

JA-L1022 TRANSJAMAICAN HIGHWAY PROJECT

ENVIRONMENTAL AND SOCIAL STRATEGY

I. BASIC FACTS

Date:	September 2008
Country:	Jamaica
Sector:	Transportation - Toll Roads
Project name:	Transjamaican Highway Project
Source of the deal:	Sponsors/Team
Project team:	John Graham (SCF/INF) – Team Leader Rafael Matas (SCF/INF) Hilary Hoagland-Grey (VPS/ESG); Luz Sarmiento (VPS/ESG)
Supervisor:	Jean-Marc Aboussouan (SCF/INF)
Borrower:	TransJamaican Highway Ltd.
Sponsor/Shareholder:	Bouygues Travaux Publics S.A. Autoroutes du Sud de la France S.A. National Road Operating and Constructing Company Additional Investors
Total project cost:	Estimated at US\$290.0 million
IDB A Loan:	Up to US\$85.0 million or 40% of TPC
IFC A Loan:	Up to US\$85.0 million
French Development Agency Loan:	Up to US\$50.0 million
Environmental Impact Classification:	Category A

II. PROJECT DESCRIPTION AND FINANCING STRUCTURE

A. Background

- 2.1 In 2000-2001 the Government of Jamaica (GOJ) launched the TransJamaican Highway Concession, known as “Highway 2000 Project” under a Build-Operate-Transfer scheme for the construction, operation and maintenance of the first section of a total 230 km 4-to-6 lane highway that would eventually cross the entire island from the Kingston area through the central regions of the island and on to the primary tourism areas surrounding Montego Bay and Ocho Rios.
- 2.2 Through a public international bidding process, the Concession for Phase 1 of the road was awarded to Bouygues Travaux Publics (“Bouygues”) of France, one of the largest construction firms in the world. The Concession Agreement with NROCC was signed by Transjamaican Highway Limited (“TJH” or the “Company”) in November 2001. TJH is a special purpose vehicle established for the sole purpose of the concession and is currently 66% owned by

Bouygues and 34% owned by *Autoroutes du Sud de la France* (“ASF”), the largest toll road operator in France, a fully owned subsidiary of the Vinci Group.

Phase 1A

- 2.3 The first phase of the Highway 2000 Project, Phase 1A, was executed in 2001-2006 and includes a 39 km highway section consisting of: i) the duplication of the Old Harbor Bypass; ii) the construction of a four-lane highway between Bushy Park and Kingston; and iii) the construction of a new six-lane road Kingston and Portmore. Phase 1A was opened in sections in September 2003, December 2004 and July 2006, including the operation of tollbooths along the road.

Phase 1B

- 2.4 The next phase of the highway 2000 Project Program includes constructing a new road section that will link Sandy Bay to Williamsfield consisting of an additional extension of 38 km of four-lane greenfield highway as well as two toll booth facilities.
- 2.5 The works for Phase 1B have been further sub-divided into two sections. The first, Phase 1B-1, consists of a 17 km sub-component of roads from Sandy Bay to Four Paths (See Attachment 1: Project Map).
- 2.6 The remaining section from Four Paths to Mandeville (Phase 1B-2) is to be completed at a later stage.

Additional Phases

- 2.7 The other sections of the Highway 2000 project parts of Phase 2 connecting to Ocho Rios and to Montego Bay are envisaged to be completed at a later stage with the exception of the Mt Rosser Bypass (part of the link to Ocho Rios) which is now under construction.

B. The Project

- 2.8 The proposed Project includes two components: (1) the refinancing of the completed section 1A; and (2) the financing of Phase 1B-1. Co-financing with other lenders is being considered, including the International Finance Corporation (IFC) and the Agence Française de Développement (AFD), through its private sector financing window, Promotion et Participation pour le Coopération Economique (“Proparco”). The remaining stages of Phase 1B, as well as other phases of the overall program, while considered part of the overall road development program, are not part of this financing.
- 2.9 The components of the new road segments include:
- 17 km of construction of new road
 - Construction of a 140 meter bridge over Rio Minho
 - Toll booths and facilities
 - 16 Crossings
- 2.10 Phase 1B-1 includes the section from Sandy Bay to Four Paths (km 33 to 50). The alignment begins at the end of the existing Bushy Park to Sandy Bay segment (Phase 1A). In this area the railway line forms the northern boundary of the PBPA and the proposed highway traverses a

small section of the Portland Bight Protected Area¹ (PBPA) before the alignment varies northward outside the PBPA boundary. The alignment then passes through rolling terrain from KM 34 to KM 44, where the alignment crosses the Rio Minho, parallel to and close of where the existing A2 Road crosses the river.

