

## TC Document

### I. Basic Information for TC

▪ Country/Region:	Belize/CID
▪ TC Name:	Final Designs for George Price Highway Rehabilitation
▪ TC Number:	BL-T1066
▪ Team Leader/Members:	Raúl Rodríguez Molina, Team Leader (INE/TSP); Brian McNish, Alternate Team Leader (TSP/CPN); Jacob Veverka (INE/TSP); Leopoldo Montañez (INE/TSP); Vanessa Lynch (CID/CBL); Caterina Vecco (INE/TSP); Colin Rees (VPS/ESG); John Primo (CID/CBL); Cassandra Rogers (RND/CBA); Taos Aliouat (LEG/SGO); and Andrés Suarez Sandoval (FMP/CCR)
▪ Indicate if: Operational Support, Client Support, or Research & Dissemination	Operational Support
▪ If Operational Support TC, give number and name of Operation Supported by the TC:	BL-L1019 – George Price Highway Rehabilitation
▪ Date of TC Abstract authorization:	August 6, 2014
▪ Beneficiary (countries or entities which are the recipient of the technical assistance):	Government of Belize (GoBL)
▪ Executing Agency and contact name	Ministry of Works and Transport
▪ Donors providing funding:	IDB, FIRII (Fund for the Financing of Technical Cooperation for Initiatives for Regional Infrastructure Integration)
▪ IDB Funding Requested:	US\$1,000,000
▪ Local counterpart funding, if any:	US\$250,000 (in kind)
▪ Disbursement period (which includes Execution period):	26 months disbursement, 18 months execution
▪ Required start date:	December 1, 2014
▪ Types of consultants (firm or individual consultants):	International firm and individual consultants
▪ Prepared by Unit:	Transport Division (INE/TSP)
▪ Unit of Disbursement Responsibility:	Belize (CBL)
▪ TC Included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	Yes
▪ GCI-9 Sector Priority:	1) Lending to a small and vulnerable country 2) Lending to support climate change initiatives 3) Lending to support regional cooperation and integration

### II. Description of the associated loan/guarantee

- 2.1 Belize is a small tropical country with a lightly spread population of 349,728. The country and its infrastructure, especially in the low lying coastal areas, are critically vulnerable to frequent tropical storms and hurricanes, flood damage, and rising sea levels. Real GDP growth averaged 3.2% annually from 2003-2012. Per capita income (at US\$4,706) has remained broadly unchanged in real terms since 2004. Poverty remains high at 41%. Belize's economy is the smallest of any Bank borrowing member and depends heavily on tourism (37.2% of GDP and 32% of all exports)<sup>1</sup> and agriculture (12.2% and 33% respectively).<sup>2</sup>

<sup>1</sup> Includes both direct and indirect additions of tourism to the national GDP. World Travel and Tourism Council (WTTC). Economic Impact 2014 Belize.

<sup>2</sup> Belize Statistical Institute.

- 2.2 Road transport is the leading transport mode for cargo and passengers in Belize and henceforth a fundamental mechanism for economic development. Of Belize's road network, there are only two land connections with neighboring countries, Guatemala and Mexico, putting significant importance on these two corridors, the George Price Highway (GPH) and the Northern Highway, for Belize's overland trade and integration with the Mesoamerican Region.
- 2.3 Belize's road network consists of 4,489 km of roads<sup>3</sup> of which only 15% (around 657 km) are paved, corresponding mainly to the primary road network. This is one of the lowest coverage rates in the Latin American and Caribbean (LAC) region.<sup>4</sup> Much of the network is built to inadequate standards, receives insufficient maintenance and has not seen access increase at the rate of demand.<sup>5</sup> Belize's primary highway infrastructure was mostly built in the first half of the 20<sup>th</sup> century and very limitedly rehabilitated thereafter, often not to a set standard that adequately meets modern levels of safety, traffic, and drainage. Primary highway corridors require improvements to both vertical and horizontal alignments and to bridge and drainage structures to satisfy the minimum highway standards as defined by the Ministry of Works and Transport (MOWT).
- 2.4 Maintenance is insufficient causing the paved road network to deteriorate at a steep rate.<sup>6</sup> The result is deteriorated pavement and shoulders, poor marking and signing, and compromised drainage. Technical analysis cites that the primary road network is 23% good, 20% regular, 35% bad and 22% very bad.<sup>7</sup> This has been mainly attributed to: (i) the GOBL being unable to secure and administrate adequate and stable flows of funds for road maintenance through the government budget financing procedures; (ii) a weak and poorly equipped road maintenance unit; and (iii) increased traffic levels emanating from the increase in the movement of goods and services and expansion in the tourism and agricultural sectors.
- 2.5 The poor condition of Belize's road network contributes to one of the highest road fatality rates in the LAC region (28.9 per 100,000 people).<sup>8</sup>
- 2.6 The GPH, formerly known as the Western Highway, is a two lane road that connects: (i) Belize City, the economic center; (ii) Belmopan, the national capital; (iii) San Ignacio and Santa Elena; and (iv) Benque Viejo on the Guatemalan Border. The GPH

<sup>3</sup> 573 km are primary roads or highways, 765 km are secondary roads and 3,151 km are rural roads.

