

Royal Timbers Inc.

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Project Summary

Re

Application for Environmental Authorization

***For Logging and Sawmilling Operations within area under
SFEP 2/2020, Right Bank Puruni River, REGION 7***



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ACRONYMS

AAA	Annual Allowable Area
AAC	Annual Allowable Cut
AOP	Annual Operational Plan
COP	Code of Practice for Forest Operations, 2018
Dbh	Diameter at breast height
ESIA	Environmental and Social Impact Assessment
FTCI	Forestry Training Centre Inc.
FMP	Forest Management Plan
GFC	Guyana Forestry Commission
GFFO	Guidelines for Forest Operations, Large Concessions
GGMC	Guyana Geology and Mines Commission
MNR	Ministry of Natural Resources
NDC	Neighborhood Democratic Council
NFPS	National Forest Policy Statement, 2018
PWPI	Puruni Wood Products Inc.
RDC	Regional Democratic Council # 7
RTI	Royal Timbers Inc.
SFA	State Forest Authorization
SFEP	State Forest Exploratory Permit
TSA	Timber Sales Agreement
WCL	Wood Cutting Lease

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1. INTRODUCTION

1.1 Project Background

Royal Timbers Inc. (RTI) acquired SFEP 2/2020, over an area of 107,670.54 ha on right bank Puruni River, west of Puruni Landing, for the purpose of developing an integrated logging and sawmilling business. RTI plans to set up three (3) portable sawmilling facilities *within* the concession area to process the logs harvested there. The lumber produced will be transported by trucks via the Kartabu-Puruni Road (KPR)¹, to Iteballi, left bank Mazaruni River, from where the lumber will be shipped by barge to Georgetown or other coastal locations.

In the pursuit of its project, RTI will:

- a) comply with the full suite of sector policies, legislation and standards that govern logging, wood processing operations and environmental protection; RTI will also observe and comply with requirements linked to overarching policies on climate change, the conservation of biodiversity, the conservation of fauna and protected areas;
- b) manage the timber harvesting operations based on RIL principles and ancillary forestry practices;
- c) share with miners and other stakeholders, the *existing* road network serving the mining community as well as *the new road network* that RTI will construct for its own operations;
- d) develop and implement mitigation measures for negative environmental impacts generated from its logging and wood processing operations respectively; and
- e) support multiple use of the forest resources; in particular, RTI will respect the rights of indigenous peoples, and the rights of miners and of other stakeholders in relation to the forest resources on concession area; and
- f) conserve forest resources, unique landscapes and preserve items of archaeological significance.

1.2 Application for Environmental Authorization

RTI has duly applied for an Environmental Authorization in respect of its proposed logging and sawmilling ventures for the SFEP area. In addition, RTI recruited FTCI on July 30, 2020 for technical assistance in developing an ESIA Report in line with its proposed project. (In 2007, FTCI had prepared an ESIA Report for the previous owner of the concession area, (please see Section 1.3).

1.3 Historical perspective and continuance of Environmental Authorization Process started under PWPI.

Puruni Wood Products Inc. (PWPI) held the same concession area under *SFEP 05/2004 between 2004 and 2007* and recruited FTCI for technical assistance. PWPI applied to the EPA for an Environmental

¹ The KPR originally extended from Kartabo Point at the confluence Mazaruni & Cuyuni Rivers to Peters Mine, right bank Puruni River, with a barge crossing at Puruni Landing. Nowadays the KPR refers to a 205km road linking Iteballi, left bank Mazaruni River to Pappy Show, left bank Mazaruni River. The road traverses the Puruni Landing where a barge crossing provides access to areas on right bank Upper Puruni River.

Authorization in 2006 and subsequently, based on a TOR agreed with the EPA, FTCl completed an ESIA Report for PWPI in 2007. Subsequently, PWPI conducted logging operations at the site for a brief period and then terminated its logging operations, eventually ceding the concession area back to GFC.

