

Strategic Assessment

Options to Improve the Efficiency & Effectiveness of Surveying Services (PSI 26)

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Title: Options to Improve the Efficiency & Effectiveness of Surveying Services

PART 1: OVERVIEW

1.1 Introduction

The Survey Section of the Lands and Survey Department (L&S) has responsibility for building and maintaining the national geodetic control, authentication of plans in accordance with the Land Surveyors Law and Survey Regulations (1996 Revision) and providing land surveying (cadastral, topographic, hydrographic and engineering) surveys to the Cayman Islands Government (CIG). This document will explore options for CIG to increase efficiencies and reduce costs when delivering surveying services by undertaking an assessment of the services provided and ensuring that the impact of these services on matters of national significance is considered.

This proposal was highlighted in the Ernst and Young report of Sept. 2014, Section 13.1, which identified the outsourcing of land surveying services as a service as potentially suitable for contracting out.

1.2 Purpose

This Strategic Assessment seeks to inform Cabinet with the detailed information needed to analyse if the investment proposal needs to progress to the next phase: to develop an Outline Business Case, if necessary.

The Strategic Assessment:

- defines and identifies possible routes to confirm the need to invest in change;
- identifies preferred ways forward, supported by a limited number of viable short-listed options for further analysis; and,
- will be used to develop the need for the investment required to build an Outline Business Case.

PART 2: STRATEGIC CONTEXT

2.1 Organisational Overview

Under the Land Surveyors Law (1996 Revision), Section 3, the Chief Surveyor is mandated to direct and control all public surveys, which includes any survey for the purpose of defining the boundaries of any land which is owned by the Government or any public authority or in which the Government or any public authority possesses or disposes of any interest, or any survey which forms a part of a survey within the Islands.

The Survey Section sits within Lands and Survey Department and totals 16 employees as follows:

- a. 1 - Chief Surveyor;
- b. 1- Senior Geomatician;
- c. 2- Geomatician;
- d. 2- Survey Technician 1;
- e. 1- Survey Technician 2;
- f. 1- Survey Technician Assistant;
- g. 1- Survey Assistant;
- h. 1- Survey Field Supervisor;
- i. 1- Field Assistant I;
- j. 3- Field Assistant II;
- k. 1- Cadastral Quality Assurance Officer and,
- l. 1- Cadastral Quality Control Assistant.

The section operates in teams, each team comprising of a Surveyor (Geomatician or Survey Technician and a Field Assistant)

The teams are based on Grand Cayman and Cayman Brac, as follows; 4 teams in Grand Cayman and 1 team in Cayman Brac.

The Land Surveying section provides the following services to Government;

- a) To manage a service to clients, Government departments and the general public by way of cadastral, topographical, level, control, setting out, monitoring, engineering and hydrographic surveys;

- b) To fulfil the statutory functions of the Chief Surveyor as laid down in the Land Surveyors Law (1996 Revision); and as delegated by the Governor under the Roads Law (2000 Revision);
- c) To assist with the graphic mutation of Registry Maps in accordance with the Registered Land Law (1995 Revision) and verify the correctness of Strata plans submitted under the Strata Titles Registration Law (1996 Revision); and,
- d) To assist with departmental mapping projects in conjunction with the GIS Section and provide advice on aerial photography contracts together with photogrammetry generally.
- e) To provide surveying services to Statutory Authorities and Government Companies, such as National Road Authority and Water Authority for the production of prescribed composite maps in relation to proposed road schemes and topographic maps in relation to wells and water metres at cost.

The section provides the following services to external Licensed Land Surveyors operating in the private sector;

- a) As a statutory responsibility to Government, review, check and authenticate all cadastral surveys, and manage the quality, correctness, and style of submissions together with the electronic recording of that data;
- b) Manage the provision of statutory (gazette), cadastral, topographic, engineering, hydrographic, control and associated survey data and output for Government and the general public; and,
- c) Advise the general public, the licensed land surveying profession and Government departments in general on acceptable methodology to ensure compliance with the Laws administered by this Department.

Government Land Surveyors in both Grand Cayman and Cayman Brac carry out similar work with the exception that the surveyors based on the Brac are allowed to conduct surveys for private citizens in their own time.

The Lands and Survey Department has the following other core business functions:

Land Registry

Administering the Registered Land Law (2004 Revision), the Strata Titles Registration Law (2013 Revision) and the Regulations made there under in order to provide a state-guaranteed Title and ensure the legal and formal validity of all transactions registered by the Land Registry Section.