- 2.11 An interchange will be constructed at KM 41 to provide access to the town of May Pen by means of the existing B-3 Road. Tollbooths will be installed on the entry ramp towards Kingston and the exit ramp from Kingston.
- 2.12 West of the Rio Minho (after KM 44) the alignment will be constructed approximately two meters above existing ground for drainage purposes, passing through sugarcane fields, crossing several gullies, local roads, field connectors and the existing railway (KM 46). At KM 50, the alignment connects the existing A2 Road at Four Paths (end of the Phase 1B-1 section). Before Four Paths, there will be another Toll Plaza with provision for an access road to the plaza from the existing A2 road. The road will be fenced along its length. Sixteen crossings have been identified for this stretch of the road and will be facilitated by overpasses and underpasses. These crossings include gullies, rivers, slip roads, local roads, railways and field connectors.
- 2.13 The construction will necessitate cuts and fills; borrow material will preferably come directly from the road excavations. Nevertheless, because most cuts will take place in weak limestone formations, the supply of sub-base, base, concrete and pavement aggregates will be more restrictive. In this case, the use of borrowed material may be considered unless treatment of excavated material is a viable option. If additional fill material is required, it will be obtained from licensed quarries, a number of which could be located within the Portland Bight Protected Area.

1. Land Acquisition

- 2.14 The Phase 1B-1 will involve the acquisition of 114 land parcels encompassing some 170 Hectares of land within the corridor of the Right of Way generally 100 meters wide. The parcels are a mix of privately owned and governments lands. Of these, approximately 32 occupied residential properties will be acquired, involving approximately 87 individuals. Most of these residences are modest one, two, and three bedroom units. Graves within the alignment will need re-internment. Also included are two churches, two small shops, small scale farming (market gardening and pen keeping) and social infrastructure; areas of vacant land or cane cultivated fields; and two moderately large sand and stone quarries near the Rio Minho.
- 2.15 The acquisition process is currently underway according to a compensation scheme that offers residents compensation or resettlement options. It is expected that agreements will be reached with occupants of the properties by the end of December 2008 and vacant possession is obtained within 30-60 days subsequently. The program is being implemented by the National Roads Operating and Construction Company (NROCC) following the same approach that was used for earlier sections of the road. The strategy has been designed to consider the various types of ownership and title status, which include informal settlers or squatters; informal purchasers (without title); family lands (traditional without title); and registered owners. In all

¹ It is Jamaica's largest protected area and has been in existence since April 1999. The Caribbean Coastal Area Management Foundation has been delegated management responsibilities within the PBPA since 2003.

cases an independent current market assessment of the values of the structures and crops is developed, which is then agreed with the persons who are in possession of the lands. Once agreement has been reached then payment (Relocation Grants) is made. For those without titles such as informal purchasers or family land owners the NROCC assists the person in establishing ownership of the land, and then payment is made for the lands.

- 2.16 Where all efforts to come to a voluntary agreement with the person in possession fails, or where no owner can be identified, then compulsory acquisition is carried out in keeping with the requirements of the Land Acquisition Act. This process involves serving of several notices and, if necessary, hearings with all parties affected if available. No compulsory acquisition of properties has yet been necessary.

2. Alternative Analysis

- 2.17 The SEA considered alternatives for the entire alignment route. Areas considered more challenging were given special analysis. These included Rio Minho and Four Paths. For the river crossing at Rio Minho, the route selected was the one where the terrain presents less engineering challenges. At Four Paths, the focus of the alternatives was the best location for the interchange in terms of space and technical issues.