RTI will develop the previous ESIA report, taking care to, *inter alia*:

- a) review new sectorized developments in the policy and legal framework for natural resources sector generally and the forestry sector in particular;
- b) review changes in land use, in and around the concession area;
- c) review the current structure of the stakeholder community; and
- d) include environmental data on water quality and air quality not included in the previous ESIA Report

1.4 Royal Timbers Inc.

Royal Timbers Inc. (RTI) was incorporated as Company # 8612 under the Companies Act of Guyana on the 23 of November 2016 (please see Annexes I). RTI's registered address is Lot 15 Garnett Street, Campbellville, Georgetown, Guyana (see Annex II). The Company garnered significant operational experience through previous work within hinterland areas such as Port Kaituma.

RTI's vision and strategic goals position the company to aggressively pursue sustainable forestry and associated infrastructural development in Guyana, while contributing to the overall improvement in Guyana's economic development.

1.5 Staff

RTI's **Board of Directors**, includes highly qualified engineers, architects, project accountants, skilled tradesmen and machine operators, foresters, and an environmental specialist.

In taking forward its logging & sawmilling project, RTI's organizational structure (see Annex VI) would be based on the following:

- a) **Chairman/Chief Executive Officer:** The Chairman of the Board of Directors and CEO of the Company, with overall responsibility for financial and budgetary matters, human resources management, and marketing matters.
- b) **General Manager:** he has direct responsibility for the forest operations, sawmill operation and the day to day administration of the operations. He reports directly to the Chairman/CEO.
- c) **Administrative Manager:** Responsible for the administrative tasks of the Company, supporting the forest manager. He is also responsible for marketing matters and he reports directly to the General Manager.

- d) **Forest Manager:** he is responsible for all activities and decision making for the whole *forest operations* also, he has overall responsibility for forest management planning. He reports directly to the General Manager.

- e) **Survey & Planning Manager:** he is responsible for the planning/scheduling of road works, block demarcation, forest inventory and monitoring; he is also responsible for the implementation of forest management planning, GFC Code of Practices and other relevant forest laws. He reports to the Forest Manager (for the Weekly Progress Reports from his Department).

- f) **Logging Production Manager:** He is personally responsible for the log production reports and activities of his department. Likewise, he will be always coordinating tasks with the Survey & Planning Manager in the allocation of harvesting blocks, block closures, monitoring and movements of his skidding teams. Also, he is responsible for the hauling/trucking, log pond scaling & grading, log loading and barging at all log landing. He reports to the Forest Manager.

- g) **Road Construction Superintendent:** He is responsible in road construction and maintenance, building of bridges/culverts and all other related activities for the logging operations. Preparing and scheduling of logging road construction and maintenance of the forest operation. He reports directly reporting to the Forest Manager.

- h) **Workshop/Warehouse Manager:** Responsible for the repair and preventive maintenance of all machinery and equipment of the logging operations that also include sawmilling, heavy equipment/machinery, and transport vehicles of the Company. Likewise, he is responsible in the preparation and procurements of parts for machinery and equipment etc. He reports to the General Manager (for weekly and monthly breakdown, status, and machine efficiency and progress reports in the workshop).

The company **will employ about 75 workers for the logging operations** including;

- a) technicians, tally clerks & machine operators and for its timber harvesting operations;
- b) technicians, timber graders and tally clerks for its sawmilling and timber grading operations on the concession area;
- c) technicians for its timber depot and wharf at Kartabu Point;
- d) forest monitoring staffs; and
- e) security staffs.

2. THE STATE FOREST EXPLORATORY PERMIT (SFEP)

2.1 Geographic Area and Access

SFEP 2/2020 over an area of 107,650.54 ha is situated on upper right bank Puruni River, west of Puruni Landing, in the upper Puruni-Mazaruni district, Kartabu Triangle, Region 7 (Please see Figure 1).

