contract to be used in support of this project, will coordinate this process with the NHLDC HR.

The project manager will, therefore provide oversight and management for the procurement activities in the event that procurement is required. The PM will work with the project team members to identify all items to be procured for the successful completion of the restoration.

4.8.2 Conduct Procurement

Conduct procurement involves the process of obtaining seller responses, selecting a seller, and awarding a contract. For this project, the Ministry of Communication will control the bidding process, the proposal evaluation and the procurement negotiations.

4.8.3 Control Procurement

Control procurement is the process of managing procurements relationships, monitoring contract performance, and making changes and corrections to contracts, as appropriate. This is to ensure that both the seller's and buyer's performances meet procurement requirement according to the legal contract agreed. However, in the event that procurement becomes necessary, the project manager will be responsible for managing and selecting vendor or external sources.

4.8.4 Close Procurement

Close procurement process ensures the completion of the procurement process and that the information gathered will be documented and file for future reference. The inputs and outputs of this process are depicted in figure 4.22.

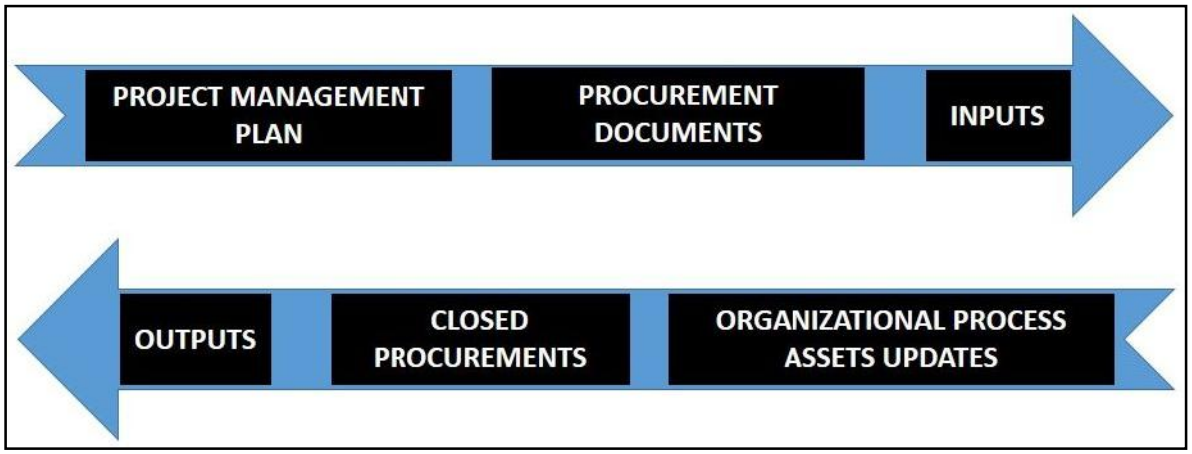


Figure 4.22. Close procurements. Inputs and Outputs (Source: Author)

4.9 Stakeholder Management Plan

The stakeholder management plan includes the processes required to identify the people, groups or organizations, that can impact or be impacted by the project, and their needs and or requirements for the executing project. Figure 4.23 depicts the processes involved to include areas where the project manager has the ability to correctly identify and manage stakeholders in an appropriate manner, leading to success or failure of the project.

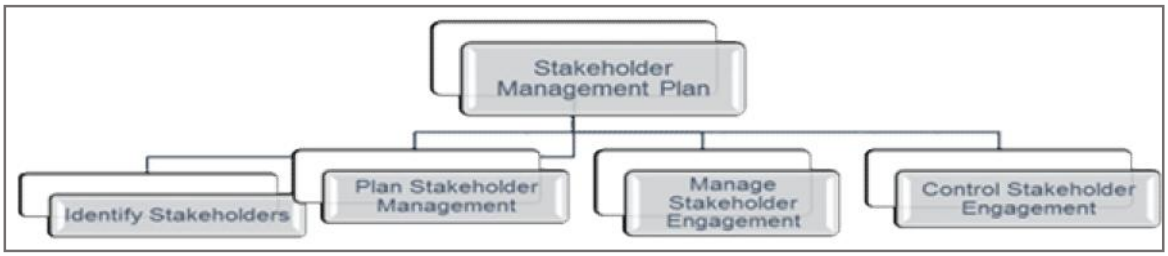


Figure 4.23. Stakeholder management plan processes (Source: Author)

4.9.1 Identify Stakeholders

Identifying stakeholders is the process of identifying people, groups or organization that could impact or be impacted on the outcome of the project. This process allow the project manager to ascertain the appropriate focus for each stakeholder or group of stakeholders. Tables 4.15 and 4.16 describe key internal and external stakeholders and their influential level, impact level and requirements for this project. Figure 4.24 illustrates the stakeholders power/influence grid matrix. (Source: author)

Table 4.15. Stakeholders' influence matrix diagram (Source: Author)

Name	Role in Project	Potential Influence	Internal/ External	Major Requirements	Contact Info
Ministry of Communication	Sponsor	High	Internal	To restore the building to a habitable state	469 5521
Deputy Governor General	Main stakeholder	High	Internal	To reoccupy the premises and provide services required	469 5521
Manager of Construction	Builder	Medium	Internal	To restore the building to a state	469

Company				that is ecstatically pleasing	2125
Electrical/Plumbing Engineers	Engineers	Medium	Internal	To inspect electrical & Plumbing devices	469 6523
Project Manager	Executing Officer	Medium	Internal	Provide a project plan according to PMI Standards	469 5521
Nevisian Community	Indirect Stakeholders	Low	External	Facility can provide the services it once did	N/a
Company Employees	Indirect Stakeholders	low	Internal	To provide a service that is pleasing to stakeholders	N/a

Table 4.16. Stakeholders' involvement matrix diagram (Source: Author)

Stakeholder Name	Description	Role in Project	Involvement	Priority	Impact
Earl Stapleton	Ministry of Communication	Sponsor	High	Main	Positive
John Eustace	Deputy Governor General	Main stakeholder	High	Main	Positive
Alton Browne	Manager of Company	Builder	Medium	Main	Positive
PECO	Electrical Contractor	Engineers	Medium	Main	Positive
Marcus Warner	Plumbing Contractor	Engineers	Low	Main	Positive
Mentrice Arthurton	Project Manager	Executing Officer	Very High	Main	Positive
Nevisian Community	Not applicable	Indirect Stakeholders	Low	Main	Positive
Company Employees	Not applicable	Indirect Stakeholders	Low	Main	Positive
Harold Banks	External Source	Expert Stakeholders	Medium	Main	Positive
Rene Taylor	External Source	Expert Stakeholders	Medium	Main	Positive
Ramish Sheen	External Source	Expert Stakeholders	Medium	Main	Positive