III. ENVIRONMENTAL AND SOCIAL COMPLIANCE STATUS

A. Compliance with Environmental Assessment and Permitting Requirements

- 3.1 A Strategic Environmental Assessment (SEA) was originally requested in 1999 by the Agricultural Credit Bank of Jamaica, now the Development Bank of Jamaica, who were at the time the executing agency for the overall Project (responsibilities since taken over by NROCC), and was completed in March 2000. The traditional permitting process in Jamaica has relied on Environmental Impact Assessment (EIA) studies. However, because of the scope and nature of the Highway 2000 project, the process was extended to include the SEA, which is an environmental assessment of plans, policies and programs and which sought to guide the design of the highway.
- 3.2 The SEA provided guidelines for design and alignment within the context of a 1 km corridor. The study recommended issues and areas for further study in detailed project-level EIAs. The SEA was conducted in two phases. The first phase comprised a Resource Assessment that included the selection of study methodology; identification of relevant legislation; overview of existing alignment conditions; and the investigation of specific issues along each segment of the alignment. The second phase was the impact analysis and mitigation measures, and included the identification of areas of high priority through a sensitivity analysis, alternatives analysis for the alignment; identification of potential positive and negative impacts of the project; recommended mitigation measures to minimize negative impacts and other recommendations.
- 3.3 An application for an environmental permit for Phase 1B was submitted to National Environment and Planning Agency (NEPA) in February 2007. NEPA is the organization with the mandate for ensuring sustainable development through the protection and management of the island's natural resources and the control of pollution. NEPA responded on April 19, 2007, requesting that an EIA be conducted for the Highway, and included issues that should be

addressed. The terms of reference was subsequently prepared and submitted, and then the EIA process initiated. The EIA was completed on September 4th 2007, and an environmental permit granted by NEPA on January 8, 2008.

- 3.4 In addition to the EIA and permitting requirements, over twenty-five different pieces of national legislation or policy, relevant to this project have been identified including the Natural Resources Conservation Authority Act, The Quarries control Act, Air Quality Regulations, Noise Standards, The Natural Resources Conservation (Portland Bight Protected Area) Regulations, The National Solid Waste Management Authority Act, and The Land Acquisition Act. Six relevant international treaties were also identified. In addition, there is a Management Plan for the “Portland Bight Protected Area” covering the years 1999-2004 that governs the use of the PBRA.
- 3.5 Extensive public consultation has been conducted for the entire Phase 1B program. The terms of reference for the EIA was published for public review and comment through distribution of hard copies in libraries and Parish Council offices and posting of the electronic version on the internet; During the EIA process itself, consultation included: individual stakeholder meetings; interviews of over 300 persons in 20 communities; meetings with various government agencies and technical committees; information sharing with and requests to NGOs, in particular the Caribbean Coastal Area Management Foundation (CCAM) the co-managers of the Portland Bight Protected Area; meetings with Parish Councils. Once the EIA was completed, public presentations were made of the findings, following the NRCA Guidelines for Public Consultations.

B. Compliance with IDB Environmental Safeguard Requirements

- 3.6 The key IDB Safeguard Policies and Directives that apply to this project are Directives B.4 (Other Risks), B.5 (Environmental Assessment), B.6 (Consultations) and B.9 (Natural Habitats and Cultural Sites) of the Environment and Compliance Safeguards Policy, OP-703; The Information Disclosure Policy (OP-102) the Disaster Risk Management Policy (OP-704) and the Involuntary Resettlement Policy (OP-710).

IV. ENVIRONMENTAL AND SOCIAL CONDITIONS

- 4.1 The information below is taken primarily from the Project EIA and SEA.