Valuation and Estates Office (VEO)

VEO supports the collection of stamp duty on sale of real property and providing Government organizations with valuations and related services. Provides custodial and strategic management services for Crown Lands, including the acquisition and divestment of lands.

National Geographic Information System

Maintaining the foundation for a modern national spatial information system by providing:

1. Geo-referenced data (geodetic control, base mapping, including hydrographic data and property data); and
2. A technology infrastructure to distribute the foundation databases including internet technologies.

Administration and Finance

1. Provides receptionist and customer service duties on behalf of L&S.
2. Ensures that all financial businesses are completed, including the daily collection of registry fees, document fees, and payment for myriad products, documents and services as well as daily lodgements.

The core activities of the Department are:-

- To provide an up to date Land Registry system to include full electronic transactions and E-Conveyancing.
- To provide an efficient cadastral framework and national control network to facilitate efficient land surveying services.
- Deliver surveying services to all Government entities in Grand Cayman and to both public and private sector in the Sister Islands.
- To provide land and building valuations for all government properties.
- To efficiently manage Crown property including acquisitions and disposals.
- To expand provision of Geographic Information Service solutions in tandem with current market trends
- Stamp Duty assessments and collection of revenue.

The Department employs 64 full time equivalent staff (including the survey section), has an annual expenditure of CI\$ 4,000,000 and manages the following assets:-

- Land Registry records.
- Land Surveying records.
- Land Valuation Database.
- 600 Crown Properties.

- National GIS database comprising of aerial photography, mapping and a graphic database of property information.
- Assorted number of computers, vehicles, plotters, survey equipment and office furniture.

2.2 Key Drivers

The following key internal drivers have given rise to the proposed project:

The CIG has over the last number of years introduced several reforms which may radically alter the structure operation, management and accountability of the public sector. These reforms formed a part of the CIG's need to improve the effectiveness and efficiency of the Civil Service and reduce operating expenses where possible.

The key external driver is the recommendation in the Ernest &Young Report (2014) to consider the outsourcing of all Government land surveying services to the private sector. The outsourcing of government services, may be defined as; *"a contractual arrangement for an external organisation to take responsibility for performing specific activities, on a commercial basis, which are required for a government department/agency to fulfil its functions."* An adaptation of this strategy would fundamentally change the way the Section operates and how publicly funded services are delivered. Instead of relying on "in-house" resources, the government would now widely utilise the private sector to produce plans required for delivering services such as building roads, schools and any other government initiative which requires the production of a technical or legal survey plan.

2.3 Relationship to Government's Policy Priorities

Some of the CIG objectives were laid out in the Project Definition Document namely,

- reducing public expenditure and the size of the civil service;
- improving the effectiveness and efficiency of the public sector

The others have been identified from the Premier's State of the Nation Address, February 2015, relating to public sector reform objectives, and other general policies and strategies, such as:

- reducing public debt and therefore reduce the need to borrow or improve credit rating;
- improving services to the community, and;
- creating a business environment to attract foreign investment and encouraging businesses to be more competitive thereby creating wealth and jobs.

L&S is committed to achieving the strategic objectives found in the Ministry's Annual Budget Statement:

- To provide an up to date Land Registry system to include full electronic transactions and E-Conveyancing
- To provide an efficient cadastral framework and national control network to facilitate efficient land surveying services
- To provide land and building valuations for all government properties in a timely manner
- To expand provision of Geographic Information Service solutions in tandem with current market trends
- To efficiently manage Crown property including acquisitions and disposals
- To provide all government land surveying work

In their message to the Civil Service in July, 2015 both the Premier and the Deputy Governor stated that their priority is to “make sure public services ... are delivered efficiently and effectively and we need to be willing to take action to tackle some of the big issues.... The resources we have will continue to be limited so we have to maximize the value we create for every dollar we spend. To ensure services are truly centered on our people. To find new, more productive ways of working, working differently.”

The message further goes on to state that “government finances are inherently volatile” and there is the ever-growing pressure on the CIG to control public expenditure which has focused attention taking advantage of new technologies to improve service delivery.