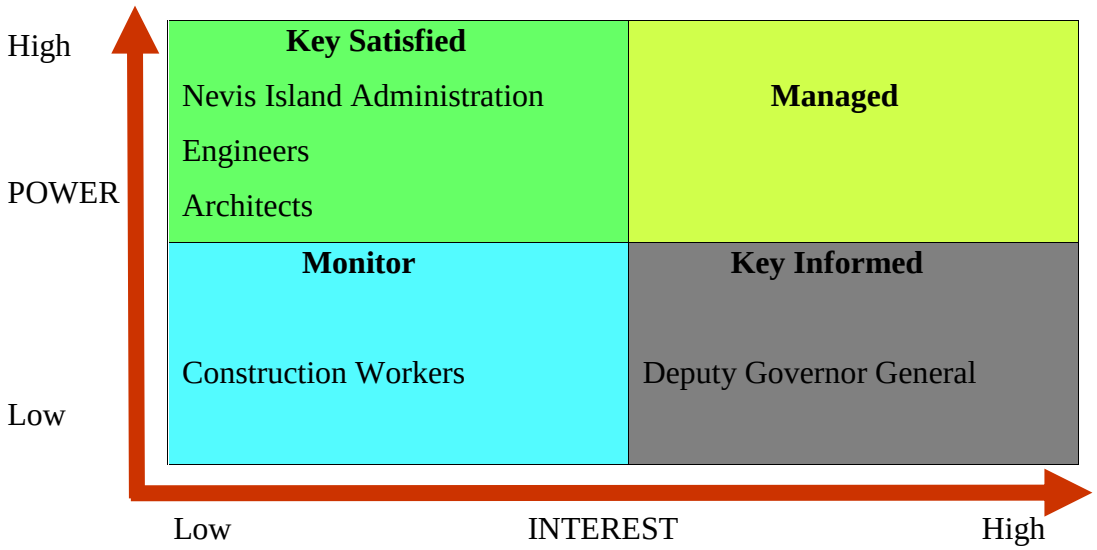


Figure 4.24. Illustrates stakeholders' power/influence grid matrix (Source: Author)

4.9.2 Plan Stakeholder Management

The stakeholder management plan will develop appropriate management strategies effectively to engage the stakeholders throughout the project lifecycle. This will create an action plan, which will interact with them from time to time as the project progresses. Table 4.17 illustrates the stakeholders register matrix.

Table 4.17. Stakeholders Register Matrix (Source: Author)

Stakeholder	Title	Role	Functional Area	General Expectations	Imp	Inf
NIA	Governing Body	Main Sponsor	Owner	Improved Services	5	H
Engineers	Electrical and Plumbing Engineers	Install & Inspect devices	Ministry of Communications	Identify potential issues	3	M
Architect	Architectural Engineers	Inspect architectural construction	Public Works Department	Identify potential issues	5	M
Deputy Governor General	Occupant/ Official Resident	Evaluate services and occupy the residence	Conduct official duties	Improved Services	4	H

Construction Workers	Construction/ Restoration	Restoration of the GH facility	Browne Construction Services	Restore to a habitable state	4	M
Contractor	Construction Operation	Employ and supervise construction worker	Browne Construction Services	Provide quality service	3	M
Imp – Impact	**Inf – Influence**	**H – High**	**M - Medium**			

4.9.3 Manage Stakeholder Engagement

Manage stakeholder engagement is the process of communicating and working with stakeholders to meet their needs/expectations and to allow the project manager to increase support and minimize resistance. This process can be linked to the communication management plan.

According to PMBOK 5th Edition, managing stakeholders involve activities such as:
a) Engaging stakeholders at appropriate project stages to obtain or confirm their continued commitment to the success of the project;

b) Managing potential concerns that have not yet become issues and anticipating future problems that may be raised by stakeholders.

This will allow the project manager to negotiate and communicate with the stakeholders to make sure that their goals are achieved and to clarify and resolves issues that have been identified.

5 CONCLUSIONS

The defining factor in achieving the result of this work process is the requisite knowledge of Project Management, skillfully gained by the budding Project Manager, who, from the onset, develops a keen approach in detailing certain characteristics of the project management plan to include Scope, WBS and Project Charter.

The objective was to develop a project management plan in a document format framed within the PMI Standard, and that objective was achieved. The details of the plan are strategically put together in an effort to assist the project manager when applying certain tools and techniques to individual plan activities to meet the project requirements.

The author strongly endorses the following conclusions:

5.1 Scope Management Plan: A scope management plan was created to ensure that the entire restoration work is achieved. This plan was appropriate for the study, having defined the scope of requirements essential to ensure that the project included all the work required to complete the project successfully.

5.2 Time Management Plan: A time management plan was created to ensure that the tasks are completed on time, resources are allocated appropriately, and to determine the specific work within each of the deliverables. This plan provided the general framework for the approach taken.

5.3 Cost Management Plan: A cost management plan was created to ensure that the cost of resources needed for the project was controllable. This plan was appropriate, since it provided the project manager with the tools and techniques to work within the cost management guidelines.

5.4 Quality Management Plan: Although the quality management plan was not totally developed during this phase of the planning stages, it was vital to make mention of it. Quality management plan gives a project credence when processes used to ensure that the deliverables for the project meet a formally established standard of acceptance.

5.5 Human Resource Management Plan: The human resource management plan was created as a means to establish project roles and responsibilities, an organizational chart, and to create a staffing management plan. This plan provided a chain of command during the project lifecycle.

5.6 Communication Management Plan: The communication management plan was created to ensure a proper channel of communication. The plan focused on communication as a modus operandi to the success of the project.

5.7 Risk Management Plan: The risk management plan was created in an effort to curtail and or manage development of potential risks. This plan identified and managed risks associated with the project.

5.8 Procurement Management Plan: Although the procurement management plan was not totally developed during this phase of the planning stages, it was vital to mention it. Procurement management plan gives a project planning credence when the project manager exercises his authority to purchase products and services needed throughout the lifecycle of the project.

5.9 Stakeholder Management Plan: The stakeholder management plan was created to ensure that key stakeholders engaged within the execution of the project. This plan provided the avenue for continuous dialogue with stakeholders, increase support, and minimize resistance.

6 RECOMMENDATIONS

Over the preceding months, the author met and spoke to several individuals with the view of gaining an insight into meaningful ways to structure the project management plan for the Government House Restoration project. The author believes that this important study offers an opportunity to examine the results of the PMBok 5th edition guidelines on project Management.

Therefore, the suggestions and/or recommendations offered in the following paragraphs are intended to improve the experiences garnered.

