



GOVERNMENT OF THE
VIRGIN ISLANDS
Premier's Office



VIRGIN ISLANDS
**RECOVERY AND
DEVELOPMENT AGENCY**

Sea Markers

Evaluating Value for Money

Project Number: SEA.01.22.136

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Sea Markers

Value for Money (VfM) Report, June 2020

Introduction

One of the core roles of the Recovery and Development Agency (RDA) is ensuring Value for Money (VfM) in the delivery of programmes and projects aimed toward recovery and development of the Virgin Islands. Section 5(2)(c) and (d) of the Virgin Islands Recovery and Development Regulations outline the value for money mandate of the RDA, specifying that:

The Agency shall be responsible for implementing the Government’s Recovery and Development Plan in partnership with the Ministries and in so doing shall:

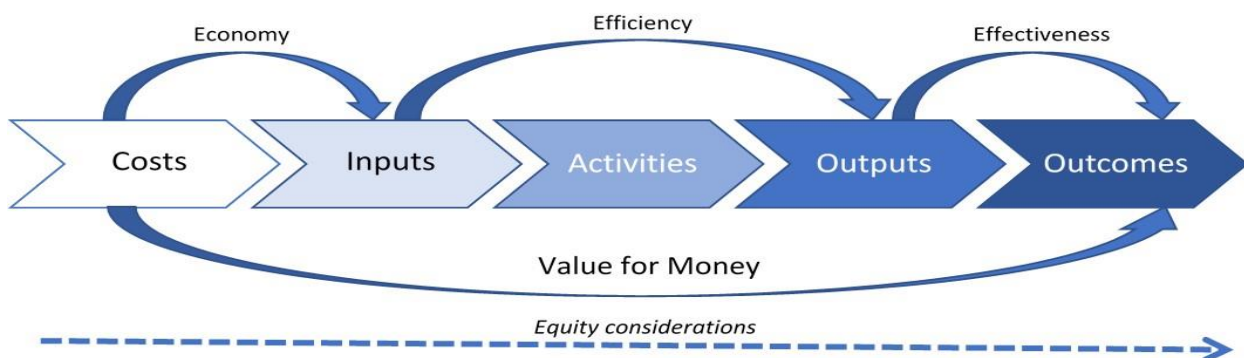
- (c) deliver the intended benefits; [and]
- (d) ensure that each project represents value for money.

To this end, the RDA has developed this Value for Money Framework and Methodology, which uses specific criteria to assess projects’ Value for Money and assigns an overall VfM score for each project.

The VfM score is made up of eight indicators (listed in Table 1) within the four outlined areas of Value for Money, namely Economy, Efficiency, Effectiveness and Equity.

Table 1: Value for Money Areas within the 4Es

VALUE FOR MONEY AREA	
Economy	Economy
Efficiency	Output Cost, Output Time, Schedule
Effectiveness	Output Effectiveness, Outcome Effectiveness, Quality
Equity	Equity



The following sections of this report assess the overall Value for Money of the Virgin Gorda Baths project using the methodology outlined in the RDA’s VfM Framework Guidelines for Economy, Efficiency, Effectiveness and Equity.

Overview of Overall VfM Score (80 out of max 100 points)

The reinstatement of the navigational system in the post 2017 hurricanes was crucial to the navigation of BVI waters to ensure safe passage of vessels and ensure the Territory was tourist ready. Approximately 1,900 vessels enter the waters of the Territory each year and charter guests contribute significantly to visitor numbers with approximately 317,000 charter guests each year.

The navigation by sight and novice level sailing conditions combined with the low level of experience required to conduct bareboat charters means that guests and the environment are at an already elevated level of risk. Certain anchorages that have been restricted for charter tourists due to navigational constraints are now accessible again, thus enhancing their experience of the destination.

This project was developed to supply and install 24 sea markers and 2 range lights across the Territory in partnership with the Ministry of Natural Resources, Labour and Immigration (MNRLI), the Virgin Islands Shipping Registry (VISR), and the BVI Ports Authority (BVIPA).