<sup>4</sup> Comparators (% of paved roads): LAC: 22.45 (2010); Suriname: 26 (2000); El Salvador: 46.9 (2006); Dominican Republic: 49.4; Jamaica: 73.3 (2005); Guyana: 7.4 (2001); Haiti: 24.3 (2001); Mexico 35.3 (2008); Guatemala: 59.1% (2010).

<sup>5</sup> Belize's low density population requires more kilometers of road per resident than many other countries of the region. This requires a higher rate of road investment per capita than many neighboring countries. Though, Belize has a high ratio of kilometers of road to population, the quality and size of the secondary network doesn't provide the necessary access that the road coverage ratio would seem to indicate. Source: IDB Technical Note Transport Sector in Belize.

<sup>6</sup> Roads rated bad or very bad have increased from 5% in 2004/05 to 57% in 2012/13. Source: Author's elaboration based on the Belize Road Maintenance Strategy and Interviews with MOWT.

<sup>7</sup> Belize Road Maintenance Strategy and Interviews with MOWT.

<sup>8</sup> This rate is well above the LAC average (16.2), Central American average (14.6) and Caribbean average (17.8). Traffic fatalities per 100,000 people in the region (IDB): Belize: 28.9; El Salvador: 21.5; Honduras: 17.8; Nicaragua: 12; Guatemala: 12; Costa Rica: 12.6; Dominican Republic: 25.3; Suriname: 19.7; Bahamas: 19.2; Guyana: 19.1; Trinidad & Tobago: 15.5; Barbados: 12.8; and Jamaica: 12.7.

- was originally built in the 1930s and last rehabilitated in the mid-1980s. The route is part of the International Network of Mesoamerican Highways (RICAM).<sup>9</sup>
- 2.7 Flooding greatly restricts mobility along the road and makes evident infrastructure vulnerabilities during extreme weather events. This is significant as the GPH is a primary evacuation route for coastal areas including Belize City.<sup>10</sup> Of particular concern is the Roaring Creek Bridge (mile 48), located near Belmopan, which has been submerged at least twice in the last ten years and frequently has water straining its superstructure, compromising its structural integrity. There are no alternative routes around this critical point
  - 2.8 In recent years, the GPH's pavement has deteriorated significantly, particularly in Cayo District from Belmopan through Santa Elena/San Ignacio to the Guatemalan border at Benque Viejo due to: (i) insufficient drainage; (ii) an increase in trucks and buses from the expansion of the petroleum, agriculture, and tourism sectors; and (iii) limited maintenance. The pavement's poor conditions together with the absence of paved shoulders, unsafe road alignments, lack of pedestrian facilities in urban areas, and limited marking and signing add to Belize's high incidence of road fatalities. As a consequence of these issues, the GPH suffers from a decreasing level-of-service<sup>11</sup> providing a major constraint for Belize's economic and social development and integration with Central America and compromising the use of this corridor as a primary evacuation route.
  - 2.9 The deterioration of the GPH prompted the Government of Belize (GoBL) to request support from the Bank to finance the rehabilitation of the GPH (see Map 1) from the city of Belmopan to the Guatemalan border at Benque Viejo. Loan Operation BL-L1019 will finance the rehabilitation of the roadway between Belmopan (mile 47.9) and Santa Elena (mile 67.3) and include the replacement of the Roaring Creek Bridge. The remainder of the requested roadway section for rehabilitation awaits financing. The project corridor is significantly important for the agricultural and agro-industrial industry (12.2% of GDP),<sup>12</sup> tourism (36.6% of GDP)<sup>13</sup> and the social development of Belize, including fostering regional trade between Belize and Central American countries. Particularly, the corridor will serve as the main platform to support the expected growth in trade between Guatemala and Belize, especially after the entry into force of the Partial Scope Agreement<sup>14</sup> in 2010.
  - 2.10 The project corridor is recognized by the Mesoamerican Project as part of RICAM that prioritizes the most relevant road links to foster the commercial dynamic in the

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<sup>9</sup> The GPH is included in the RICAM tourism corridor established to foster regional tourism, as it links Guatemala (El Ceibo – Flores) with Belize (Belmopan) and Mexico (Cancun). Priority has been attached by these countries that the corridor's rehabilitation should be done under adequate quality and safety standards.