The objective was to develop a project management plan in a document format framed within the PMI Standard, in addition to an intended proposal for the revamping of the Economic and Planning Unit within the NIA's structure.

The author strongly endorses the following recommendations:

6.1 Scope Management Plan: The NIA should seek the necessary resources and develop a scope management plan to revamp the Economic and Planning Unit. They should consider ways in which to use the scope plan to ensure that the entire process is adhered to implement the Unit.

6.2 Time Management Plan: With the Unit in place, it recommended that a Project Manager be assigned to the Unit. This would aid in fiscal prudence and proper management of the government resources, to include projects being completed in a timely manner.

6.3 Cost Management Plan: The NIA should seek ways to train its financial sector employees and develop methods to be used in curtailing the excess spending of financial resources.

6.4 Quality Management Plan: The NIA should seek to develop key concepts, guidelines and measurement of outcome, to assess the quality of the deliverables. The project management team should be capable of brainstorming and producing strategies to meet quality standards per project.

6.5 Human Resource Management Plan: The author strong recommend that the NIA ceases all further employment and revamp the human resource unit, making it viable to efficiently and effectively meet its roles and responsibilities.

6.6 Communication Management Plan: The NIA should seek ways to implement a communication management plan within the entire structure of the organization. This should provide proper networking to channel information.

6.7 Risk Management Plan: The author recommends that the NIA utilize the risk management plan when developing and/or creating plans for proposed projects. This would help in alleviating added expenses and cost overrun.

6.8 Procurement Management Plan: It is vital to develop a procurement management plan when executing any project, and the author recommends the use of this method when it becomes necessary to purchase products and/or services needed.

6.9 Stakeholder Management Plan: The NIA should clearly define the working relationship with its stakeholders and create a plan that should meet the requirements of a modern society.

BIBLIOGRAPHY

Abstract from the Weekly Presentations for Graduation Seminar Master in Project Management Program Preparation for the Final Graduation Project (FGP), Weekly Presentations 1 to 5, (2016).

In the BD BusinessDictionary website. Research Methodology. Retrieved from http://www.businessdictionary.com/definition/research-methodology.html

In the brprojects website. (June 21, 2007). Construction Management Plan – BR Projects. Construction Management Plan. City of Baton Rouge/East Baton Rouge Parish. Department of Public Works. SIGMA Consulting Group, Inc. Construction Management Plan Retrieved from http://www.brprojects.com/sso.program/documents/construction/BTR_sso_cm_plan.pdf

Farlex. (n.d.). In The Free Dictionary online dictionary. Retrieved from http://www.thefreedictionary.com/Research+methods

In the loc.gov website. Library of Congress. Retrieved from http://www.loc.gov/teachers/usingprimarysources

In the PM Exam Smartnotes website. Plan Cost Management Diagram. PM EXAM SMARTNOTES Fast PM Preparations for busy working professsionals Retrieved from http://www.pmexamsmartnotes.com/plan-cost-management-of-your-project/

In the Village website. (n.d.). Retrieved from https://www.google.com/#q=what+are+secondary+sources

In the NHCS website. (n.d.). Retrieved from http://www.nevisheritage.org/heritage-sites/the-treasury-building

Ministry of Finance. (December 8, 2015). In the NIA Recurrent & Capital Budget Estimates of Expenditure & Revenue (Reports on Plans & Priorities)

Project Management Docs Free Project management template. Retrieved from http://www.projectmanagementdocs.com/project-planning-templates/scope-management-plan.html#ixzz4PRKULpZk

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

In the Smallbusiness.com website. Retrieved from http://smallbusiness.chron.com/meaning-organizational-structure-3803.html

In the Study.com website. (n.d.). Retrieved from http://study.com/academy/lesson/using-s-curves-in-project-management.html

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:**
August, 2016	Project Management Plan for the Government House Restoration Project, Nevis
Knowledge Areas / Processes	**Applicacion Area (Sector / Activity)**
Knowledge areas: Integation, Scope, Time, Cost, Quality, Human Resources, Communication, Risk, Procurement, Stakeholders. **Process groups:** Of the five process groups, only three propose to be associated with this project. This is due to time constraint initiated by the executing insitution. The process are initiating, planning, monitoring and controlling.	Construction
Start date	**Finish date**
August 25, 2016	April, 2017
Project Objectives (general and specific)	
General objective: To develop a Project Management Plan framed within the PMI standards for the Government House Restoration Project. Specific objectives: 1 To develp a scope management plan to ensure that the entire restoration work is achieved with minimal changes and in accordance with the approved plans. 2 To develop a cost management plan to ensure the process of completing the budget is within range of the allocated funds for the project. 3 To develop a quality mangement plan to ensure that the process of providing quality assurance and quality control is achieved. 4 To create a human resource management plan to ensure that proper guidelines are in9place to meet the required skills and qualifications of the project team. 5 To define a communication management plan to ensure that information is exchanged through the use of mutually understanding guidelines. 6 To create a risk management plan to minimize the probability and consequences of adverse events. 7 To create a time management plan to ensure the process of completing the project is executed within a specific timeframe. 8 To develop a procurement management plan within this process is of due diligence; due to the fact that this phase of the project was completed some years ago. 9 To develop a stakeholder management plan to ensure that the project activities engage the stakeholders and to make the most effective use of their participation.	
Project purpose or justification (merit and expected results)	
The purpose of the project can be described in two phases:- 1. To provide a basis for tracking progress towards accomplishing the guidelines developed within the project management process improvement plans; 2. To complete a Final Graduation Project as part of the process for the requirements of students pursuing studies with the UCI in the Master's In Project Management Program. In justifying the reason for the project, the Government House is a two-storey building, built in 1909 with local stones and Portland cement mortar and a rubble stonework. Situated on the island of Nevis, the facility became the official residence for	

the Deputy Governor General following the attainment of Independence. Having been abandoned for more than six years, after it was realized to be infested with termites and other structural damages to wit wet rot and wear and tear, the Nevis Island Government took a decision to restore the building to a habitable state. The structure is a historical landmark as well as a national asset, thus giving credence to be restored.

Once completed, it is expected that the Deputy Governor General and his staff will re-occupy the asthetically pleasing compound; and in addition, the grounds, which was once used for official engagements and other community events will be used again. The project is expected to be completed within eight (8) months at a cost of $1.5million with none to limited cost overrun.

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

The product or service to be generated will be the project management methodology that will serve as a guide to the initiating, the planning and the controlling and monitoring of the Government House Restoration Project. The project final deliverables include:-

- ✓ A document justifying the process use for completing the Project Management Plans for the Government House Restoration Project.

Assumptions

- It is assumed that the review and feedbacks of the project deliverables will be completed on time.
- It is assumed that the information provided is adequate to perform quality analysis.
- It is assumed that the project will be completed within the time frame set by the university.