PART 3: THE CASE FOR CHANGE

3.1 Investment Objectives

- 1. Investment Objective 1: To improve customer satisfaction rate in the service delivery of completed survey jobs by 20 percent within 24 months.**
- 2. Investment Objective 2: To reduce the capital cost of producing survey jobs by 20 percent.**
- 3. Investment Objective 3: To reduce the field survey operational cost by at least 20 percent**

3.2 Existing Arrangements

Investment Objective No 1: To improve customer satisfaction rate in the service delivery of completed survey jobs by 20 percent within 24 months.

Whenever a surveying job is required the Department ascertains from information submitted the type of survey that would be suitable for their needs and a proposed delivery date. This is done in consultation with the client after which L&S recommends the type of survey that meets the clients' needs.

Once the details are finalized, a formal request is sent by the initiating Department to the Ministry, PLAHI, seeking their approval to undertake the survey. Once approval is given, L&S is formally instructed and the survey is scheduled.

Some of the jobs are currently not completed within the agreed first instance delivery date as further instructions from the clients may cause a shift in priorities. Scheduled work is disrupted by various changes in instructions from clients of the Unit which will change the priority or status of jobs. This creates further challenges and difficulties in completing previous work and therefore there is a significant amount of re-work that is invariably done. Due to the passage of time that has elapsed in some instances, scheduled work previously started is lost and the data must be re-verified, hence time is lost in restarting old work.

All surveys performed by L&S are completed under the umbrella of the Chief Surveyor. The jobs are assigned to the Survey Technicians who take responsibility, under the guidance of the Chief Surveyor, for the survey from initial research to plan production.

One of the main problems is the inability of the Survey Section to give concrete or realistic estimated completion dates to the stake holders. Two jobs with similar work requests can result in inaccurate estimation of completion dates. The actual complexity of certain types of surveys is not fully realised until the field work has begun, despite having done a thorough in-house investigation. Various factors contribute to unforeseen delays leading to missed deadlines including:

- Field conditions ranging from missing and/or destroyed boundary markers as a result of site clearing and new road construction;
- Poor original records comprised of land adjudication records and subsequent approximate survey records;
- Poor maintenance of boundary features by land owners.

These factors all contribute to the changing requirements of a job after it has been accepted by L&S.

Investment Objective 2: To reduce the capital cost of producing survey jobs by 20 percent.

L&S invests in new technology (specialised software), equipment and vehicles to ensure that the work produced is of a generally high standard, compliant with international standards and to maintain capabilities and increase efficiency.

Currently each team has access to one of five vehicles, as well as various equipment. The department usually replaces the vehicles every seven (7) years at an approximate cost of CI\$30,000 annually. Additionally, specialised equipment such as, GPS Rovers, Base Stations, are purchased on an annual basis ranging in cost from approximately CI\$20,000 – CI\$50,000 subject to budgetary constraints.

Investment Objective 3: To reduce the field survey operational cost by at least 20 percent

The Chief Surveyor is supported by a complement of 12 staff in Grand Cayman and three staff members in Cayman Brac. There are three (3) Land Surveyors, two (2) Quality Assurance officers, two (2) Geomaticians, one (1) Senior Geomatician, one (1) Survey Assistant, one (1) Survey Technician Assistant and five (5) Field Assistants.

We currently have one field assistant per surveyor for a total of five. On average, a survey job results in the surveyor spending one day in the field and 1.5 days in the office processing and documenting his findings. This activity accounts for only 80% of the job required for the post.

When the Survey Technician is not in the field, the Field Assistant is partially involved with non-billable work related to surveying (i.e. vehicle and equipment cleaning, ensuring that adequate supplies are maintained and field checks of tide and GPS stations) and various non-surveying office duties (shipping and clearing parcels, mail deliveries, map deliveries, assisting the Administration and Finance Unit with various tasks, etc.). This would occupy approximately 30% of his non-core duties time.

Currently, the work is allocated by the Chief Surveyor to the various surveyors based on the type of job and the surveyor's skill and experience level. This may affect delivery when there are complicated surveys which require specialised skills to undertake them. The Unit has no

control of over the type and complexity of the surveys requested by clients but it does accommodate training for surveyors to ensure that the unit has the necessary skill sets to undertake all work assigned to the Unit.

These projected investment objectives are based on initial estimates with respect to reduction in service delivery time of survey jobs from current to desired turnaround times.