<sup>10</sup> The GPH is the designated national evacuation route to San Ignacio and Santa Elena for citizens of Belize City and northern communities in case of natural hazard and natural disaster usually a hurricane or tropical storm.

<sup>11</sup> A qualitative measure that describes traffic conditions in terms of speed, freedom to maneuver, comfort, convenience, traffic interruptions and safety, according to highway capacity manual.

<sup>12</sup> Belize Statistical Institute.

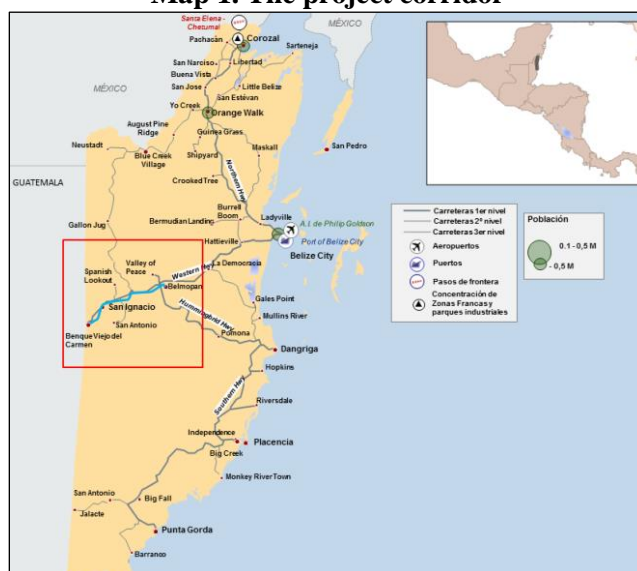
<sup>13</sup> Includes both direct and indirect additions of tourism to the national GDP. World Travel and Tourism Council (WTTC). Belize Economic Impact, 2014.

<sup>14</sup> The signed partial agreement promotes: the facilitation, promotion, diversification and expansion of trade in originating goods from the parties (Guatemala and Belize) by granting preferential margins on their tariffs, eliminating non-tariff barriers to trade, and establishing clear regulations on technical, sanitary and phyto-sanitary measures.

region and with the rest of the world.<sup>15</sup> As such, this project will support the infrastructure improvement of Belize's principal land connection with Central America, which will positively impact the country's competitiveness and connectivity with the Central American region.

- 2.11 The rehabilitation of this corridor will ensure better climate change resilience<sup>16</sup> while enhancing road user safety in accordance to National Highway Standards. Moreover, it is envisioned that any improvement in Belize's intra- and inter-regional connectivity will foster the growth of key economic sectors by reducing transportation costs, and increasing competitiveness through increased economies of scale.
- 2.12 The Bank has initiated the preparation of a loan operation (BL-L1019) to finance the rehabilitation of the aforementioned corridor and address the most important issues affecting its overall level of service.<sup>17</sup>

**Map 1. The project corridor**



- 2.13 The Loan Operation is expected to be presented to the IDB Board of Directors in December 2014.
- 2.14 **Strategic Alignment.** The GPH Rehabilitation, and thus the final designs, meets the Bank's transport priorities detailed in the 2013-2017 Country Strategy with Belize by improving a primary highway significant for trade with Central America and providing greater access to cultural heritage and ecological destinations in the Belizean interior. The project is also aligned with three of the five Bank's institutional priorities of the Ninth General Increase in Resources Report (GCI-9) (AB-2764):

<sup>15</sup> George Price Highway is part of the prioritized Tourism Corridor connecting Guatemala (El Ceibo – Flores) with Belize (Belmopan) – Mexico (Cancun) and El Salvador (Trujillo) under RICAM.

<sup>16</sup> Extreme events and increased rainfall as well as flooding from sea level rise and intense rain will exacerbate the negative impacts on these corridors and contribute to their deterioration. Soil needs to be stabilized and better drainage systems will have to be developed in order to tackle these climate related effects. This should be part of a national adaptation program for the road network.

<sup>17</sup> According to the Highway Capacity Manual, the level of service of a road is a qualitative measure that describes traffic conditions in terms of speed, freedom to maneuver, comfort, convenience, traffic interruptions and safety.

(i) “supporting development in small and vulnerable countries”; (ii) “climate change, renewable energy and environmental sustainability” as the proposed rehabilitation will contribute to the infrastructure adaptation to the more often climate-related disasters; and (iii) “supporting regional cooperation and integration”. The project is aligned with Sector Strategy to Support Competitive Global and Regional Integration (GN-2565-4) as the GPH corridor is part of the Mesoamerican Project’s RICAM that prioritizes the most relevant road links to foster the commercial dynamic in the region and with the rest of the world.