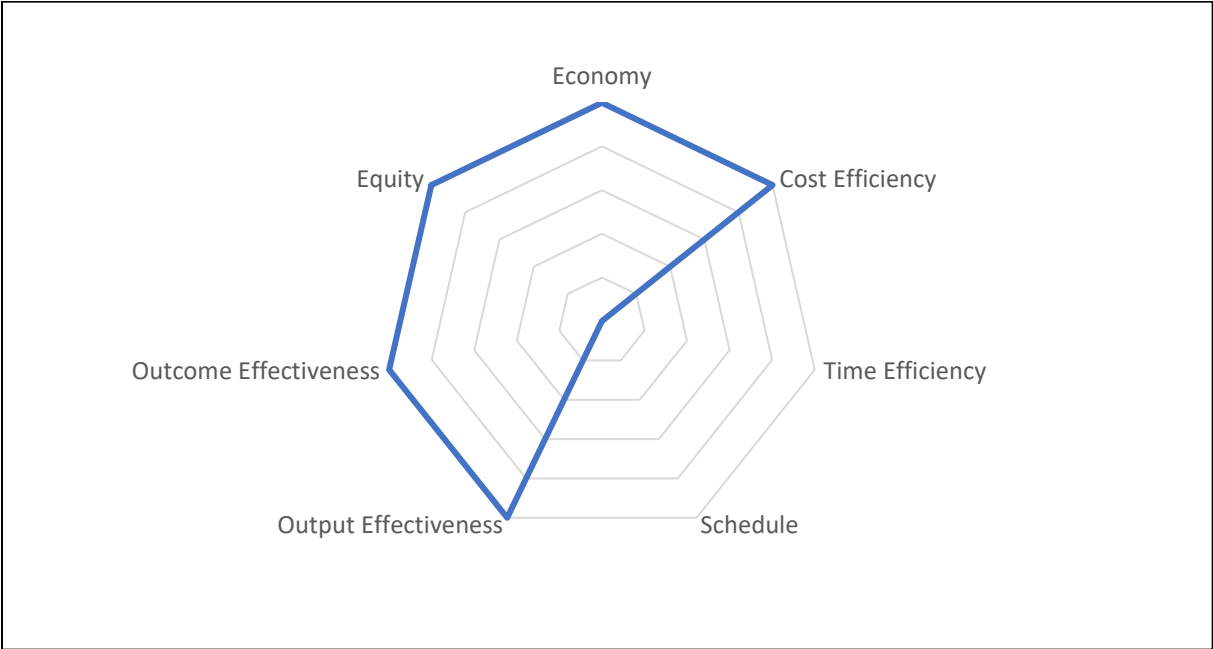
The marking of hazardous areas in North Sound and the establishment of the Trellis Bay, Cane Garden Bay and White Bay channels are expected to improve available navigation aids to charter boats, thus improving the tourism product and marine safety. Finally, the establishment of a GIS data exchange between Government Departments is expected to buttress the knowledge of the Territory's infrastructure and provide an information resource for other Departments to utilise.

This project performed well in terms of Economy, being completed within its original budget. It also received a perfect score in Output Effectiveness, due to reaching its project goals of sea marker installation. Perfect scores were also achieved for Cost Efficiency, Outcome Effectiveness, Quality and Equity. The project fell short in terms of both Time Efficiency and Schedule. There were multiple project delays, specifically due to unstable sea conditions which made installation difficult, as well as inaccuracy of initially received coordinates for sea marker installation in Anegada.

With an overall score of 80, the project performed excellently in Economy, Effectiveness and Equity, but fell short of a perfect score in its Efficiency assessment.

Sea Markers – VfM Scoring			
Economy	Economy	10/10	10/10
Efficiency	Cost Efficiency	20/20	20/40
	Time Efficiency	0/10	
	Schedule	0/10	
Effectiveness	Output Effectiveness	20/20	45/45
	Outcome Effectiveness	15/15	
	Quality	10/10	
Equity	Equity Goals	5/5	5/5
Overall VfM Score			80/100

Figure 1: Overall Value for Money Scoring – Radar Chart



The overall Value for Money Scoring Chart (Figure 1) demonstrates the excellent scores received across most VfM aspects measured, namely Economy, Output and Outcome Effectiveness, Quality and Equity. Schedule and Time Efficiency were the only VfM aspects that did not receive a full score, due to exceptional time delays.