3.3 Key Business Problem(s)

1. Delay in service delivery dates/time

a) Impromptu demands of customers

The Survey Section is at times unable to deliver as agreed due to incompleteness of jobs because of circumstances outside its control, the impromptu demands of customers; problems such as poor archived surveying records and field boundary evidence. These problems undermine productivity and the ability of the unit to function at full efficiency and achieve desired outcomes, and may result in unnecessary costs in completing a survey. They jeopardize the Unit's ability to ensure that surveying services are responsibly stewarded and could affect the ability of L&S to meet the needs of its customers.

b) Lack of specialized equipment and expertise in personnel resources:

Some surveying services require new features and capabilities such as hydrographic and/or landfill surveys. The department would require specialised equipment as well as the expertise in utilising this equipment which may not be readily available. Progression of projects may require approval of funds which could take over a year because of the budget cycle and therefore leads to further delays in delivery. Additionally, such specialised equipment may not be cost effective as they could potentially be used for certain projects and thereafter become redundant.

c) Delays in recruitment/replacement of staff:

The present complement of surveyors is three out of five established posts. The recruitment exercise to fill the vacant posts is currently under way and in the interim will affect service delivery. The turnover rate of staff in the unit coupled with a lengthy recruitment process has the potential to lead to shortage of human resources. With a limited number of surveyors, (the Department has 5 surveyors on its approved chart) it could impact government projects and delivery dates. The shortage of surveyors means that we may not be able to deliver on all jobs within an established timeframe.

2. Reduction in Cost

Over the years there has been a general reduction in funds allocated to Lands and Surveys. In keeping with the mandate of the CIG to reduce overall operational cost, the Department has been successful in cutting costs and managing within the reduced spending allocations. However, the Department anticipates that this trend in fund reduction will continue over the next few years. The achievement of its mandate in unison with improving and maintaining services will not be possible embracing short term measures only. Fundamental changes will also be required. The Department recognises that it will achieve long term value for money if new ways of delivering its mandate is implemented with a sustainable lower cost base.

3.4 Key Considerations

It appears that the “market assessment and comments” in the EY Report contains several inconsistencies and inaccuracies. Five firms were listed in that section of which only two were licensed land surveyors. One of the licensed land surveying firms at the time of the report had been closed for over one year and the other firm listed indicated that he was never consulted on this issue, see table below. There are currently six (6) licensed land surveyors operating within the Islands.

The Survey Section is comprised of two units, namely, Land Survey (9 members of staff) and Quality Assurance Units (2 members of staff) in addition to the Chief Surveyor. The Quality Assurance Unit is dedicated to the authentication of all legal plans depicting the legal boundaries of all parcels. This is one of the major statutory duties of the Chief Surveyor and covers all aspects of the survey and mapping process. The need to support this particular statutory duty of the Chief Surveyor is paramount and therefore the Quality Assurance Unit is not a part of this assessment.

Additionally, when discharging other statutory duties the Land Survey Unit is required to review private surveyor submissions, and a survey team will be required to undertake an independent field check of the submitted surveys. The team should be neutral and not represent a biased view as could potential happen when one company is reviewing the works of a competitor.

This team would also be responsible for supporting the underlying control network that serves as the background to all surveys conducted in the Cayman Islands. The expertise in the operations and maintenance and of the Continually Operating Reference Stations (CORS) resides only with the Department and this is also a potential conflict with other duties of a surveyor. The works tends to be repetitive and costly, as multiple visits are needed to confirm and reconfirm positional values before officially publishing them. The CORS is used by all

private and public land surveyors, utilities companies, and developers and it is imperative that this is maintained and available for use at all times.

3.5 Key Constraints and External Dependencies

Results –

Time Frame – Project to be completed by December, 2015.

Resources –

Activity performance –

Save and except the issues highlighted below and deadline for the preparation of the Outline Business Case we are not aware of any constraints related to any of the potential solutions to explore ways in improving the efficiency and effectiveness of Land Surveying Services.

Table 1: Key Constraints and External Dependencies

CONSTRAINTS	Notes
<ol style="list-style-type: none"> 1. Resources – currently no additional personnel in Lands and Survey and existing staff must be utilised. This will have an impact on productivity and delivery on statutory services. 2. Funding – no additional funding has yet been identified and the cost for deliverables may have to be absorbed by L&S 	<p>Discussions to begin with Ministry to seek approval for additional funding or shifting of resources.</p>
DEPENDENCIES	Notes and Management Strategies
<p>Approval from Ministry to seek external consultant to deal with the preparation of OBC if approved for Cabinet.</p>	

3.6 Conclusions

Having reviewed the information there appears to be an opportunity for government to operate more efficiently and effectively in delivering these services.