A. Environmental Setting

- 4.2 The Project is located mostly in the coastal plain, in an area which does not receive as much rainfall as the rest of the island of Jamaica. Nonetheless it is still is an area prone to flooding, primarily due to a combination of high water flow to the area from the mountains in the central part of the country, and poorly absorbent soils. As a result, the areas where the alignment passes through alluvial plains and interior valleys such as the Rio Minho floodplains and Southern and Eastern Clarendon (in the area just west and north of the end of the road section) are flood-prone. Several significant flood incidents have been recorded in the past.
- 4.3 Topographically the area is generally flat sloping gently to the south. Various types of soil, mostly alluvium, overlay Newport limestone formations. Alluvium deposits consist of coarse

gravel, sand and clay. The Alluvium deposits generally occupy the ancient and extant, gully channels or river channels (Rio Minho) carved into the limestone.

- 4.4 In terms of the geo-technical classification and natural hazard vulnerability, the limestone formation range from soft to nodular chalks, to re-crystallized limestone. The most seismically active section of the island is to the east and the maps indicate that if there is to be severe activity in the east, depending on the intensity of the quake, seismic activity could be felt as far west as the Project area. There are characteristic drainage features such as sink holes and there is a flood history in depressions and gully courses along the alignment. Slope stability is generally good, but landslip risk will increase along fault lines, especially those that cross the alignment. Landslide susceptibility of the upper catchment of the Rio Minho shows areas of significant soil erosion coinciding with high landslide susceptibility zones. Though the study area is several kilometers north of the proposed route it demonstrates that significant soil material is potentially available for mobilization in the mountainous zones of the upper catchment during rainfall events. If mobilized, this sediment load in the Rio Minho will modify the viscosity of its discharge waters resulting in increased hydraulic forces being placed on any structure crossing the Rio Minho downstream.
- 4.5 In terms of groundwater and surface water resources, the alignment crosses the hydrological basins of the Rio Minho basin. Several gullies and streams are also intersected. The water quality in the local systems are fairly good with the exception of Rio Minho showing high nitrate levels, possibly associated with farming activity and high fecal coliform levels at Spring Grove possibly again due to animals in the area.
- 4.6 The entire study area has been strongly influenced by human activities and therefore is highly disturbed. There are two habitat zones along the alignment, influenced by soil, topography, elevation and land use. The first zone (disturbed dry limestone woodland) includes the highly disturbed dry limestone forest and abandoned sisal plantation at the northeastern edge of Harris Savanna plantation, where the forest was totally cleared and the land cultivated for many years. Abandoned about 20 years ago, it is regenerating into woodland. The first 6 km of the alignment pass through the Portland Bight Protected Area (PBPA). The proposed alignment will be just within the northern boundary of the PBPA and will follow the existing railway line for the most part. The area is not currently considered ecologically sensitive and has not been zoned for any special protection under the PBPA management plan.
- 4.7 The second zone (pasture and cane fields) includes the flat, alluvial agricultural areas between Harris Savanna and Four Paths, characterized mainly by sugar cane, with mixed agriculture and some pastures. It also includes scattered fish ponds, streams, ditches and boggy areas and pasture with housing in subdivisions and along roads. There are also some seasonally flooded pastures, characterized by the presence of wetland plants such as *Typha domingensis*. These plains are prone to flooding and are also known to retain standing water in shallow depressions for a considerable period after heavy rains. This area has been under intense cultivation for hundreds of years and few remnants of natural or semi-natural vegetation remain
- 4.8 No rare, threatened or endangered species were reported other than the American Crocodile within the Portland Bight Protected Area. It is not likely that the Crocodile will be found where the alignment is located although there is a slight risk of them possibly entering streams and gullies, particularly in the area of fish ponds.

- 4.9 Jamaica is susceptible to hurricanes and other storm events as indicated by historical data. These systems usually bring large volumes of rain with or without flash floods, slow inundation and high winds.
- 4.10 The air quality levels measures in the EIA indicate that levels are all within standard levels with the exception of the Rio Minho area where there are sand-mining activities, and the levels of particulates there are about 12 times the standard. Noise levels at all the monitoring stations were within the guideline of 75.0 dBA set by NRCA. The Inverness and Four Paths stations are located along busy thoroughfares, which contributed to the increased noise levels in these areas.