Economy (10 out of max 10 points)

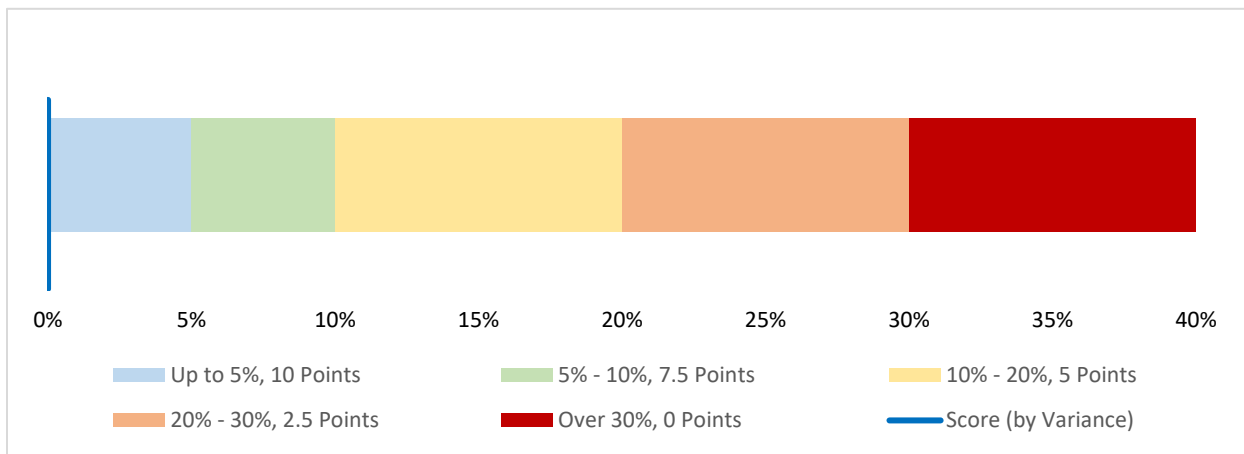
The economy of the Sea Markers project is assessed based on the original budget for the project. This project was initially budgeted at \$450,000 within the Phase One Programme. The contract for the supply and installation was awarded to Sand Dollar Marine Consultants Ltd. on 4 July 2019.

There were variations to this budget from its inception to completion. The original budget in November 2018 was \$450,000, however after a detailed assessment and reduced scope (eliminating rock removal and wall construction from the project), this budget was reduced to \$410,000 in April 2019. An uplift of \$24,975 was later requested, bringing the full delegated funds of this project to \$420,208.54. Even with the reduction, then uplift, the final project spend was within a small variation of the original budget as well as the delegated funds.

The total spend to date at the end of May 2020 was \$421,573 which is approximately 6.32% below the original budget. This indicates that this project was executed within the original budget, therefore receiving a perfect score for Economy (Table 2).

Table 2: Assessment of Economy

ECONOMY ASSESSMENT: 10/10 POINTS	
Original Budget	\$450,000
Actual Spend	\$421,573
Variance (\$)	-\$28,427
Variance (%)	-6.32%
ECONOMY SCORE	10



Efficiency (20 out of max 40 points)

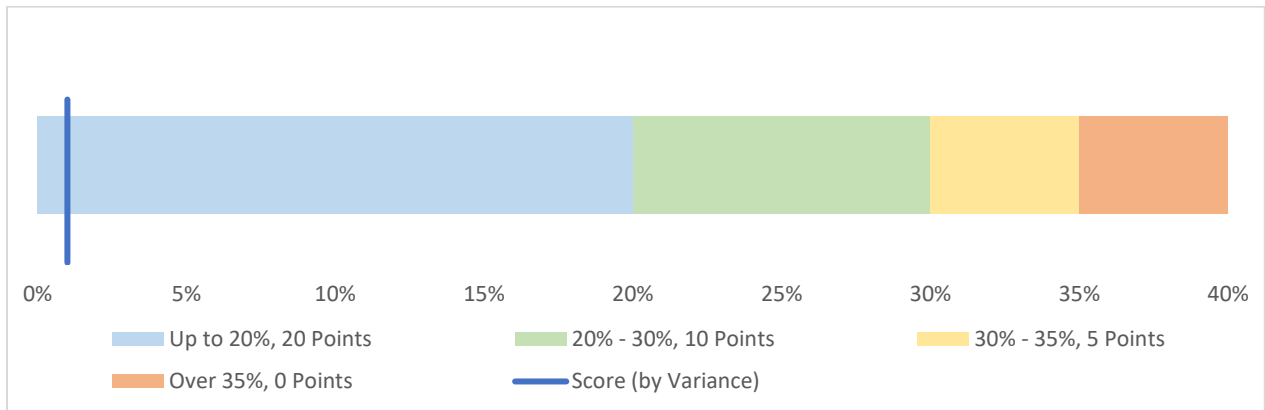
The efficiency of an intervention considers Output Cost (Cost Efficiency), Output Time (Time Efficiency) and Schedule. The project suffered from major delays in completion, resulting in low time efficiency and schedule scores.