Constraints

1. The schedule for the graduation process development is not adequate for the required quanitity of work.
2. The information required for the product development is not readily available.
3. Confidentiality of company information.

Preliminary risks

- Time is inadequate for the completion of task.
- The quantity of work required.
- The quality of work is unacceptable.

Budget

The Ministry of Finance has allocated Eastern Caribbean Currency $1.5million of the Nevis Island Administration's capital budgetary funds.

Milestones and dates

Milestone	Start date	End date
Completion of building	August 2016	April 2017
Graduation Seminar	August 2016	September 2016
Tutoring Process	September 2016	January 2017
Reading by Reviwers	January 2017	January 2017
Adjustments	January 2017	February 2017
Presentation to Board of Examiners	February 2017	March 2017

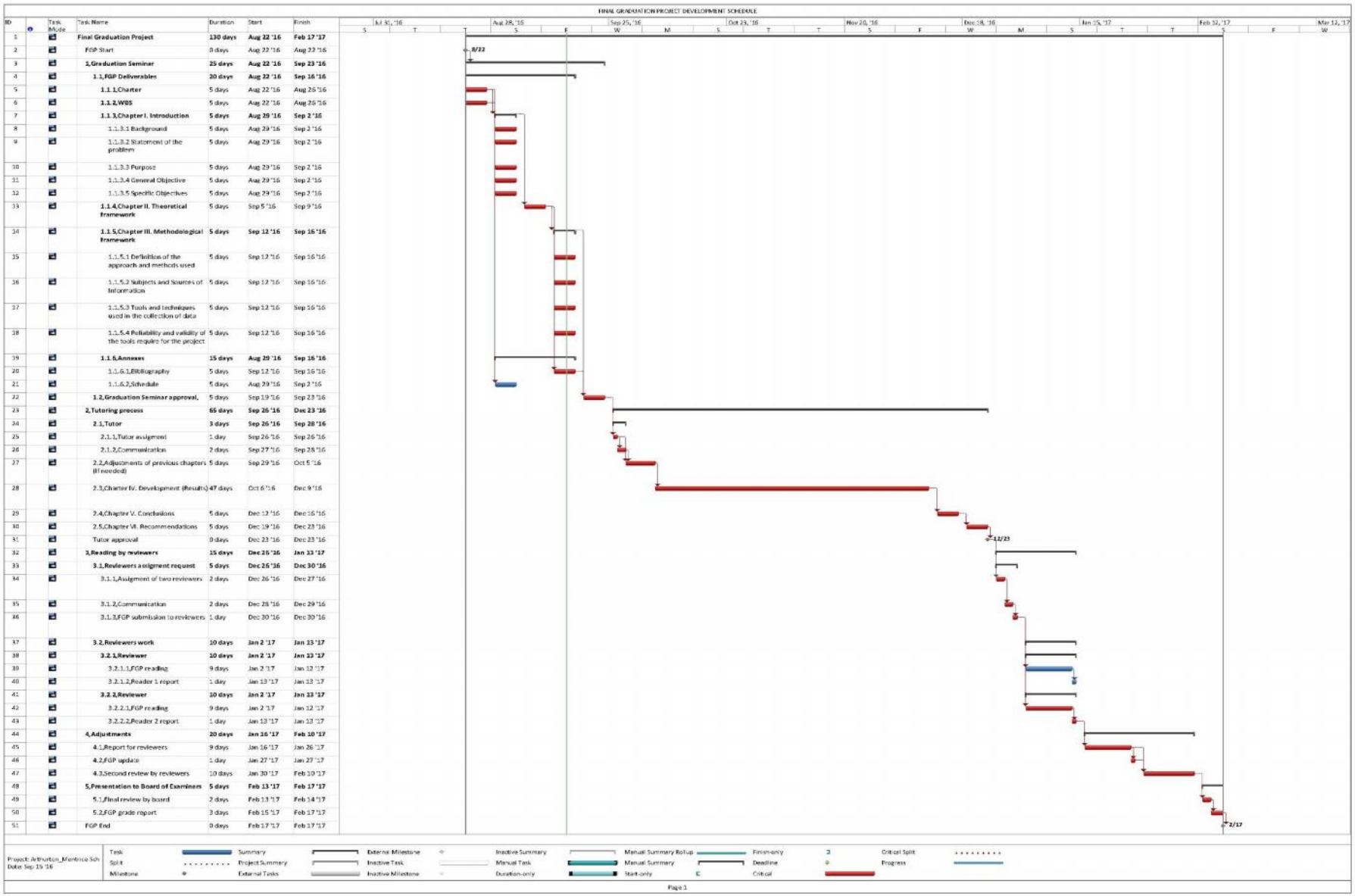
Relevant historical information	
The company, Brown Construction Services is a micro construction company with over 15 years of experience on the island of Nevis, and specializes in restoration of historical buildings. Known to the local construction sector, the company products are varied in sizes and designs. The manager of the company previously worked in the Republic of Guyana before migrating to Nevis. Previous documentation of his works in relation to the current project, can be seen in the Nevis Tourism Authority building and the Post Office in Charlestown, the capital of Nevis.	
Stakeholders	
Direct stakeholders: ✓ The Nevis Island Administration ✓ The Deputy Governor General & Staff ✓ The Nevis Housing and Land Development Corporation ✓ The Manager of the Company Indirect stakeholders: ✓ The Project Manager ✓ The Nevisian Community ✓ The employees of the Company	
Project Manager: *Mentrice V. Warner-Arthurton*	**Signature:**
Authorized by: Carlos Brener	Signature:

APPENDIX 2: FGP WBS

Project Management Plan for the Government House Restoration Project, Nevis
Final Graduation Project
0 FGP Start
1 Graduation Seminar
1.1 FGP Deliverables
1.1.1 Charter
1.1.2 WBS
1.1.3 Chapter I. Introduction
1.1.3.1 Background
1.1.3.2 Statement of the Problem
1.1.3.3 Purpose
1.1.3.4 General Object
1.1.3.5 Specific Objective
1.1.4 Chapter II. Theoretical framework
1.1.4.1 Situational Framework
1.1.4.2 Theoretical Framework of the study objective
1.1.5 Chapter III. Methodological framework
1.1.5.1 Identification of the approach and methods use
1.1.5.2 Subjects and sources of information
1.1.5.3 Tools and techniques used in the collection of data
1.1.5.4 Reliability and validity of tools required for the project
1.1.6 Annexes
1.1.6.1 Bibliography
1.1.6.2 Schedule
1.2 Graduation Seminar Approval
2 Tutoring process
2.1 Tutor
2.1.1 Tutor assignment
2.1.2 Communication
2.2 Adjustments of previous chapters (If needed)
2.3 Charter IV. Development (Results)
2.3.1 Scope Management Plan
2.3.2 Time Management Plan
2.3.3 Cost Management Plan
2.3.4 Quality Management Plan
2.3.5 Human Resource Management Plan
2.3.6 Communication Management Plan
2.3.7 Risk Management Plan
2.3.8 Procurement Management Plan
2.3.9 Stakeholders Management Plan
2.4 Chapter V. Conclusions
2.5 Chapter VI. Recommendations