The main areas for improvement are decrease in delivery times, improvement in customer service delivery and a decrease in capital and operational cost.

The main impact of maintaining the status quo is that the current operational processes and allocation of jobs will be retained. Remaining with the current system will continue to require the same level of funding as well as potentially seeing an increase over the years as the Department seeks to maintain the human and equipment resources to receive and process request for surveying services. In the absence of investment in new systems for completion of these jobs, significant recruitment and training will need to be undertaken to ensure the skills of retiring staff are transferred to new staff, whilst allowing for sufficient time to train new recruits.

Maintaining the status quo may potentially also gives rise to the following issues:

- the retention of inefficiencies which could potentially exacerbate costs for government departments and agencies;
- the inability (due to rising staff costs) to maintain sufficient staff resources with the requisite skills;
- resources are not available to undertake the significant recruitment and training needed to ensure the skills are transferred to new staff, whilst allowing for sufficient time to train new recruits given the associated difficulties of obtaining qualified land surveyors and some may not be readily being available in the marketplace;
- the time delay between approval of jobs and completion of jobs.

Due to the issues outlined above, there appears to be 'case for change' to improve the current process, as it would benefit Core Government and other stakeholders. It would support:

1. It would support the Government's mandate to continually improve the provision of public services to consumers and,
2. Cost savings including less capital expenditure, office accommodation and other operational cost.

The other statutory duties of the Chief Surveyor did not form a part of this assessment as this must be retained to give effect to the Land Surveyors Law and the Land Surveyors Regulations thereunder. In addition, government has started several projects which would require specialised skills, to bring them to completion and/or sustain namely, Sea Level Monitoring, Bathymetry Data, Beach Monitoring and the full implementation of Digital Cadastral Survey submissions to replace the paper compilations that currently exist.

The branch office of Lands and Survey in Cayman Brac provides surveying services to both the Government and private sector in Cayman Brac and Little Cayman, to afford them the same level of services offered in Grand Cayman. This was a decision taken by the CIG some years ago as surveying firms in Grand Cayman would require mobilization fees, including but not limited to, transportation, shipping and accommodation for surveys undertaken in the sister Islands which would translate to a higher cost for the same service offered in Grand Cayman. The status quo should remain the same in this respect.

PART 4: IDENTIFICATION AND SCREENING OF POTENTIAL SOLUTIONS

4.1 Evaluation Criteria

Table 2: Critical Success Factors

Critical Success Factor Categories	Broad Description	Critical Success Factors Specific to Your Proposal
Strategic Fit and business needs	How well the option: <ul style="list-style-type: none"> meets agreed upon investment objectives, the related business needs and service requirements Is aligned with the organisation, provides synergy and supports other strategies, programmes and projects. 	Improve government delivery of effective and efficient services Achieves the wider strategic aim of Government
Potential value for money	How well the option optimises value for money (i.e. the optimal mix of potential benefits, costs and risks).	Reduce Government's expenditure.
Supplier capacity and capability	How well the option: <ul style="list-style-type: none"> matches the ability of potential suppliers to deliver the required services is likely to result in a sustainable arrangement that optimises value for money. 	Determine and exploit local market
Potential affordability	How well the option: <ul style="list-style-type: none"> Meets the sourcing policy of the organisation and likely availability of funding Matches other funding constraints 	Deliver efficiency savings and affordable to implement
Potential achievability	How well the option is likely to be delivered, given: <ul style="list-style-type: none"> In view of the organisation's ability to assimilate, adapt, and respond to the required level of change How well it matches the level of available skills a required for successful delivery. 	Achievable within a timeframe of 24 months.

4.2 Long List of Options

Stakeholders have identified the following long list of potential options as follows:

Table 3a: Option Description

Option Number and Name	<i>Option Number 1 No change;</i>
Description	The status quo remains the same with Lands and Survey Department carrying out all surveying service requests for and on behalf of core Cayman Islands Government, Statutory Authorities and Government Companies (SAGC). SAGC's are currently required to pay for these services.
Option Number and Name	<i>Option No 2: Selective Outsourcing: A general increase to some median level of outsourcing</i> without substantially disrupting operational procedures;
Description	This option could provide a number of alternatives thereby ensuring sufficient work to the private sector by maintaining the industry's involvement on a medium scale in that they could maintain their expertise and secure a return on their investment. It is estimated that approximately 50% of all work programmed for L&S would be affected.
Option Number and Name	<i>Option No 3: Partial Outsourcing: where in house maintenance of skills and development of expertise and Ministerial request drives the level of outsourcing.</i>
Description	This option involves major outsourcing of most surveying jobs with the Department being charged with responsibility to conduct some in-house surveys mainly for Ministerial projects. This will transition process may assist the industry in absorbing the work immediately as well as develop the extra expertise and also assist L&S to redirect resources as required. This could be considered to be approximately 85% of all programmed work for L&S.
Option Number and Name	<i>Option No 4: Outsourcing all surveying activities</i>
Description	This option assumes that all surveying activities are out-sourced with L&SD evaluating and accepting the work produced. The department would be required to maintain some level of expertise and also assist in the development of improvements to the proposed system and to specify performance and competency standards.
Option Number and Name	<i>Option No 5: Internal Business Process Review</i> to increase operational efficiencies;

Description	This option refers to making the current process more effective, efficient, or transparent by detailing the process value through the eyes of the customer; defining, managing, and implementing measures in the process in order to regularly evaluate it using data-driven information; reducing unnecessary business costs.
Option Number and Name	Option No 6: Employee Mutuals
Description	This option assumes that all surveying jobs are outsourced and the Government would be pro-active in assisting small business development. Most, if not all, the existing equipment could be sold to staff who would effectively be placed in a position to undertake some of the surveying jobs to be out-sourced.

4.3 Screening of Options

The long list of options is appraised against the identified CSFs.

- A **Green** assessment indicates fully meets
- A **Yellow** assessment indicates partly meets; and
- A **Red** assessment indicates does not meet

Table 4: Screening of Options

Option	CSF1: Efficiency	CSF2: Strategic Aims	CSF3: Cost Reduction	CSF4: Business Environment	CSF5: Deliverability
Option No1: Do Nothing	Contrary to policy and would not achieve any of the strategic objectives set by government.	Would not achieve any of the aims of Government in particular creating a more competitive business environment.	Would not achieve the government's objective of reduction of public debt.	No negative consequences	No significant change required
Option No 2: Selective Outsourcing: A general increase to some median level of	Potential to deliver savings in terms of faster delivery of services and operational flexibility. Some business	Opportunity to deliver in terms of creating a business environment creating wealth and	Would achieve some of the government objectives. Likely reduction in wages,	Could potentially create better working relationship with government and the private sector	Would require additional research to ascertain market readiness as well

outsourcing	process improvement will be required to ensure commercial viability.	jobs.	pension and capital investment		establishing government's investment in vendor and service management.
Option 3: Partial Outsourcing: where in house maintenance of skills and development of expertise and Ministerial Request drives the level of outsourcing.	Potential to deliver savings in terms of faster delivery of services and operational flexibility. Some business process improvement will be required to ensure commercial viability.	Opportunity to deliver savings as well as contributing to significant growth in private sector.	Potential to achieve reduction in public debt. Likely reduction in wages, pension and capital investment	Could potentially create better working relationship with government and the private sector	Would require additional research to ascertain market readiness as well establishing government's investment in vendor and service management
Option 4: Outsourcing all surveying activities	No guarantee of a competitive market	Opportunity to adapt working arrangements, significant disruption to staff as well as less scope for flexibility. No capability to deal in house with any survey in the interest of CIG	Opportunity to deliver some savings but knowledge and assets disposed of may be difficult to regain or replace. Due to the nature of the services high risk of creating monopolies because of the need to consolidate services to achieve economies of	Could potentially create better working relationship with government and the private sector	Would require some investigation to be done to ascertain market readiness

			scale.		
Option5: Internal Business Process Review	Potential to Deliver Savings in terms of efficiency	Opportunity to deliver on the quality and timely delivery of services	Unlikely to see a significant reduction in public debt but has the potential to increase revenue and see reduction in operational cost	No negative consequences	Achievable within required timeframe.
Option 6: Employee Mutuals	Unlikely to achieve any significant savings and may require investment from Government to dispose and assist with setting up of businesses.	In line with the strategic aim of government	Potential to achieve reduction in public debt in terms of wages and pension and some capital investments.	L&S does not have the strategic aim of moving towards this environment.	Unlikely to be achieved as the market for licensed land surveyors may be saturated. Additionally some of the affected employees would not be in a position to transition to the private sector