Since the project scope was limited to installation of sea markers, the average cost of the installation of a sea marker in accordance with the estimated cost after the rock wall activity was removed from the project was used to determine the benchmark output unit cost. Installing 24 sea markers with a \$410,000 budget would cost \$17,083 per sea marker. The project installed 25 sea markers with a total cost of \$421,573, equalling \$16,862.92 per sea marker. This has a variance of \$220.41 per sea marker, or 1.3%, and therefore receives full points. By installing an extra sea marker, the cost efficiency variance was improved, however, even if the project only installed the originally budgeted 24 sea markers the project would have still been within the range to receive full points for Cost Efficiency.

Cost Efficiency

Table 3: Cost Efficiency Assessment

COST EFFICIENCY ASSESSMENT: 20/20 POINTS	
Output Unit Cost	\$16,862.92
Benchmark Output Unit Cost	\$17,083.33
Variance (\$)	\$220.41
Variance (%)	1.3%
COST EFFICIENCY SCORE	20



Time Efficiency and Schedule

The Statement of Requirement for the project was signed on 28 December 2018, which is considered the project start date used for assessment of time efficiency and schedule. The project was planned to be completed on 9 December 2019, which is equal to 346 planned project days.

The Sea Markers project was completed on 25 May 2020 with the Government signing a certificate of completion. There were therefore a total of 516 actual project days.

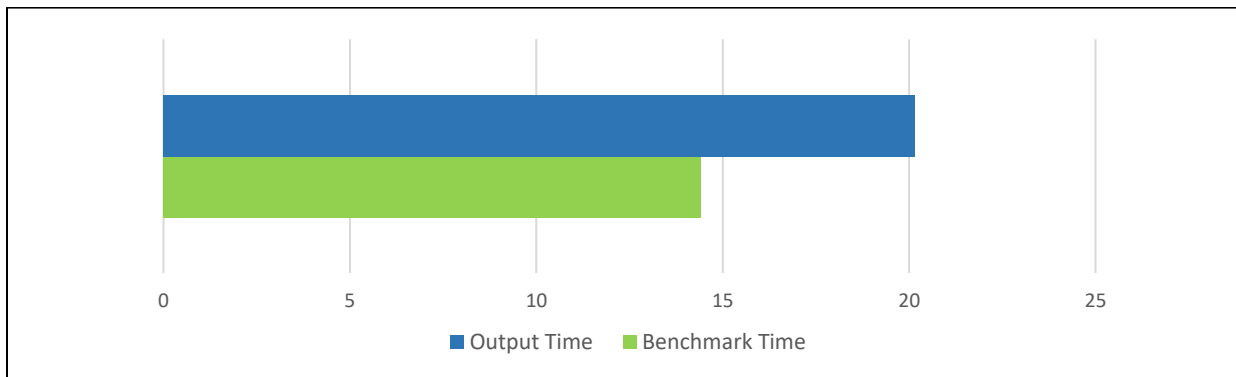
In order to calculate time efficiency, the number of days the project took was divided by the number of sea markers installed. A total of 25 sea markers were installed, resulting in an average of 20.6 days for installation of each sea marker, compared to a benchmark of 14.4 days (expected days divided by expected outputs) for sea marker installation.

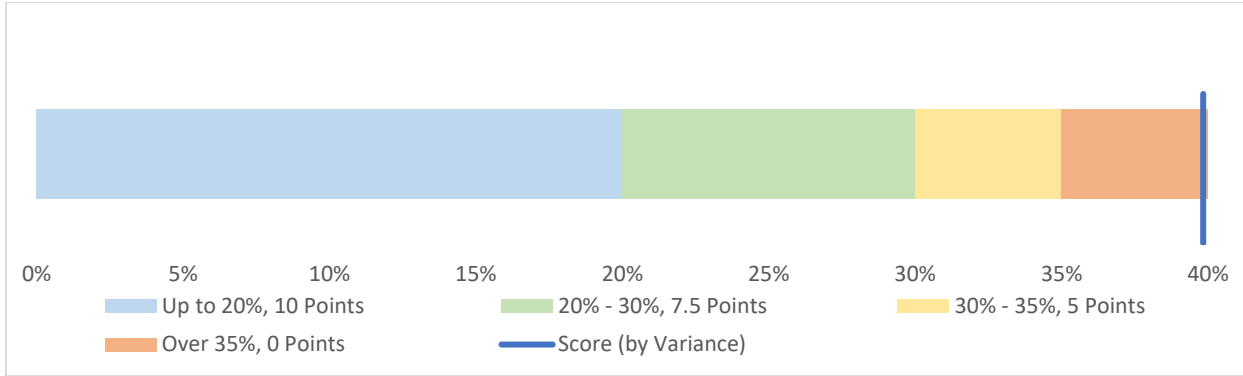
Using this benchmark, the actual output time was 43% over the benchmark. The threshold to receive points in Time Efficiency is within 35%, therefore the project received 0 points in this category (Table 4).