3 Reading by Reviewers
3.1 Reviewers assignment request
3.1.1 Assignment of two reviewers
3.1.2 Communication
3.1.3 FGP submission to reviewers
3.2 Reviewers work
3.2.1 Reviewer (1)
3.2.1.1 FGP reading
3.2.1.2 Reader 1 report
3.2.2 Reviewer (2)
3.2.2.1 FGP reading
3.2.2.2 Reader 2 report
4 Adjustments
4.1 Report for reviewers
4.2 FGP update
4.3 Second review by reviewers
5 Presentation to Board of Examiners
5.1 Final review by board
5.2 FGP grade report
FGP End

APPENDIX 3: FGP SCHEDULE



ID	Task Mode	Task Name	Duration	Start	Finish
1		**Final Graduation Project**	**130 days**	**Aug 22 '16**	**Feb 17 '17**
2		FGP Start	0 days	Aug 22 '16	Aug 22 '16
3		**1,Graduation Seminar**	**25 days**	**Aug 22 '16**	**Sep 23 '16**
4		**1.1,FGP Deliverables**	**20 days**	**Aug 22 '16**	**Sep 16 '16**
5		**1.1.1,Charter**	5 days	Aug 22 '16	Aug 26 '16
6		**1.1.2,WBS**	5 days	Aug 22 '16	Aug 26 '16
7		**1.1.3,Chapter I. Introduction**	**5 days**	**Aug 29 '16**	**Sep 2 '16**
8		1.1.3.1 Background	5 days	Aug 29 '16	Sep 2 '16
9		1.1.3.2 Statement of the problem	5 days	Aug 29 '16	Sep 2 '16
10		1.1.3.3 Purpose	5 days	Aug 29 '16	Sep 2 '16
11		1.1.3.4 General Objective	5 days	Aug 29 '16	Sep 2 '16
12		1.1.3.5 Specific Objectives	5 days	Aug 29 '16	Sep 2 '16
13		**1.1.4,Chapter II. Theoretical framework**	5 days	Sep 5 '16	Sep 9 '16
14		**1.1.5,Chapter III. Methodological framework**	**5 days**	**Sep 12 '16**	**Sep 16 '16**
15		1.1.5.1 Definition of the approach and methods used	5 days	Sep 12 '16	Sep 16 '16
16		1.1.5.2 Subjects and Sources of Information	5 days	Sep 12 '16	Sep 16 '16
17		1.1.5.3 Tools and techniques used in the collection of data	5 days	Sep 12 '16	Sep 16 '16
18		1.1.5.4 Reliability and validity of the tools require for the project	5 days	Sep 12 '16	Sep 16 '16
19		**1.1.6,Annexes**	**15 days**	**Aug 29 '16**	**Sep 16 '16**
20		1.1.6.1,Bibliography	5 days	Sep 12 '16	Sep 16 '16
21		1.1.6.2,Schedule	5 days	Aug 29 '16	Sep 2 '16
22		**1.2,Graduation Seminar approval,**	5 days	Sep 19 '16	Sep 23 '16
23		**2,Tutoring process**	**65 days**	**Sep 26 '16**	**Dec 23 '16**
24		**2.1,Tutor**	**3 days**	**Sep 26 '16**	**Sep 28 '16**
25		2.1.1,Tutor assigment	1 day	Sep 26 '16	Sep 26 '16
26		2.1.2,Communication	2 days	Sep 27 '16	Sep 28 '16
27		2.2,Adjustments of previous chapters (If needed)	5 days	Sep 29 '16	Oct 5 '16
28		2.3,Charter IV. Development (Results)	47 days	Oct 6 '16	Dec 9 '16
29		2.4,Chapter V. Conclusions	5 days	Dec 12 '16	Dec 16 '16
30		2.5,Chapter VI. Recommendations	5 days	Dec 19 '16	Dec 23 '16
31		Tutor approval	0 days	Dec 23 '16	Dec 23 '16
32		**3,Reading by reviewers**	**15 days**	**Dec 26 '16**	**Jan 13 '17**
33		**3.1,Reviewers assigment request**	**5 days**	**Dec 26 '16**	**Dec 30 '16**
34		3.1.1,Assigment of two reviewers	2 days	Dec 26 '16	Dec 27 '16
35		3.1.2,Communication	2 days	Dec 28 '16	Dec 29 '16
36		3.1.3,FGP submission to reviewers	1 day	Dec 30 '16	Dec 30 '16
37		**3.2,Reviewers work**	**10 days**	**Jan 2 '17**	**Jan 13 '17**
38		**3.2.1,Reviewer**	**10 days**	**Jan 2 '17**	**Jan 13 '17**
39		3.2.1.1,FGP reading	9 days	Jan 2 '17	Jan 12 '17
40		3.2.1.2,Reader 1 report	1 day	Jan 13 '17	Jan 13 '17
41		**3.2.2,Reviewer**	**10 days**	**Jan 2 '17**	**Jan 13 '17**
42		3.2.2.1,FGP reading	9 days	Jan 2 '17	Jan 12 '17
43		3.2.2.2,Reader 2 report	1 day	Jan 13 '17	Jan 13 '17
44		**4,Adjustments**	**20 days**	**Jan 16 '17**	**Feb 10 '17**
45		4.1,Report for reviewers	9 days	Jan 16 '17	Jan 26 '17
46		4.2,FGP update	1 day	Jan 27 '17	Jan 27 '17
47		4.3,Second review by reviewers	10 days	Jan 30 '17	Feb 10 '17
48		**5,Presentation to Board of Examiners**	**5 days**	**Feb 13 '17**	**Feb 17 '17**
49		5.1,Final review by board	2 days	Feb 13 '17	Feb 14 '17
50		5.2,FGP grade report	3 days	Feb 15 '17	Feb 17 '17
51		FGP End	0 days	Feb 17 '17	Feb 17 '17

The below figure displays the Government House schedule to include duration, start and finish dates and predecessor.