Table 5: Option Findings

Options	Overall Assessment	Rationale (reasons for exclusion)
Option 1: Do Nothing	Retained as baseline	Contrary to policy
Option 2: Selective Outsourcing: A general increase to some median level of outsourcing without substantially disrupting operational procedures;	Viable	This has a number of advantages, it could deliver time and savings to both L&S and CIG with less potential disruption to staff
Option 3: Partial Outsourcing: where in house maintenance of skills and development of expertise and Ministerial request drives the level of outsourcing.	Viable	This allows government to retain some capabilities and to ensure that urgent projects can be dealt with in a timely manner, without the resulting delays from standard procurement of services.
Option 4: Outsourcing all surveying activities	Discounted	This will see significant disruption to general operations as well as staff. CIG will have less scope for flexibility and no capability to deal in house with any survey required for any matter.
Option 5: Internal Business Process Review to increase operational efficiencies;	Viable	This has the potential to increase revenue to CIG and see reduction in operational cost. There may be less potential disruption to staff.
Option 6: Employee Mutuals	Discounted	Unlikely to be achieved as the market for licensed land surveyors may be saturated. Additionally some of the affected employees would not be in a position to transition to the private sector.

4.4 Short-Listed Options

On the basis of this analysis, the recommended short-list for further, more detailed assessment in the Outline Business Case is as follows:

- Option 1: **Do Nothing** (retained as a baseline comparator).
- Option 2: **Internal Business Process Review** to increase to increase operational efficiencies. Staff will not be affected. This will include all of Land Surveying Services including the operations in Cayman Brac.
- Option 3: **Selective Outsourcing: A general increase to some median level of outsourcing** without substantially disrupting operational procedures. This may result in a reduction of 50% reduction in staff in the Surveying Unit.
- Option 4: **Partial Outsourcing: where in house maintenance of skills and development of expertise and Ministerial request drives the level of outsourcing.** This may result in 75% reduction in staffing levels.

It is important to note that, in connection with some of the issues identified within this assessment, we have not reached a view as to whether or not markets are working efficiently or whether consumer protection or competition concerns exist; moreover, the thinking and understanding around many of the issues is at different levels of research and development.

Table 6: Estimated costs of short-listed Options

Option (all figures in \$000's)	Option 1: Do Nothing	Option 2: Business Process Review	Option 3: Selective Outsourcing	Option 4: Partial Outsourcing
Capital Costs	(259)	(191)	(188)	(151)
Running costs	(557)	(550)	(310)	(201)
Income	189	189	95	28
Other Expenses		(20)	(10)	(15)
Total	(627)	(572)	(413)	(339)
Savings against Do nothing baseline		627	627	627
Net savings		55	214	288

The following assumptions were made:

1. The Chief Surveyor and Quality Assurance and control team remain as part of the statutory function, and are excluded from these figures.
2. The Cayman Brac Office will not be affected by this Strategic Assessment.
3. All vacant posts recorded for the 15-16 budget year are filled.
4. Costs are based on the 15-16 salary levels and approved posts in L&S

Potentially all staff in the Surveying Section could be impacted depending on the final option selected, however they will be treated in line with the policy being designed by the Portfolio of the Civil Service as advised. However, we anticipate the following posts, set out in the table below, to be affected in shortlisted options.

REDUNDANT POSTS BY OPTION:

Option 1	Option 2	Option 3	Option 4
NONE	NONE	Survey Field Supervisor	Survey Field Supervisor
		Survey Technical Assistant	Survey Technical Assistant
		Geomatician	Geomatician
		Survey Technician I	Survey Technician I
		Surveying Assistant	Surveying Assistant
			Field Assistant II
			Survey Technician II

4.5 Stakeholder Management

The key stakeholders that have an interest in the expected outcomes or can influence the investment proposal have been identified as indicated in the table below.

Table 7: Key Stakeholders

Stakeholder	Interest
Internal	
Lands and Survey Staff	Potential loss of employment. Development of a system that is stable and leads to job security.
Core Government	
External	
Government Departments, Statutory Authorities, Government Companies	A system that is robust, efficient and cost effective that delivers completed jobs to meet business deadlines.
Licensed Land Surveyors	

A considerable number of reviews and discussions have gone into the scope to consider the options contemplated by the EY Report. Sessions were recently held with all staff members of the Survey Unit and some the main customers of the Unit, with the objective of identifying the main issues and bottlenecks that need to be tackled in order to reduce the transaction costs associated with the surveying process, and to make recommendations on improving upon the current institutional and regulatory system.