It should be noted that there were delays outside the control of the project delivery team, including errors in GPS coordinates and unstable weather conditions for sea marker installation. Additionally, the last markers were installed following a Territorial lockdown period of approximately twenty-eight (28) days which restricted movement and thus prevented any on-site works. Where adjustments are made to account for the lockdown period though, both Time Efficiency and Schedule assessments would still not have met the threshold for being assigned points (Tables 4 and 5).

Table 4: Time Efficiency Assessment

TIME EFFICIENCY ASSESSMENT: 0/10 POINTS	
Output Unit Time	20.6 days per sea marker
<i>Adjusted</i> Output Unit Time in consideration of COVID lockdown period	19.5 days per sea marker
Benchmark Output Unit Time	14.4 days per sea marker
Variance (days)	(6.2)
<i>Adjusted</i> Variance (days)	(5.1)
Variance (%)	(43.1%)
<i>Adjusted</i> Variance (%)	(35.4%)
TIME EFFICIENCY SCORE	0

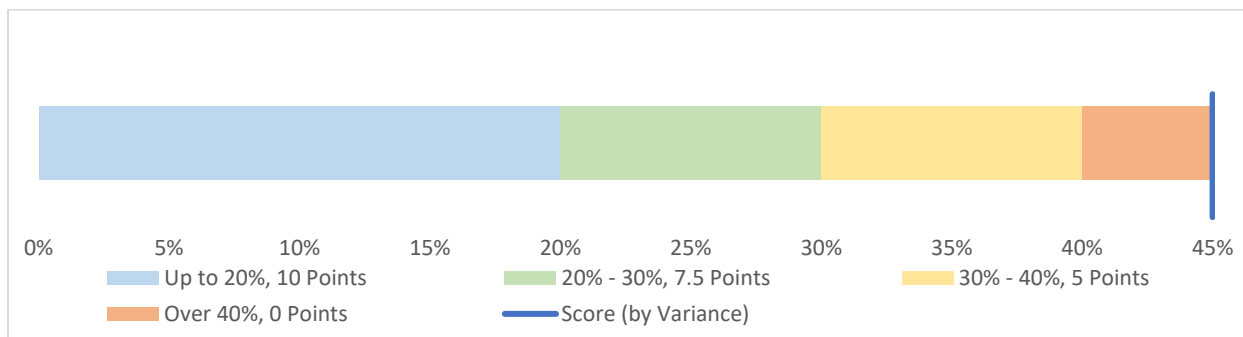
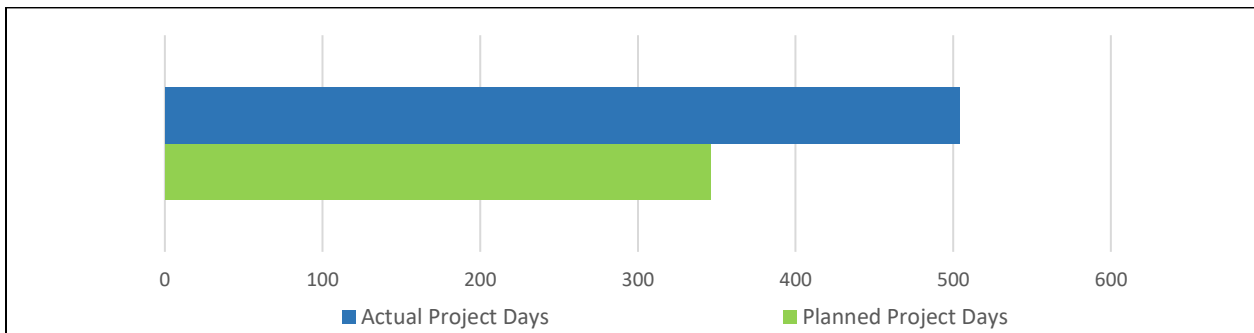




Given that the actual number of project days at 516 days is 170 days or 49.1% past the planned number of project days of 346, no points have been assigned for the schedule score.