No	Task Name	Duration	Start	Finish	Predecessor
1	**Government House Restoration**	**203 days**	**Mon 8/1/16**	**Wed 5/10/17**	
2	**1Restor External Structure**	**75 days**	**Mon 8/1/16**	**Fri 11/11/16**	
3	**1.1Power Wash**	**3 days**	**Mon 8/1/16**	**Wed 8/3/16**	
4	1.1.1Remove all stains and moulds	1 day	Mon 8/1/16	Mon 8/1/16	
5	1.1.2Remove all shrubs	1 day	Tue 8/2/16	Tue 8/2/16	4
6	1.1.3Clear and clean roof drainage	1 day	Wed 8/3/16	Wed 8/3/16	4
7	**1.2Restore exterior masonry work**	**32 days**	**Tue 8/2/16**	**Wed 9/14/16**	
8	1.2.1Remove all soft and decay joints	11 days	Tue 8/2/16	Tue 8/16/16	4
9	1.2.2Remove/replace all loose facing stones	21 days	Wed 8/17/16	Wed 9/14/16	8
10	1.2.3Repair all divots, craacks and holes in bathroom	21 days	Wed 8/3/16	Wed 8/31/16	5
11	**1.3Rebuild front and back verandas**	**42 days**	**Thu 9/15/16**	**Fri 11/11/16**	
12	1.3.1Remove existing timber posts and beams, stains and reinstall	7 days	Thu 9/15/16	Fri 9/23/16	10,9
13	1.3.2Recast broken concrete sections and install railing and finishes	21 days	Wed 8/17/16	Wed 9/14/16	4,8
14	1.3.3Install new roof to resemble the origin	42 days	Thu 9/15/16	Fri 11/11/16	8,13
15	**2Remove/replace internal structure**	**99 days**	**Mon 9/5/16**	**Thu 1/19/17**	
16	**2.1Remove vaulted entry slab**	**71 days**	**Mon 9/5/16**	**Mon 12/12/16**	
17	2.1.1Remove the vaulted ceiling of front veranda	14 days	Thu 9/15/16	Tue 10/4/16	13
18	2.1.2Restore front veranda	21 days	Mon 11/14/16	Mon 12/12/16	13,14
19	2.1.3Recast the vaulted ceiling of front veranda	21 days	Wed 10/5/16	Wed 11/2/16	17
20	**2.2Restore Floor upper and ground**	**32 days**	**Thu 11/3/16**	**Fri 12/16/16**	
21	2.2.1Clean and paint existing steel beam	14 days	Thu 11/3/16	Tue 11/22/16	19
22	2.2.2Remove/rebuild concrete supports in wall	2 days	Thu 11/3/16	Fri 11/4/16	19
23	2.2.3Replace all wall plates and rebuild masonry stone ledge	2 days	Thu 11/3/16	Fri 11/4/16	19
24	2.2.4Install floor joist and flooring	35 days	Thu 11/3/16	Wed 12/21/16	19
25	2.2.5Interior and guard house timber floorboards	14 days	Mon 10/31/16	Thu 11/17/16	17
26	2.2.6Kitchen and basement concrete floor	21 days	Fri 11/18/16	Fri 12/16/16	25
27	**2.3Restore Interior Walls**	**45 days**	**Fri 11/18/16**	**Thu 1/19/17**	
28	2.3.1Rebuild/restore all timber walls	35 days	Fri 11/18/16	Thu 1/5/17	25
29	2.3.2Rebuild the insitu concrete walls in the office	21 days	Tue 11/8/16	Tue 12/6/16	23
30	2.3.4Re-plaster all interior masonry stone wall surfaces	14 days	Thu 12/22/16	Tue 1/10/17	24
31	2.3.5Install dry wall and carpet	7 days	Wed 1/11/17	Thu 1/19/17	30
32	**3Architectural Structure**	**151 days**	**Thu 9/15/16**	**Thu 4/13/17**	
33	**3.1Replicate Framing**	**7 days**	**Fri 1/20/17**	**Mon 1/30/17**	
34	3.1.1Replace beam to origin	7 days	Fri 1/20/17	Mon 1/30/17	31
35	3.1.2Replace column to origin	10 days	Thu 12/22/16	Wed 1/4/17	24
36	3.1.3Replace slab to origin	14 days	Wed 12/7/16	Mon 12/26/16	29
37	**3.2Replicate Flooring**	**114 days**	**Mon 11/7/16**	**Thu 4/13/17**	
38	3.2.1Install regular gypsum board ceiling in ground floor	35 days	Mon 11/7/16	Fri 12/23/16	23
39	3.2.2Install new period based tin ceiling in the ballroom	21 days	Tue 12/27/16	Tue 1/24/17	36
40	3.2.3Paint interior to replicate origin	35 days	Fri 2/24/17	Thu 4/13/17	47
41	**3.3Remove and Replace vaulted ceiling**	**35 days**	**Thu 9/15/16**	**Wed 11/2/16**	
42	3.3.1Remove the basement metal framework	14 days	Thu 9/15/16	Tue 10/4/16	13
43	3.3.2Install new steel plates	14 days	Wed 10/5/16	Mon 10/24/16	42
44	3.3.3Install new corrugated metal forms and stabilizer	7 days	Tue 10/25/16	Wed 11/2/16	43
45	**4Electrical Mechanic**	**40 days**	**Wed 2/15/17**	**Tue 4/11/17**	
46	**4.1Electrical wiring**	**21 days**	**Wed 2/15/17**	**Wed 3/15/17**	
47	4.1.1Install wiring in main building and guard house	7 days	Wed 2/15/17	Thu 2/23/17	39
48	4.1.2Install outlets/switches	7 days	Fri 2/24/17	Mon 3/6/17	47
49	4.1.3Installn new bathroom fixture in guard house and main building	14 days	Fri 2/24/17	Wed 3/15/17	47
50	**4.2Plumbing inside**	**16 days**	**Wed 11/30/16**	**Wed 12/21/16**	
51	4.2.1Introduce hot water lines to service main building and kitchen	7 days	Wed 11/30/16	Thu 12/8/16	44
52	4.2.2Install water heater to serve kitchen, bathrooms and laundry	2 days	Fri 12/9/16	Mon 12/12/16	51
53	4.2.3Replace existing damage water service lines and waste pipes	7 days	Tue 12/13/16	Wed 12/21/16	52
54	**4.3Plumbing outside**	**35 days**	**Wed 2/22/17**	**Tue 4/11/17**	
55	4.3.1Refurbish existing masonry guttering and downspouts for the main building	7 days	Wed 2/22/17	Thu 3/2/17	53
56	4.3.2Repair the water cistern and connect to roof drains	7 days	Fri 3/3/17	Mon 3/13/17	55
57	4.3.3Revise plumbing lines in main building	7 days	Tue 3/14/17	Wed 3/22/17	56
58	4.3.4Install one public restroom adjoining the guardhouse bathroom	14 days	Thu 3/23/17	Tue 4/11/17	57
59	**5Environment**	**21 days**	**Wed 4/12/17**	**Wed 5/10/17**	
60	**5.1Remove all spoils**	**14 days**	**Wed 4/12/17**	**Mon 5/1/17**	
61	5.1.1Remove all existing dowels	7 days	Wed 4/12/17	Thu 4/20/17	58
62	5.1.2Remove all spoils	14 days	Thu 3/23/17	Tue 4/11/17	57
63	5.1.3Install new dowels	14 days	Wed 4/12/17	Mon 5/1/17	62
64	**5.2Landscaping**	**21 days**	**Wed 4/12/17**	**Wed 5/10/17**	
65	5.2.1Clean and remove debris	7 days	Tue 5/2/17	Wed 5/10/17	63
66	5.2.2Remove rocks and stones in close proximity to main building	2 days	Tue 5/2/17	Wed 5/3/17	63
67	5.2.3Prepare ground for top soil	2 days	Wed 4/12/17	Thu 4/13/17	62
68	5.2.4Install necessary plants	7 days	Fri 4/14/17	Mon 4/24/17	67