The process used to engage with key stakeholders and to build support for the need for change and to identify the preferred way forward has been to have focus group sessions to gather information from the group's perspective and opinions on a solution to at this stage. The participants were asked questions in an interactive setting and were encouraged to discuss their thoughts freely with the leader and each other.

Consultations to date includes discussions with Senior Policy Advisor, Ministry PLAHI, Deputy Director, National Road Authority both major customers of the Unit as well as licensed land surveyors.

The stakeholder consultations to date indicate that there is room for improvement in the surveying services provided by Government. All parties indicated that the delivery of service could be more efficient and cost effective. However, the internal stakeholders advocated a business process review with more aggressive key performance indicators and they were mainly concerned about loss of job security. The licensed land surveyors would welcome the opportunity of outsourcing as this would mean additional income.

PART 5: INVESTMENT REQUIRED TO DEVELOP AN OUTLINE BUSINESS CASE

5.1 Methodology

The Outline Business Case (OBC) will require the following key personnel support within Lands and Survey:

1. Chief Surveyor;
2. Administrative and Finance Manager;
3. Internal Project Team to deal with Business Process Review;
4. External Consultant (outside L&S) with the necessary skill and expertise in preparing the final documents in particular the OBC.

It is estimated that the OBC will take approximately 8-12 months.

There are several factors which will influence the development and information to be detailed in the OBC which is unknown to the L&S at this time. Therefore L&S is recommending the following before the development of the OBC as this will be necessary to develop monetary cost and benefits of the various options:

- (a) Licensed land surveyors be requested to submit expression of interest and capability statements. This information should include staff resumes, list of the type of equipment used hourly rates for various types of survey and overall cost based on current fee guidelines.
- (b) Evidence of professional indemnity insurance as would be required for procurement purposes;
- (c) All firms to prepare a quality plan for and to give details of their overall quality control system; and,
- (d) Pilot project of approximately six test jobs are to be given to the firms (quoted separately) with performance being assessed on quality, time and cost.

The approval of this Pilot Project outlined at item (d) would result in the L&S assuming the functions as Project Manager including the establishment of a strategic plan, and performance framework for all parties private and public. The Project Manager, will establish several guidelines for the effective oversight of the project under the proposed framework including:

- More strategic performance-based monitoring of the private land surveyors;
- Establishing of procedures to comply with audits and,
- Re-definition of the working relationship between the L&S and all government department and agencies in regard to their relative responsibilities for planning, oversight of expenditure and performance management.

In relation to the Business Process Review four major stages will be documented and analysed:

1. **Identifying** the process and its elements. Specific phases involve defining the scope of the process to be analysed, as well as documenting and analysing the current state.
2. **Improving** the process by identifying and presenting recommendations on specific trouble areas and designing a roadmap to support improvement implementation.
3. Effectively **Manage** the improvement implementation and subsequent process operation using a clearly defined, approved approach.
4. Finally, in order to maintain process health and recognize ongoing improvement opportunities, it is essential to **Measure** key elements.

Assumptions will be:

- Both Pilot projects will last no more than 6-12 months;
- Job request would be tendered in accordance with current procurement guidelines.

Approval of the options shortlisted will imply a change in the date for the presentation of the OBC. We are therefore formally requesting to change the OBC target date to, December 2016, which is estimated to be twelve (12) months after approval by Cabinet. Approval of this Strategic Assessment implies the approval of the new OBC target date.

5.2 Financial Implications

The development of the Outline Business Case would result in L&S assuming the function of Project Manager for monitoring the performance of the Projects including the development of an Internal Business Process Review.

Some work can and will be undertaken internally in preparing the OBC & Business Process Review, but a certain amount of funding for external consultancy expertise & advice will be required.

Currently the National Road Authority is required to compensate the Department for producing survey jobs. It is recommended that these funds be committed to conduct the Pilot Project.

5.3 Public Service Implications

The development of the Strategic Assessment has highlighted the lack of requisite expertise the department in for the completion of the OBC. L&S would require expert guidance and consultation in order to deal with the completion of the report in a timely manner. The

numerous and complex relating to some of the short listed solutions support the need for an expert, knowledgeable in preparation of these submissions.

5.4 Legal Implications

Lands and Survey Department does not foresee any legislative issues relating to the development of the OBC.