Table 5: Schedule Assessment

SCHEDULE ASSESSMENT: 0/10 POINTS	
Planned Project Days	346 days
Actual Project Days	516 days
Adjusted Actual Project Days in consideration of COVID-19 lockdown period	488 days
Variance (days)	-170 days
Adjusted Variance (days)	-142 days
Variance (%)	(49.1%)
Adjusted Variance (%)	(41.0%)
SCHEDULE SCORE	0



Effectiveness (35 out of max 35 points)

Output Effectiveness

Output effectiveness is a measure which compares targeted output indicators to achieved output indicators.

The Sea Markers project installed 25 markers in 6 geographic locations (See below).

Location	Number	Remarks
White Bay (JVD)	3	Lateral markers: 2 green, 1 red
Cane Garden Bay	4	Lateral markers: 2 green, 2 red
Setting point	4	Lateral markers: 2 green, 2 red
Red Bay	3	Lateral markers: 1 green, 2 red
North Sound Harbour	1	Cardinal marker
Trellis Bay	10	Lateral markers: 5 green, 5 red
Range Lights	2	Supply only, BVIPA installed

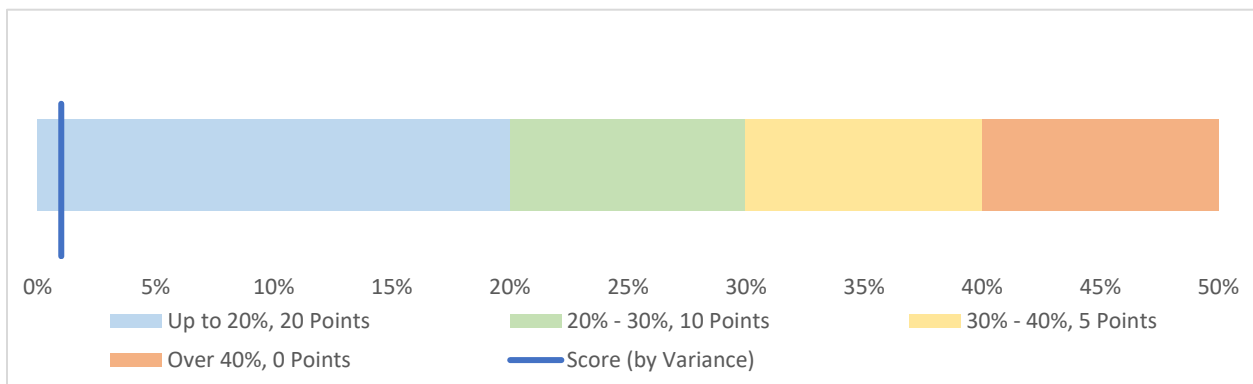
The output criteria were sufficiently met with 25 markers improving 6 locations across the BVI territorial waters. All the 25 sea markers were fixed to the seabed with sand screws rated for conditions appropriate to the BVI. Additionally, 2 range lights were purchased. The project's performance therefore exceeded the expected results and has contributed to making an immediate improvement to national infrastructure, setting the conditions for recovery.

The project met its original goal, installing one more sea marker than originally anticipated along with the purchase of two (2) range lights.

With a positive variance percentage of 4%, therefore, the project has been assigned a full score of 20 out of 20 points (Table 6).

Table 6: Target versus Achieved Output

OUTPUT EFFECTIVENESS ASSESSMENT: 20/20	
Targeted Outputs	24 Sea Markers Installed
Achieved Outputs	25 Sea Markers Installed
Variance (# of Sea Markers)	+1
Variance (%)	4%
OUTPUT EFFECTIVENESS SCORE	20



Outcome Effectiveness

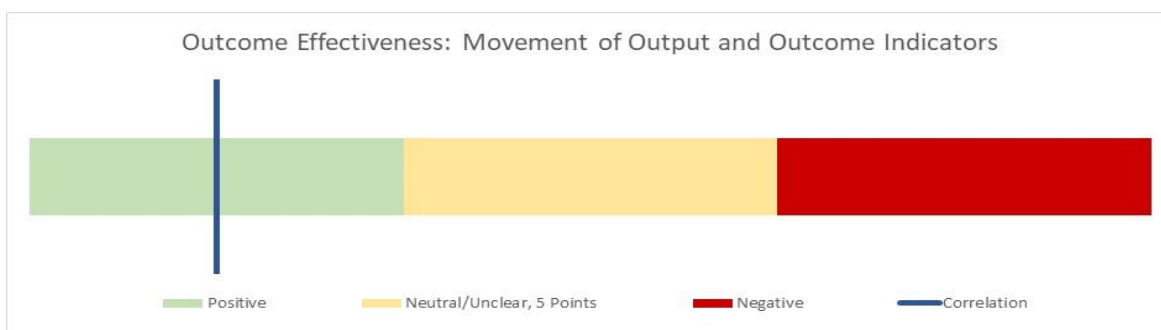
Outcome effectiveness was scored by examining the original interim outcome statements to further clarify if the project has or will have a positive outcome. Specifically, this project is aligned to Interim Outcome 5 of the Phase One Business Case, which refers to the ‘prioritisation of several elements of the critical national infrastructure under the Phase One Programme to ensure that the Virgin Islands is prepared for the recovery’. The interim outcome is aligned to the recovery of the Tourism and Infrastructure Outcome to:

“Rehabilitate and expand port facilities and services throughout the Territory with modernized and resilient facilities relevant to passengers and cargo.”

The interim outcome this project contributes to is:

“Immediate improvement to national infrastructure to prepare for recovery.”

The installation of sea markers directly improves the national infrastructure for recovery and assists in the safety of passengers and cargo. Because of this, in conjunction with the observed decrease in boating accidents (inferred increase in marine safety), a positive correlation change relationship has been assessed, and full points have thus been awarded.



Long term, outcome effectiveness could be measured using the number of boating accidents as the outcome indicator assessed, as a measure of marine safety. The number of boating accidents recorded across the Territory has remained within a 3-4 accident range over the last several years. That said, between the baseline year used, 2016 and 2019, the annual number of boating accidents decreased from 12 accidents to 10 accidents recorded. As of now, the full impact of the sea markers on marine safety cannot be measured until the number of boating accidents is reported for 2020 and beyond.

Table 7: Relationship between Outputs and Outcomes

OUTCOME EFFECTIVENESS ASSESSMENT: 15/15	
Baseline Outcome – Number of Boating Accidents (2016)	12
Actual Outcome – Number of Boating Accidents (2019)	10
Output Change: Decrease in Number of Boating Accidents	-2
Assessment of Change Relationship	Positive correlation
OUTCOME EFFECTIVENESS SCORE	15

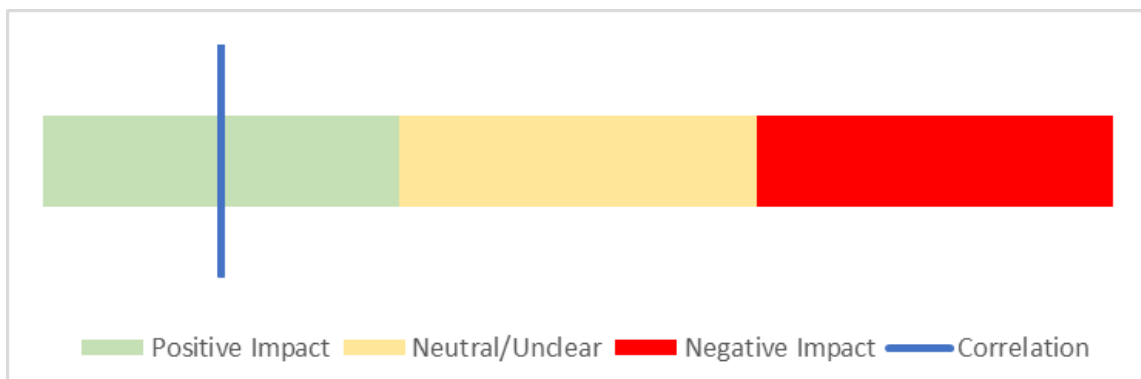
Quality

In terms of quality measurement, valid reports within the defects and liabilities period has been used as a measurement of quality. As of June 2020, there have been no defects reported to the Agency in relation to this project.

While there were some issues during project delivery, including incorrect GPS coordinates resulting in marker detachment due to storm surge and the need to relocate 6 markers, these were all resolved prior to project completion.

With no defects reported after the project was handed over, the project has received a full score (10 points) for Quality.