### **III. Objectives and justification of the Technical Cooperation (TC)**

- 3.1 The objective of this TC is to provide financing for the final engineering designs for the rehabilitation of the GPH between the junction with the Hummingbird Highway in Belmopan (mile 47.9) and the Guatemalan Border at Benque Viejo (mile 79.4). Upon completion of this technical input, the Bank will rehabilitate a portion of the redesigned roadway, between Belmopan (mile 47.9) and Santa Elena (mile 67.3), and replace the Roaring Creek Bridge. Financing was not included in the loan for the final designs of the roadway.
- 3.2 This technical assistance is expected to take the preliminary designs of the agreed upon alternative developed under TC BL-T1063, *Project Preparation Studies for George Price Highway Rehabilitation*, and create the final engineering designs for reconstruction of the roadway.<sup>18</sup>
- 3.3 This TC will provide completed studies and designs for 50 km of GPH rehabilitation between Belmopan and Benque Viejo. The project design will be done by a specialized firm and will follow best international practices and standards, contributing to reduce the risk of cost overruns during the bidding process and the project execution period. The GoBL with the support of the Bank’s transport specialist will give close follow up to the final designs execution.

### **IV. Description of activities/components and budget**

- 4.1 This TC will provide financing for the final engineering designs described in Section 3.1 above and will include the following activities (the draft Terms of Reference are in Annex II - [IDBDocs#38993914](#)):

#### **a. Final Engineering Designs**

- (i) Prepare detailed engineering designs, specifications and cost estimates for the proposed rehabilitation of the GPH between the junction with the Hummingbird Highway in Belmopan (mile 47.9) and the Guatemalan Border at Benque Viejo (mile 79.4) based on the preliminary design recommendations.
- (ii) Prepare detailed engineering designs/specifications for a replacement bridge at Roaring Creek (mile 48) based on the preliminary design recommendations.
- (iii) Conduct the requisite geo-technical surveys necessary to design the proposed works, specify testing requirements and analyse results.
- (iv) Conduct any cadastral or engineering surveys where required to complete the detailed designs, particularly at the Roaring Creek Bridge, the Z Curve in

<sup>18</sup> The feasibility consultant will determine the alternative to be fully developed in the Final Designs by August 1<sup>st</sup>, 2014.

Teakettle Village near mile 55 and the section between San Jose Succotz and the entrance to Benque Viejo.

- (v) Verify the Annual Average Daily Traffic (AADT) data.
- (vi) Prepare detailed designs and specifications as necessary for all civil/structural works and all road counter measures.
- (vii) Prepare bills of quantity and detailed cost estimates for the proposed works based on the designs and specifications prepared above.
- (viii) Cost-benefit Analysis in HDM-4
- (ix) Prepare the bidding documents to implement Loan Operation BL-L1019 – The George Price Highway Rehabilitation.

#### **b. Supervision**

- (i) Oversee and check the detailed designs produced for the roadway and structures to assure a high quality design product.
- (ii) Verify the taking of geotechnical samples.
- (iii) Verify the collection of AADT and any other necessary traffic counts.
- (iv) Maintain frequent communication with project team on design team progress.
- (v) Provide a check of final design feasibility technically, socially and financially.

#### **Indicative results matrix**

Activities	Expected outputs	Expected outcomes
<b>Component 1</b>		
Final engineering designs	Final engineering designs for the roadway and structures along the project corridor from Belmopan to the Guatemalan border at Benque Viejo	A fully well designed roadway ready for construction and suitable for the RICAM network
Bidding documents for project construction	Terms of reference and any other necessary bidding documents necessary for contracting a construction firm to build out the designs from Belmopan to Santa Elena	Contracting of a construction firm
<b>Component 2</b>		
Supervision & Financial Audit	A final supervision report Financial Audit & Final Evaluation Report	A fully well designed roadway ready for construction

- 4.2 **Budget.** The total estimated cost of the TC is US\$1,250,000 of which up to the amount of US\$1,000,000 will be financed by the Fund for the Financing of Technical Cooperation for Initiatives for Regional Infrastructure Integration (FIRII ) on a non-reimbursable basis and US\$250,000 by the Beneficiary by means of an in-kind contribution. A breakdown of the indicative budget is shown below:

#### **Indicative budget (in US\$)**

Activity/component	IDB/FIRII	Counterpart funding (in-kind)	Total funding
1. development of final engineering designs	923,000	250,000	1,173,000
2. Studies supervision	70,000	0	70,000
2. Financial Audit	7,000	0	7,000
Total	1,000,000	0	1,250,000