B. Social Setting

- 4.11 The communities along the alignment include Sandy Bay, Savannah Cross, Hunts Pen, Mineral Heights, Halse Hall, Curatoe, May Pen Bypass, Fogga Road and Four Paths. This area is a densely populated. The most important land use aspects are residential, commercial and agricultural use. Urban infrastructure exists in the form of schools, churches and recreational facilities.
- 4.12 In terms of the socio-economic profile, the impacted communities are generally poor, with significant numbers of persons either unemployed or underemployed. The main occupational skills reported include laboring and building skills among males, and service oriented skills (mainly domestic and home based cosmetology and sewing services) and petty trading including shop keeping and market and subsistence gardening for females. However other skills are also represented, such as bauxite mining, and there are some smaller middle and upper middle-class communities.
- 4.13 From Sandy Bay to Rio Minho there is some limited agriculture and subsistence and market gardening. The highway passes through three residential communities (Savannah Cross, Hunts Pen, Curatoe. After crossing the Rio Minho land use patterns change. The alignment moves through a significant area of commercial agriculture (sugar cane) and other agricultural production, including inland fisheries and chicken farming. There is also a large amount of degraded pasture land and uncultivated holdings. Interspersed but mainly south of the alignment are residential holdings of mixed housing types and the impact zone itself is bordered to the south by a number of small roadside communities comprising the normal mix of commercial operations typically found in such communities.
- 4.14 The Project received positive support among the sample of 132 persons interviewed during the EIA process. Community expectation of temporary employment, downstream economic benefits and the advantages associated with rapid transit were viewed as the main benefits. There is, however, consistent concern in relation to flooding, which is a consistent historical problem in the area, and that the project will exacerbate the problem. Another issue of concern is possible business losses in relation to business diversion resulting from the highway. Other issues raised during public consultation include the use of local labor (skilled and unskilled) by the contractor; Incorporation of any existing roads into the highway alignment; involvement of the management of the Portland Bight Protected Area; and maintenance of the existing Jamaica Railway Corporation right of way (ROW).
- 4.15 Although no archaeological or cultural sites are present in the alignment, there are several sites nearby. Two particular areas are of interest; one is the Halse Hall property near May Pen

which was a sugar plantation, and the community of Curatoe Hill, which was reported to have been a Taino settlement. Other sites in the vicinity include a Pen Taino Settlement in Inverness (650-1950AD) that was an important sisal hemp factory; the Hunts Pen Church, and 18th century structure, and the Sandy Bay Caves that house bats. Halse Hall Estate, Great House and tombs include the 18th century great house on the Jamaica Gazette List of protected sites.

V. ENVIRONMENTAL AND SOCIAL IMPACTS

- 5.1 The potential environmental and social impacts and risks presented by the Project can be grouped as follows: (1) those related to the construction and operation of the greenfield sections of Phase 1B-1; (2) those associated with the re-financing of the existing Phase 1A; and (3) those related to the project as a whole, or those that could potentially arise in the future with the construction of the later phases of the Highway 2000 program.
- 5.2 Of the potential impacts and risks, the key impacts include social impacts, in particular resettlement and the economic displacement caused by the loss of informal and formal roadside businesses along the alignment; and environmental impacts the effects of potential interactions between the road and the Portland Bight Reserve. Flooding is a historic concern in the area, and there is concern that the road will exacerbate the problem.

A. Impacts and Risks Associated with Phase 1B-1 Construction and Operation

- 5.3 The potential environmental and social impacts and risks for this project were assessed first at the “macro” level of the whole project in the SEA, and then more specifically at the level of the alignment in the EIA. Key issues raised during both studies are discussed below.
- 5.4 **Hydrology, drainage, and flooding.** Hydrology was identified as a key feature for this segment of the alignment because of the flood history. For this reason, during the EIA process, there were extensive geotechnical and hydrological studies, and the public consultations included a heavy emphasis on the flooding issues. The design for the Highway considers both major and minor flood systems. For the major systems, the designs use the hundred-year event, with the structures sized to accommodate events of a large intensity for the hundred year event. In addition the road profile will be designed to be consistent with the major drainage features to allow for the free flow of water, and all drainage features will need to be kept un-obstructed during construction and during operation. During construction the EIA recommended that the site preparation and construction schedule consider traditional rainy seasons when designing materials storage to prevent erosion and run-off. Engineering design should include the geo-technical considerations for slope stability.
- 5.5 **Slope Stability.** Slope stability is a major consideration in the areas for both cut and fill. Additional quarries may be required, to provide sufficient material for fill areas. If additional earth materials are required TransJamaican Highway Ltd. will be required to obtain it from licensed facilities. Slope modification in the mountainous areas at the western area of the alignment will alter the existing slope conditions and may make them more susceptible to slope instability. Geotechnical mitigation measures will need to be incorporated into the final design including appropriate finished slope angles and slope benching.
- 5.6 **Sourcing and transport of construction material.** The main construction material needed for the road will be fill material; this will preferably come from the excavations for the road