APPENDIX 4: OTHER RELEVANT INFORMATION

List of approvals for this assignment

List of Approvers	
Document Author	Project Manager
Project	Government House Restoration
Customer	Deputy Governor General
Sponsor	Nevis Island Administration – Ministry of Communications
Project Manager	Mentrice Arthurton
Contractor	Alton Browne – Manager, Browne Construction Services
Sub-Contractor(s)	PECO – Electrical Engineer Manager, Plumbing Engineer
Finance	Permanent Secretary, Ministry of Finance

The following pictures display some of the abandoned buildings once used by the Nevis Island Administration and housed several ministries. The Author took all photographs display within this assignment.

Pic A - the Cotton Ginnery House. A facility, which once housed the Department of Culture and the Nevis Sports Museum.

Pic B – Former residence of the Hospital Matron. It housed the Department of Youth and Sport and, also the Nevis Solid Waste Management Office.

Pic C – The treasury building recently joined the list of abandoned buildings after destroyed by fire in 2014.

The next two photographs are samples of works of the contractor/builder, Brown Construction Services, used in this assignment, in support of the Contractor's previous history.

Pic D - The Post Office, refurbished in 2004. Located in the center of Charlestown, adjacent to the Nevis Tourism Authority building.

Pic E - The Nevis Tourism Authority building, known as the NTA building, strategically placed at the center of Charlestown. It was recently renamed as the Arthur Evelyn Building, and refurbished in 2001.

The following pictures depict construction and/or restoration work currently taking place at the GH facility.

Annex 1, Work Breakdown components for GH Project (Source: Author)

No	Level/Task	Work Packages		Deliverables	
		WBS code	Task	WBS Code	Task
1	Restore External Structure	1.1	Power wash building	1.1.1	Remove stains and molds
				1.1.1.1	Use of power tools
				1.1.1.2	Apply blasting
				1.1.2	Remove shrubs
				1.1.2.1	Prune and desiccate
				1.1.2.2	Apply blasting
				1.1.3	Clean and clear roof drainage
				1.1.3.1	Cut, clear and clean
				1.1.3.2	Prune and desiccate
		1.2	Restore exterior masonry work	1.2.1	Remove soft and decay joints
				1.2.1.1	Clean and free of debris
				1.2.1.2	Install new mortar
				1.2.2	Remove/replace loose facing stones
				1.2.2.1	Plants clean and desiccate before removal
				1.2.2.2	All opening be thoroughly clean and wet before repairs
				1.2.3	Repair all divots, cracks, holes in bathrooms and restrooms
				1.2.3.1	Blocks with damages/deterioration be replace
				1.2.3.2	Re-plaster the area

		1.3	Rebuild front and back verandas	1.3.1 1.3.1.1 1.3.1.2 1.3.2 1.3.2.1 1.3.2.2 1.3.3 1.3.3.1 1.3.3.2 1.3.3.3	Remove existing timber posts and beams Sand and fill posts and beams where visible Apply two primer coats and one finish coat of oil stain Recast broken concrete sections, install railing and finishes Scrabble all broken section and recast with concrete Apply two screeded layers to surface Install new roof to resemble origin Rafters secured to the beam Roof finish shall be aluminum Ceiling shall be exposed finish
2	Remove/Replace Internal Structure	2.1	Remove vaulted entry slab	2.1.1 2.1.1.1 2.1.1.2 2.1.2 2.1.2.1 2.1.2.2	Remove/recast vaulted ceiling front veranda Removal of slab shall not include removal of columns and beams Removal of ceiling and slab using manual equipment Restore front veranda railing upper level Remove all railing and fretwork to the roof and install new Material shall be greenheart finish

				2.1.3 2.1.3.1 2.1.3.2	Recast the vaulted ceiling front veranda. Thickness of new slab to be determine by engineer New concrete material in accordance to ASTM type
		2.2	Restore floor, upper and ground	2.2.1 2.2.1.1 2.2.1.2 2.2.2 2.2.2.1 2.2.2.2 2.2.3 2.2.3.1 2.2.4 2.2.3.1 2.2.3.2 2.2.5	Clean and paint existing steel beam All crevices shall be filled All areas made good before paint is applied Remove/rebuild concrete support in walls Remove degrades portion of the stone wall Rebuild with stone using mortar mix Replace all wall plates and rebuild masonry stone ledge Replace with stone using mortar mix Install floor joists and flooring Finish floor shall be non-treated lumber Common wire nails per joists for floor boards Interior and guardhouse, use

					timber floorboards
				2.2.3.1	Boards shall be cleaned and sand
				2.2.3.2	Sand boards after each coat of primer
				2.2.6	Kitchen and basement concrete floor
				2.2.3.1	Remove existing ceramic tiles
				2.2.3.2	Retile with porcelain tiles
		2.3	Restore interior walls	2.3.1	Rebuild/restore all timber walls
				2.3.1.1	Walls have level 4 finish
				2.3.1.2	Crevices shall be putty filled and cleaned
				2.3.2	Rebuild insitu concrete walls in office
				2.3.2.1	Walls be poured on steel grid
				2.3.2.2	Wall finish is hand floated
				2.3.3	Re-plaster all interior masonry stone wall surface
				2.3.3.1	Remove existing plaster
				2.3.3.2	Install new plaster of ASTM type K
				2.3.4	Install dry wall and carpet
3	Architectural Structure	3.1	Replicate Framing	3.1.1	Replace beam to origin
				3.1.1.1	Architect to select color of varnish
				3.1.1.2	If oil based varnish, application no less than one week
				3.1.2	Replace column to origin