## **V. Executing agency and execution structure**

- 5.1 The Beneficiary for this TC will be the GoBL. The MoWT will be the executing agency and thus will be responsible for contracting and monitoring the implementation technically and administratively. The process of selecting consultants and firms financed with Bank's resources will be implemented in accordance with the Policies for the Selection and Contracting of Consultants financed by the Inter-American Development Bank - GN-2350-9 of March 2011.
- 5.2 The Bank contribution for the supervision of the final engineering design studies will be US\$70,000. The supervision will be executed by the Bank and consist of quality control on the designs ensuring that they are the most suitable course of action for the problem posed.
- 5.3 Audit and Final Evaluation will be carried out in accordance with the Financial Management Policy for Projects financed by IDB (OP-273-3). The Executing Agency will hire an independent auditor acceptable to the Bank to audit the financial statements to be submitted with no more than 120 days of the date of the last disbursement. The budget provision for the financial audit is US\$7,000. The Execution Agency will contract an independent individual consultant to conduct a final evaluation once 90% of the resources have been disbursed.

## **VI. Major issues**

- 6.1 There are no foreseeable issues or impacts to the preparation of the execution of this TC.

## **VII. Exceptions to Bank policy**

- 7.1 No exceptions to Bank policy were identified.

## **VIII. Environmental and social strategy**

- 8.1 In accordance with the guidelines of the Policy Environment and Safeguards Compliance Policy (OP-703) and considering that this TC consists of the elaboration of studies, it has been classified as Category "C" according to the Bank's environmental and social screening process. It is estimated that this TC will not generate significant negative environmental and/or social impacts.
- 8.2 Safeguard Policy Filter Report and Safeguard Screening Form are saved under [IDBDocs#38924337](#) and [IDBDocs#38924338](#).

## **REQUIRED ANNEXES:**

Annex I. Aide Memoire (Letter of Request) – [IDBDocs#38993897](#) (Confidential Annex)

Annex II. Draft Terms of Reference – [IDBDocs#38993914](#)

Annex III. Procurement Plan – [IDBDocs#38993926](#)

CONFIDENTIAL

<sup>1</sup> The information contained in this Annex is confidential and will not be disclosed. This is in accordance with the "Deliberative Information" exception referred to in paragraph 4.1 (g) of the Access to Information Policy (GN-1831-28) at the Inter-American Development Bank.



## **TERMS OF REFERENCE**

### **CONSULTANCY SERVICES FOR PREPARATION OF DETAILED DESIGNS GEORGE PRICE HIGHWAY, BELIZE**

#### **1. INTRODUCTION**

1.01 The Government of Belize (GOB) has received a Technical Assistance (TA) Grant from the Inter American Development Bank to assist in financing the services of consultants to prepare detailed designs for rehabilitating the George Price Highway between Roaring Creek Bridge to Benque Border and replacement of Roaring Creek Bridge with a new bridge structure. The Ministry of Works & Transport (MOWT) shall be the Executing Agency for the Project.

#### **2. BACKGROUND**

Belize is a small tropical country with a lightly spread population of 340,786. The country and its infrastructure, especially in the low lying coastal areas, are critically vulnerable to frequent tropical storms and hurricanes, flood damage and rising sea levels.

Belize's road network consists of 4,489.76 km of roads, of which 788 km are primary roads or highways, 765 km are secondary roads and 1,943 km are rural roads. Only 20% of the road network is paved. The existing network of roads and bridges is severely impacted by recurrent flooding. In recent decades tropical storms and hurricanes have recurrently affected the country. Impacts are likely to worsen due to increased rainfalls and sea level rise associated with climate variability and climate change. Insufficient maintenance coupled with under designed road alignments are contributing to both high internal freight costs and to one of the highest road fatality rates in the Latin American region.

The George Price Highway (GPH), formerly known as the Western Highway, connects:

- (i) Belize City, the economic center;
- (ii) Belmopan, the national capital;
- (iii) San Ignacio and Santa Elena, the second largest urban area in the country; and
- (iv) Benque Viejo on the Guatemalan Border.

The GPH is a two-lane, 79.4 mile highway originally built in the 1930s and last rehabilitated in the mid-1980s. Since then, the roadway's pavement has deteriorated significantly, in particular between Belmopan (mile 47.9) and the Guatemalan Border at Benque Viejo (mile 79.4), due to: (i) insufficient drainage; (ii) the steep increase in truck traffic from the expansion of, primarily, the petroleum sector and, to a lesser extent, the agriculture and tourism sectors; and (iii) limited maintenance. The pavement's poor conditions together with the absence of paved shoulders, unsafe road alignments, lack of pedestrian facilities in urban areas, and limited marking and signing lead to Belize's high incidence of road fatalities.