itself and from current calculations, it appears that areas that will be cut will have enough material to be used for fill, reducing the demand on quarry material. Nevertheless, because most cuts will take place in weak limestone formations, the supply of sub-base, base, concrete and pavement aggregates will be more restrictive. In this case, the use of borrowed material may be considered unless treatment of excavated material is a viable option. The specific quarries that would be used have not yet been identified; however, some of the quarries that have been identified as potential sources of fill material are located within the Portland Bight Reserve. The quarries in the reserve are all licensed, operating within an area designated for that activity, however, quarrying and mining have been identified as stresses to the reserve, and additional demands could increase these stresses, leading to impacts on the habitats in the reserve that are beyond the quarries.

- 5.7 **Habitat modification.** Along the length of the alignment there will be land clearing, followed by landscaping and restabilization. Most of the study area has already been highly disturbed and influenced by the various human activities occurring along its length, and there are no stands of primary vegetation along the current alignment. For this reason, habitat modification is not considered a significant potential impact.
- 5.8 The proposed alignment will be just within the northern boundary of the Portland Bight Protected Area (PBPA) and will follow the existing railway line and an existing road for the most part. The area is already heavily degraded, not currently considered ecologically sensitive and has not been zoned for any special protection under the PBPA management plan. The highway is not expected to impact on the dry limestone habitat of the endemic and endangered Jamaican Iguana, the caves at the southern end of the PBPA which provide a habitat for endemic fauna, nor the coastal or marine sections of the Reserve. It is also not considered likely that the presence of the road in this northern part of the PBPA will have “knock-on” effects to other, more sensitive areas within the PBPA.
- 5.9 **Impacts on communities within the alignment: land acquisition, resettlement and land use changes.** As discussed in section 2.14, the alignment will require the acquisition of approximately 114 land parcels. The parcels are a mix of privately owned and governments lands. Of these, 32 occupied residential properties will be acquired, involving approximately 87 individuals. Agreements with all occupants are expected by the end of December 2008 followed by vacant possession in 30-60 days thereafter.
- 5.10 Beyond the immediate right of way, the impacts on the communities along the alignment will mainly arise from construction related inconvenience and during the operational phase diversion of business away from the roadside establishments that currently make a living from traffic along the main road. The alignment should not significantly affect neighboring land use. The roadway will be fenced, and 16 crossings have been provided such as over-passes, under-passes, field connectors, gullies, passing over railway lines, and local roads. The EIA assessed the number, type and placement of these crossings, and found most communities appeared to be adequately served. Two areas, however, were identified that may still have access issues. These include KM 35, in a woodland area that is very likely an access route by forest users, coal burners perhaps wild hog hunters. Another area is at KM 40 where the Hunts Pen community is divided and it is very likely that south/north social rights of way are not considered. Domestic and artesian workers and non-driving community dwellers may use this axis to move in and out. Long walking distances would be involved.
- 5.11 **Construction works related impacts and risks.** During construction, there will be typical temporary and localized construction impacts from large construction works such as increases

in dust, noise, and traffic. These will be felt the most in the more densely populated areas such as Sandy Bay, May Pen, and Four Paths. The EIA provided recommended mitigation measures. To control construction dust it was recommended that un-vegetated areas and unpaved road surfaces be watered; that fill material should be stockpiled in a way to reduce dust; and vehicle transporting material should be covered (except for dumpers), and dust masks provided for workers as required. To reduce noise it was recommended that servicing of construction machinery and vehicles was also recommended because it reduces the noise impact if vehicle are properly maintained. There are also potential risks of accidents to workers (work at height, powered vehicles), or of spills or improper disposal of waste.