				3.1.2.1 3.1.2.2 3.1.3 3.1.3.1 3.1.3.2	Finishes of architect design Color selected by architect Replace slab to origin New concrete material in accordance with ASTM type Ceiling exposed finished using oil paint
		3.2	Replicate Flooring	3.2.1 3.2.1.1 3.2.1.2 3.2.2 3.2.2.1 3.2.2.2 3.2.3 3.2.3.1 3.2.3.2	Install regular gypsum board ceiling in ground floor Ceiling consist of regular gypsum board Ceiling shall be caulked taped and sand Install new period based tin ceiling in the ballroom Engrave aluminum tiles Clean and polish tiles Paint interior to replicate origin Color paint select by architect All divots and crevices shall be filled before paint is applied
		3.3	Remove/Replace vaulted ceiling	3.3.1 3.3.1.1 3.3.1.2	Remove the basement metal framework Remove ceiling and masonry work All spoils from this activity be disposed

				3.3.2 3.3.2.1 3.3.2.2 3.3.3 3.3.3.1 3.3.3.2	Install new steel plates Plates equivalent to the same size and thickness Apply primer to ensure thorough wetting Install new corrugated metal forms and stabilizer Install concrete in accordance with ASTM standard Remaining slab shall be scabbled
4	Electrical Mechanic	4.1	Electrical Wiring	4.1.1 4.1.1.1 4.1.1.2 4.1.2 4.1.2.1 4.1.2.2 4.1.3 4.1.3.1 4.1.3.2	Install wiring in main building and guard house Review existing circuits Move all receptacles to a height above finished floor Install outlets/switches Install circuits according to drawings Conceal all conduits and boxes in wall Install new bathroom fixtures in guard house and main building New fixtures to include toilets, faucets All fixtures to be selected by architect
		4.2	Plumbing Inside	4.2.1	Introduce hot water lines to serve main building and kitchen

				4.2.1.1 4.2.1.2 4.2.2 4.2.2.1 4.2.2.2 4.2.3 4.2.3.1 4.2.3.2	Review existing lines Lines laid in accordance with conservation drawings Install water heater to serve kitchen and bathrooms in laundry Installation in accordance with factory instructions Pipes shall be 1/2in cpvc Replace existing damage water service lines and waste pipes Remove all damage and waste water line Service branch lines no less than 3/4in pvc pipes
		4.3	Plumbing Outside	4.3.1 4.3.1.1 4.3.1.2 4.3.2 4.3.2.1 4.3.2.2	Refurbish existing masonry guttering and downspouts for the main building Clean gut on the main roof of debris Conduct repairs to both gutter and downspouts Repair the water cistern and connect to roof drains Wash and sanitize the holding tank Identify leaks and repair

				4.3.3 4.3.3.1 4.3.3.2 4.3.4 4.3.4.1 4.3.4.2	Revise plumbing lines in guard house Review existing lines Replace lines in accordance with drawings Install one public restroom adjoining the guardhouse bathroom Install restroom to accommodate visitors to the office Install roof and fixtures in accordance with drawings
5	Environment	5.1	Remove all spoils	5.1.1 5.1.1.1 5.1.1.2 5.1.2 5.1.2.1 5.1.2.2 5.1.3 5.1.3.1 5.1.3.2	Remove all existing dowels Remove all spoils Shall be free of checks and knots Remove all spoils Remove spoils so to enable sizing by carpenters/joiners Spoils to include windows, doors, staircase Install new dowels Dowels shall be moderately durable timber Dowels shall be in accordance with plans
		5.2	Landscaping	5.2.1 5.2.1.1	Clean and remove debris Clean and remove all debris to one location for dumping

				5.2.1.2	Use of heavy equipment for removal of debris
				5.2.2	Remove rocks and stones in close proximity of main building
				5.2.2.1	Use heavy equipment to wit backhoe
				5.2.2.2	Place stones as backing for fencing
				5.2.3	Prepare ground for top soil
				5.2.3.1	Clean and clear all debris
				5.2.3.2	Use heavy equipment for grading purpose
				5.2.3.3	Pour top soil and level off
				5.2.4	Install necessary plants
				5.2.4.1	Lay ground work for planting using manual labour
				5.2.4.2	Plant seeds, budding plants, etc

TO WHOM IT MAY CONCERN
D I C T U M

THIS SERVES TO CONFIRM THAT I, MICHAEL S. BLAKE, SENIOR ASSISTANT SECRETARY IN THE MINISTRY OF EDUCATION OF ST. KITTS. DID, DURING THE HOURS CONTAINED IN THE DAYS BETWEEN 16TH AND 19TH FEBRUARY, 2017, PERUSE IN DETAIL THE THESIS PENNED BY **MRS. MENTRICE ARTHURTON**, A PREREQUISITE AS PARTIAL FULFILMENT OF THE REQUIREMENTS, FOR THE **DEGREE OF MASTER OF PROJECT MANAGEMENT**.

I DECLARE THAT UPON CLOSE SCRUTINY OF THE DOCUMENT, I NOTED SEVERAL INSTANCES OR INCORRECT EXPRESSION, GRAMMAR, SYNTAX AND PUNCTUATION, AND PROCEEDED TO AMEND AND EMEND THE THESIS ACCORDINGLY.

I ALSO RECOGNISED THAT, SOME CASES OF ISSUES LOGICAL SEQUENCE AND REPETITION NOTWITHSTNDING, THE DOCUMENT REPRESENTED A CLEAR PROOF OF SUNSTANTIAL RESEARCH, AND EVIDENCED GENUINE EFFORT AT SATISFYING THE RELEVANT CRITERIA.

I AM CONFIDENT THAT THE CANDIDATE IS, IN A GENERAL SENSE, AU FAIT WITH THE LITERARY AND PRACTICAL EXIGENCIES OF HER TASK, AND IS INTELLECTUALLY AND PSCHOLOGICALLY FIT AND PREPARED TO TAKE AND FULFIL THE COURSE DEMANDS TO SUCCESSFUL COMPLETION.

I DO RECOMMEND, HOWEVER, THAT THE CANDIDATE IMMERSE HERSELF MORE COMPLETELY IN AN UNDERSTANDING OF THE DYNAMICS AND CHALLENGES OF EFFICIENTLY AND EFFECTIVELY ERECTING AND MANAGING A PUBLICLY-OWNED EDIFICE OF HISTORIC VALUE IN THE PARTICULAR CONTEXT OF THE NEVIS EXPERIENCE AND REALITY.

IN GOOD FAITH,

18th February, 2007

Michael S. BLAKE (869-669-0984)
Trained Teacher's Cert. (UWI)
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