Flooding greatly restricts mobility along the road and makes evident infrastructure vulnerabilities during extreme weather events. This is significant as the highway is a primary evacuation route

for coastal areas including Belize City. Of particular concern is the Roaring Creek Bridge (mile 48), located near Belmopan, which has been submerged at least twice in the last ten years and frequently has water straining its superstructure, possibly undermining its structural integrity. Loss of access to the bridge cuts off a critical evacuation route during severe storm events in the short-term and severely damages trade with Guatemala and tourism to important sites in Western Belize in the long-term.

To address these problems the Government of Belize (GoBL) through funding requested from the Inter-American Development Bank is committed to address both:

- i) the rehabilitation of the GPH between Belmopan and the Guatemalan Border at Benque Viejo; and
- ii) the Roaring Creek Bridge (both components comprise the “Project”).

### **3. GUIDELINES**

The Services shall be carried out in accordance with generally accepted professional practices, following recognized engineering and management principles and practices. The Consultants’ scope of work is understood to cover all activities necessary to accomplish the stated objectives and outputs of the below services, while adhering to the aforementioned principles and practices. This is not an exhaustive list and the absence of any ‘activities’ necessary for the Consultant to satisfy the objectives and outputs, does not preclude the Consultant’s obligation to perform those activities.

#### **Design Standards**

The GoBL lacks a specific national design standard but recommends using AASHTO standards for a primary road of two lane undivided highway with paved shoulders with a design speed of 100 km per hour in rural settings and 40 km per hour in urban areas. The roadway should be designed to withstand and properly drain a one in 20 year storm, and major bridges should withstand a one in 100 year storm. Any standard proposed for the design should be agreed upon with the GoBL before proceeding with final designs.

As with the standards guide, the project alternatives may deviate from the above ideal at the Consultants discretion and the GoBL’s agreement to ensure that the project best meets the needs of Belize.

### **4. DURATION**

4.01 It is expected that the consultancy will be completed over a six (6) month period.

## **5. OBJECTIVE**

4.01 The objective of the Consultancy is to review the preliminary designs and complete a detailed engineering design for both the Road Section between Roaring Creek to the Benque Border as well as a detailed engineering design for a new replacement bridge at Roaring Creek.

## **6. SCOPE OF SERVICES**

6.01 The George Price Highway comprises the following distinct sections:

- (a) Section 1: Roaring Creek Bridge to Intersection of George Price Highway with Iguana Creek Road at mile 56;
- (b) Section 2: George Price Highway with Iguana Creek Road at mile 56 to Red Creek Bridge at mile 65.4;
- (c) Section 3: Intersection of George Price Highway and Buena Vista Street to Benque Border;
- (d) Construction of a new Bridge as replacement of Roaring Creek Bridge

6.02 The scope of services to be provided by the Consultant will include, but not be limited to, the following:

- a) Prepare detailed engineering designs, specifications and cost estimates for the proposed rehabilitation of the GPH between the junction with the Hummingbird Highway in Belmopan (mile 47.9) and the Guatemalan Border at Benque Viejo (mile 79.4) based on the preliminary design recommendations.
- b) Prepare detailed engineering designs/specifications for a new replacement Bridge at Roaring Creek (mile 48) based on the preliminary design recommendations.
- c) Conduct the requisite geo-technical surveys necessary to design the proposed works, specify testing requirements and analyse results.
- d) Conduct any cadastral or engineering surveys where required to complete the detailed designs, particularly at the Roaring Creek Bridge, the Z Curve in Teakettle Village near mile 55 and the section between San Jose Succotz and the entrance to Benque Viejo.
- e) Verify the Annual Average Daily Traffic (AADT) data.
- f) Prepare detailed designs and specifications as necessary for all civil/structural works and all road counter measures.
- g) Prepare bills of quantity and detailed cost estimates for the proposed works based on the designs and specifications prepared above.

- h) Cost-benefit Analysis in HDM-4 by sections
- i) Prepare the bidding documents to implement Loan Operation BL-L1019.

## **6. EXECUTION**

6.01 The Project is to be executed by MOWT, through its Project Execution Unit (PEU). The Project Coordinator, PEU, will be responsible for the day-to-day supervision of the consultants carrying out the assignment.

## **7. DESCRIPTION OF SERVICES**

7.01 The Services shall be carried out in accordance with generally accepted standards of professional practice, following recognised engineering and management principles and practices. The consultants' scope of work is understood to cover all activities necessary to accomplish the stated objectives of these services, while adhering to the aforementioned principles and practices, whether or not a specific activity is cited in these Terms of Reference (TOR).