- 5.12 Construction activities can also pose a threat to drainage systems, in terms of spills polluting materials, sediment wash-down. The use of silt screens has been recommended along river banks wherever bridge construction is taking place as well as the proper removal and disposal of construction spoil.
- 5.13 **Labor practices.** An issue relating to freedom of association will have to be improved through the strengthening of the operator's management system.
- 5.14 **Visual Impacts.** Scarring of the landscape and reduction of aesthetic appeal is an issue that was raised in the SEA and throughout the Highway implementation process. Much of the change in landscape is unavoidable, but restoration of the area, including re-vegetation, will be used to minimize this impact.
- 5.15 **Archaeology and cultural heritage.** There is no direct threat on archaeological resources or sites listed by the Jamaica National Heritage Trust (JNHT). As discussed in Section 4.16, there several areas of interest beyond the alignment that may be susceptible to impacts from the construction activities nearby (vibration from equipment and vehicles, dust, etc.) The EIA recommended that the Jamaica National heritage Trust be allowed to perform a watching brief during site preparation activities, if they so require.

B. Impacts and Risks from the Completed Section 1A

- 5.16 There is the potential that issues related to the completed section of the highway, Phase 1A, could affect the project given that refinancing of this section is included in the project. Risks include past the land acquisition activities, impacts to communities that have not been properly addressed, or impacts to habitats that have not been properly mitigated. The operator is also to reinforce his commitment to freedom of association (see above).

C. Impacts and Risks from future completion of Section 1B and additional phases of the highway system and cumulative impacts.

- 5.17 Section 1B-1 is the next phase of the overall highway development program planned to be started. The remainder of Section 1B will be developed next, followed by future phases of the project. Overall, it is expected that there will be changes in land use over time because increasingly areas of agriculture could be taken out of use, with some of the existing communities, and properties affected. Additionally, there could be issues related to additional land acquisition, especially as future sections of the road are currently aligned to require more populated areas, with more complex resettlement issues.

D. Positive Impacts

- 5.18 The primary positive impacts from the construction of the road will be an improvement to the overall transportation situation in the area, including improved efficiency of travel, reduction of travel time, and greater ease in the movement of goods. There will also be the generation of employment for skilled and unskilled labor, especially during the construction phase, mostly from the surrounding communities. There should also be other economic benefits through the supply of goods and services.

E. Project Environmental and Social Classification

- 5.19 Many of the impacts and risks above can be mitigated and managed through the implementation of standard industry road design, construction, management and monitoring plans, especially when supported by strong environmental and social management systems. However, the construction activities within the Portland Bight Protected Area, and the issues related to resettlement and disaster risk management have the potential to generate significant impacts, and therefore, the team proposes an environmental classification of “A” under OP-073, the Environment and Safeguards Policy.

VI. STRATEGY FOR DUE DILIGENCE

- 6.1 The Bank, with the assistance of an independent environmental and social consultant, will perform an environmental and social due-diligence (ESDD) in order to confirm that the Project direct and indirect impacts and risks will be properly and adequately mitigated. The ESDD will focus on: (1) the identification of the impacts and risks associated with the construction and operation of the new section of highway, Phase 1B-1, in particular assessment of potential impacts to the Portland Bight Protected Area, risks from flooding and natural disasters, land acquisition and resettlement; and compliance with IDB environmental and safeguard policies; (2) The past construction and current operation of the existing Phase 1A segment in particular the completion of land acquisition activities, and the interaction with the Portland Bight Protected Area; and (3) The remainder of Phase 1B, in relation to land acquisition and resettlement, the assessment of flood and other natural hazards and their management and mitigation, the assessment of cumulative impacts and risks, related to the overall road program.
- 6.2 In particular, the ESDD will assess the following:
1. Evaluation to confirm that the Phase 1B-1 Program’s direct, indirect and cumulative negative environmental and social impacts have been properly identified and evaluated, in particular: (1) potential impacts on habitats, including the Portland Bight Reserve Area (PBRA); (2) potential risks and associated impacts related to flooding, erosion and land stability to the project, and/or exacerbated by the project; (3) land use impacts; (4) other potential community impacts such as traffic, dust, public safety, and pressure on services; (5) risks and associated impacts from hurricanes and earthquakes (6) potential risks from accidental events, including worker accidents, accidental spills, and other unforeseen events; and (7) potential impacts as risks related to the bridge construction over the Rio Minho;
 2. An evaluation of the land acquisition and resettlement process in execution for the right of way along the Phase 1B-1 alignment to ensure that it is being conducted in compliance