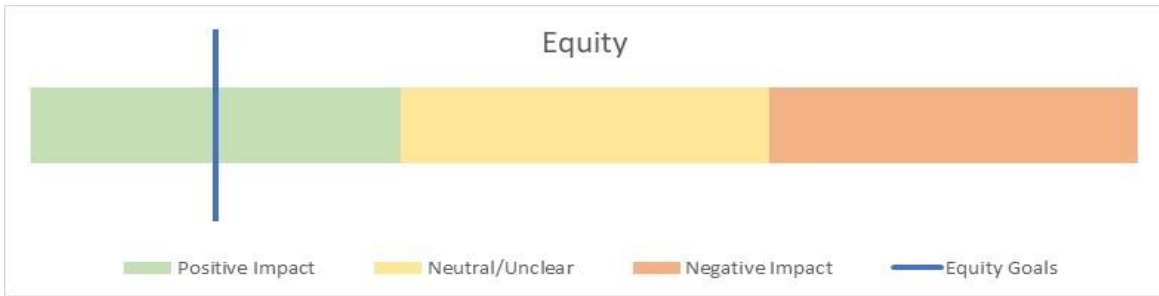
QUALITY ASSESSMENT: 10/10	
Valid Defects Reported	0
Assessment of Quality	Met
QUALITY SCORE	10



Equity (5 out of max 5 points)

The project has improved safety and security for all crew and passengers, across gender, age and other distinctions. Channel markers contribute to the protection of ecologically sensitive habitats in the vicinity of high traffic bays, thereby helping to protect the marine environment for the enjoyment of the Territory's residents and visitors. Recognising the positive impact improved marine safety and environmental protection has for people across gender, age, and other distinctions, a full score of 5 points has been assigned for Equity of this project.

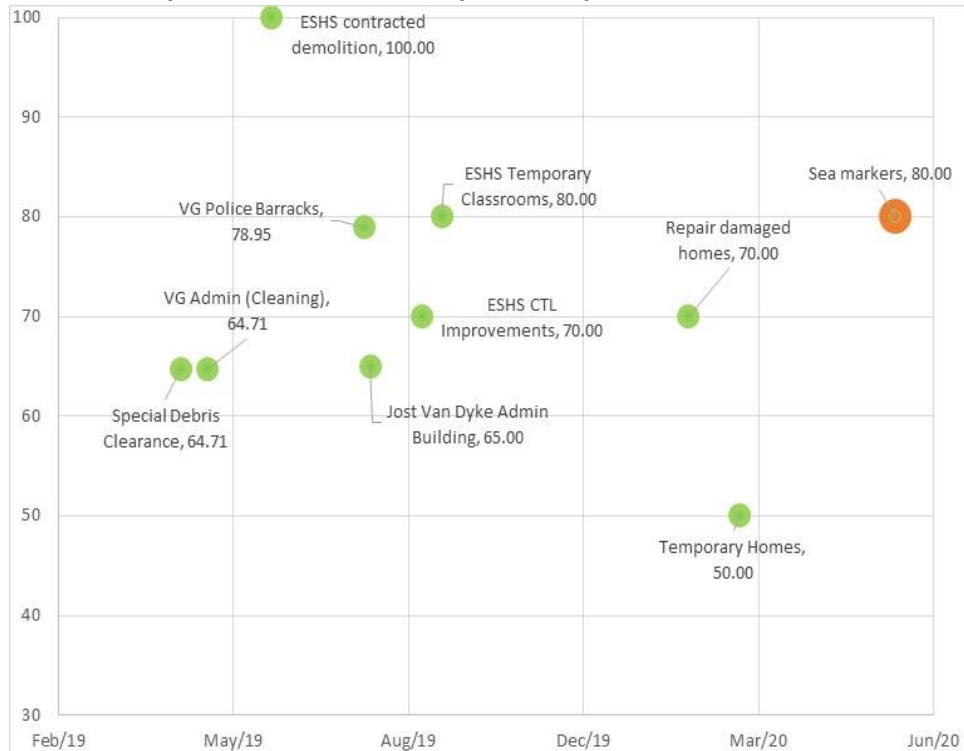
EQUITY ASSESSMENT: 5/5	
Assessment of Impact on Equity	Positive impact
EQUITY SCORE	5



Conclusions

The scoring methodology of the RDA’s VfM Framework has been used in assessing Value for Money and assigning a VfM Score to the Sea Markers project of 80/100.

Figure 2: VfM Score Comparison with Other Completed Projects



The project exceeded its original targeted outputs within its original budget, giving it full points in Economy, Cost efficiency, Output and Outcome effectiveness, and Quality. Due to delays in scheduling however, the project lost points in Time efficiency and Schedule, negatively affecting its overall Value for Money score.

The importance of keeping accurate, up-to-date, readily accessible information on project budgets, schedules, spending and results is continuously underlined in the process of conducting VfM assessments. The Monitoring and Evaluation Team continues to play an important role in reviewing the quality of this information, and collating data for calculation of projects’ VfM scores.