The requirements of the consultancy are contingent upon prior acceptance of the recommendations by GOB and IDB of the Preliminary Designs for both the Road Sections and Replacement Bridge at Roaring Creek. The consultancy will include the followings tasks:

- (a) conduct the requisite geo-technical surveys necessary to design the proposed works, specify testing requirements and analyse results;
- (b) conduct any cadastral or engineering surveys where required to complete the detailed design particularly at Roaring Creek Bridge, Z Curve in Teakettle Village, near mile 55 and section between Succotz and entrance to Benque Viejo
- (c) Verify the AADT data
- (d) prepare detailed designs and specifications as necessary for all civil, structural works and all road counter measures;
- (e) based on the designs and specifications prepared above, prepare bills of quantities and detailed cost estimates for the proposed works.

## **8. REPORTING REQUIREMENTS AND DELIVERABLES**

8.01 The Consultant will submit five copies of reports, four copies to GOB and one copy to IDB. The Report shall include as an annex the raw field data acquired from surveys conducted. An electronic form of the reports in word format will also be submitted. These reports are as follows:

A Draft Final Report will be submitted 120 days after the signing of the contract agreement. The Report should present detailed designs, specifications, cost estimates and bidding documents. The Report shall include as an Annex all raw field data acquired from surveys conducted.

The Client will complete its review of the Draft Final Design Report and submit its comments within 30 days of receipt of the Report to the consultants who shall present the Final Report along with copies of the design drawings in AutoCAD.

## **9. MANPOWER, SCHEDULING AND COSTS**

9.01 In estimating man-month requirements and cost of the services, the consultants should ensure that the proposal takes full account of all of the above requirements and the following items:

### **Personnel**

(a)	Project Manager	-	6 mths
(b)	Structural Engineer	-	4 mths
(c)	Hydraulics Engineer	-	2.5 mth
(d)	Pavement Engineer	-	3 mths
(e)	Transport Economist	-	1.5 mth
(f)	Road Design Engineer	-	4 mths
(g)	Bridge Design Engineer	-	3 mths
(h)	Environmental & Social Engineer	-	1 mth

## **10. COMMENTS BY THE CONSULTANTS**

10.01 The consultants are requested to make comments on and suggestions for, improvements to these TORs. The financial implications, if any, of these recommendations should be indicated separately in the Financial Proposal.

**Project: Project Preparation Studies for George Price Hwy Rehabilitation**  
**BL-T1066**

Period comprised in this Procurement Plan: From December 2014 through March 2016

Ref. No. <sup>1</sup>	Description of and category of procurement contract	Estimated cost in (US\$ thousand)	Procurement method <sup>2</sup>	Review (ex ante or ex post)	Source of financing and percentage		Prequalification <sup>3</sup> (Yes/No)	Estimated Dates		Status <sup>4</sup> (pending, in process, awarded, cancelled)	Comments
					IDB %	Local / Other %		Publication of specific procurement notice	Completion of contract		
	<b>GOODS</b>										
	<b>WORKS</b>										
	<b>NON-CONSULTING SERVICES</b>										
	<b>CONSULTING SERVICES</b>										
	<u>Component 1</u>										
	Final Engineering Designs	923	QCBS	ex ante	100%	0%	No	October 2014	September 2015	In process	Bidding documents for construction will be produced along with the final engineering designs. According to table 2 in the TC Document, the Counterpart will provide an additional US\$ 250,000 of in-kind to support the Final Engineering Designs in Component 1
	<u>Component 2</u>										
	Supervision	70	QCII	ex ante	100%	0%	No	January 2015	September 2015	Pending	
	Financial Audit	7	QBS	ex ante	100%	0%	No	September 2015	October 2015	Pending	The financial audit will be completed by a firm upon completion of the project.

<sup>1</sup> If there are a number of similar individual contracts to be executed in different places or at different times, these can be grouped together under a single heading, with an explanation in the comments column, indicating the average individual amount and the period during which the contracts would be executed. For example: an education project that includes school construction might include an item labeled "School Construction" for an estimated cost of US\$20 million and an explanation under the Comments column such as this: "This item encompasses some 200 contracts for school construction averaging US\$100,000 each, to be awarded individually by the participating municipal governments over a three-year period between January 2006 and December 2008."