with IDB Policies, in particular, OP-710; an evaluation to determine if past land acquisition activities (Phase 1A) were performed in a manner consistent with IDB policies, and that the remainder of Phase 1B will be consistent with IDB policies; and an evaluation of potential impacts from economic displacement to businesses along the alignment, and proposed compensation and/or mitigation measures.

3. Assessment of compliance with applicable IDB Bank environmental and social policies, including specifically the Environmental and Safeguard Compliance Policy, Disclosure of Information Policy, Disaster Risk Management Policy and Involuntary Resettlement Policy, International and Regional Agreements and any applicable International Conventions (e.g., CITES).
4. Assessment of compliance status with the applicable environmental, social, health and safety, and labor legal requirements in Jamaica (e.g., laws, regulations, standards, permits, authorizations, applicable international treaties/conventions, etc.), in particular the requirements in the EIA authorization and Project-specific legal requirements (e.g. Concession.).
5. Assessment of the consistency of the Project activities in the PBRA with Jamaican legislation, and with the provisions of the Management Plan for the Portland Bight Protected Area.
6. Evaluate potential issues related to the current operations of section 1A, in particular with respect to compliance with IDB Policies and procedures.
7. Evaluate the proposed environmental and social plans, procedures, and documentation for both the construction and operation of the Phase 1B-1 (e.g. confirm that the plans define the Project-specific proposed environmental and social control, management, and mitigation measures, monitoring programs, costs, schedule of implementation, designated responsibilities, that the ESMP has been developed based upon the assessment of the anticipated environmental and social impacts, that it is current).
8. Confirmation that adequate health and safety plans and procedures will be established and implemented both for construction and operation (including sub-contractors) to address potential worker health and safety risks associated with the Project.
9. Confirmation that adequate contingency plans and procedures will be implemented both during construction and operation (including sub-contractors) to address potential Project-related accidental events (i.e., landslides, spills, uncontrolled explosions, fires, etc.).
10. Assessment of the Company and any contractor's capacity to mitigate and monitor environmental, social, health and safety and labor aspects properly under their respective responsibility.
11. Evaluation of Project-related information disclosure and public consultation activities that have been performed including confirmation that the participation processes of stakeholders has been adequately conducted and that the proposed future actions to provide adequate ongoing information disclosure and public consultation with the local population is in compliance with IDB policies. This will include confirmation of adequate stakeholder engagement, and that the communities have participated meaningfully in pertinent decisions that affect them throughout the Project lifecycle) and future proposed information disclosure and public consultation activities.
12. Evaluate the identification of cumulative impacts and risks associated with the Phase 1B, including long-term socio-economic impacts and land-use issues.
13. Evaluate the potential impacts of the project on greenhouse gas emissions, in particular, changes in emissions from changed traffic patterns.

14. Evaluate positive impacts of the project and any additionality from the involvement of the IDB.

- 6.3 As part of the Bank's environmental and social due-diligence, the Bank will prepare an Environmental and Social Management Report (ESMR) for consideration by the Bank's Environmental and Social Review (ESR) group. The ESMR will provide a synthesis of the relevant environmental and social aspects related to the Expansion Program and the proposed Bank recommendations in terms of Expansion Program-specific environmental and social requirements.

Figure 1 Highway 2000 Alignment