<sup>2</sup> **Goods and Works:** **ICB:** International competitive bidding; **LIB:** limited international bidding; **NCB:** national competitive bidding; **PC:** price comparison; **DC:** direct contracting; **FA:** force account; **PSA:** Procurement through specialized agencies; **PAs:** Procurement agents; **IA:** Inspection agents; **PLFI:** Procurement in loans to financial intermediaries; **BOO/BOT/BOOT:** Build, own, operate/build, operate, transfer/build, own, operate, transfer; **PBP:** Performance-based procurement; **PLGB:** Procurement under loans guaranteed by the Bank; **PCP:** Community participation procurement; **Consulting Firms:** **QCBS:** Quality- and cost-based selection; **QBS:** Quality-based selection; **FBS:** Selection under a fixed budget; **LCS:** Least-cost selection; **CQS:** Selection based on the consultants' qualifications; **SSS:** Single-source selection; **Individual Consultants:** **QCNI:** Selection based on comparison of qualifications of national individual consultants; **QCII:** Selection based on comparison of qualifications of international individual consultants.

<sup>3</sup> Applicable only to Goods and Works in case the new Policies apply. In the case of previous Policies, it is applicable to Goods, Works and Consulting Services.

<sup>4</sup> Column "Status" will be used for retroactive procurement and when updating the procurement plan.

## SAFEGUARD SCREENING FORM

PROJECT DETAILS	
IDB Sector	TRANSPORT-MAJOR HIGHWAYS
Type of Operation	Technical Cooperation
Additional Operation Details	
Country	BELIZE
Project Status	
Investment Checklist	Generic Checklist
Team Leader	Rodriguez Molina, Raul (RAULR@iadb.org)
Project Title	Engineering Studies for the George Price Highway Rehabilitation
Project Number	BL-T1066
Safeguard Screening Assessor(s)	Veverka, Jacob Paul (jacobv@IADB.ORG)
Assessment Date	2014-07-15

PROJECT CLASSIFICATION SUMMARY		
Project Category: C	Override Rating:	Override Justification:
		Comments:
Conditions/ Recommendations	<ul style="list-style-type: none"> <li>No environmental assessment studies or consultations are required for Category "C" operations.</li> <li>Some Category "C" operations may require specific safeguard or monitoring requirements (Policy Directive B.3). Where relevant, these operations will establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.).</li> <li>The Project Team must send the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports.</li> </ul>	

SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS	
Identified Impacts/Risks	Potential Solutions

DISASTER RISK SUMMARY	
Disaster Risk Category: Low	
Disaster/ Recommendations	<ul style="list-style-type: none"> <li>No specific disaster risk management measures are required.</li> </ul>

**ASSESSOR DETAILS**

<b>Name of person who completed screening:</b>	Veverka, Jacob Paul (jacobv@IADB.ORG)
<b>Title:</b>	
<b>Date:</b>	2014-07-15

**COMMENTS**

No Comments



## SAFEGUARD POLICY FILTER REPORT

PROJECT DETAILS	
IDB Sector	TRANSPORT-MAJOR HIGHWAYS
Type of Operation	Technical Cooperation
Additional Operation Details	
Investment Checklist	Generic Checklist
Team Leader	Rodriguez Molina, Raul (RAULR@iadb.org)
Project Title	Engineering Studies for the George Price Highway Rehabilitation
Project Number	BL-T1066
Safeguard Screening Assessor(s)	Veverka, Jacob Paul (jacobv@IADB.ORG)
Assessment Date	2014-07-15

SAFEGUARD POLICY FILTER RESULTS		
Type of Operation	Technical Cooperation	
Safeguard Policy Items Identified (Yes)	Type of operation for which disaster risk is most likely to be low .	(B.01) Disaster Risk Management Policy– OP-704
	The operation is in compliance with environmental, specific women's rights, gender, and indigenous laws and regulations of the country where the operation is being implemented (including national obligations established under ratified Multilateral Environmental Agreements).	(B.02)
	The operation (including associated facilities) is screened and classified according to their potential environmental impacts.	(B.03)
	If a Technical Cooperation, the operation is associated with the design and/or implementation of a major investment loan in infrastructure.	(B.04)
	Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation of women and men, (b) socio-culturally appropriate participation of indigenous peoples and (c) mechanisms for equitable participation by vulnerable groups.	(B.06)
	The Bank will monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan	(B.07)

	agreement and project operating or credit regulations.	
	Suitable safeguard provisions for procurement of goods and services in Bank financed projects may be incorporated into project-specific loan agreements, operating regulations and bidding documents, as appropriate, to ensure environmentally responsible procurement.	(B.17)
<b>Potential Safeguard Policy Items(?)</b>	No potential issues identified	
<b>Recommended Action:</b>	Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.	
<b>Additional Comments:</b>		

### ASSESSOR DETAILS

<b>Name of person who completed screening:</b>	Veverka, Jacob Paul (jacobv@IADB.ORG)
<b>Title:</b>	
<b>Date:</b>	2014-07-15

### COMMENTS

No Comments