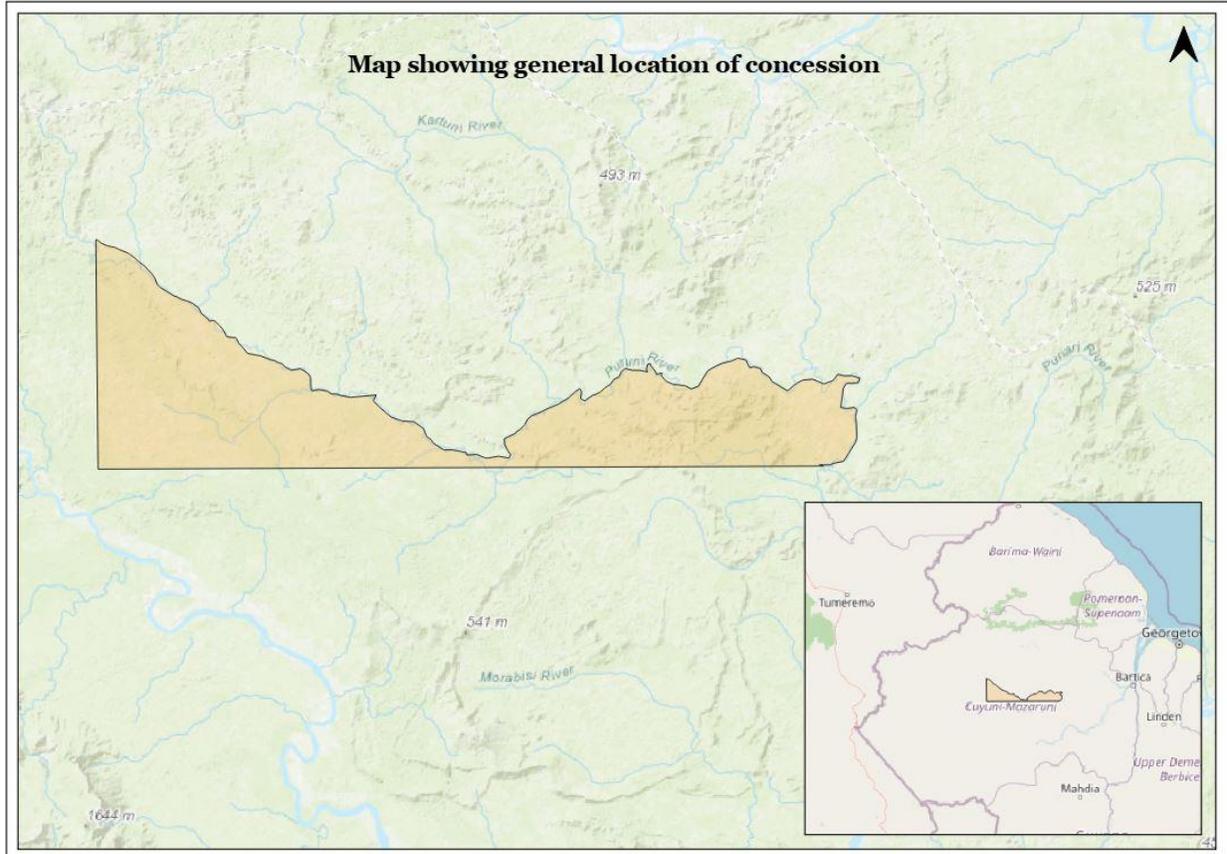


Figure 1: Map showing general geographic location of SFEP 2/2020

The description for the concession area is as follows:

-Commencing at a point on the right bank of the Puruni River where it intersects the Kartabu-Puruni Road, having approximate UTM geographic coordinates of 02 37 902 E and 06 91 027 N;

-thence along this road in a westerly direction for approximately 99.8 kilometers to a point having approximate UTM geographic coordinates of 01 57 714E and 06 90 690 N;

-thence by a cut line in a northerly direction for 25.42 kilometers to a point on the right bank of the Puruni River, having approximate UTM geographic coordinates of 01 57 465 E and 07 16 074 N;

-thence down the right bank of the Puruni River for approximately 175 Kilometers to the first mentioned point, this being the point of commencement; --Save and except all lands lawfully held.

The primary means of access to the concession area is via Iteballi, left bank Mazaruni River then via the KPR for about 108km to Puruni Landing, thence across the Puruni River to the eastern boundary of the concession. A 99.8km segment of the KPR west of Puruni Landing forms the southern boundary of SFEP 2/2020 (see Figure 2) and this road segment will be used to access the concession area and extract forest produce.

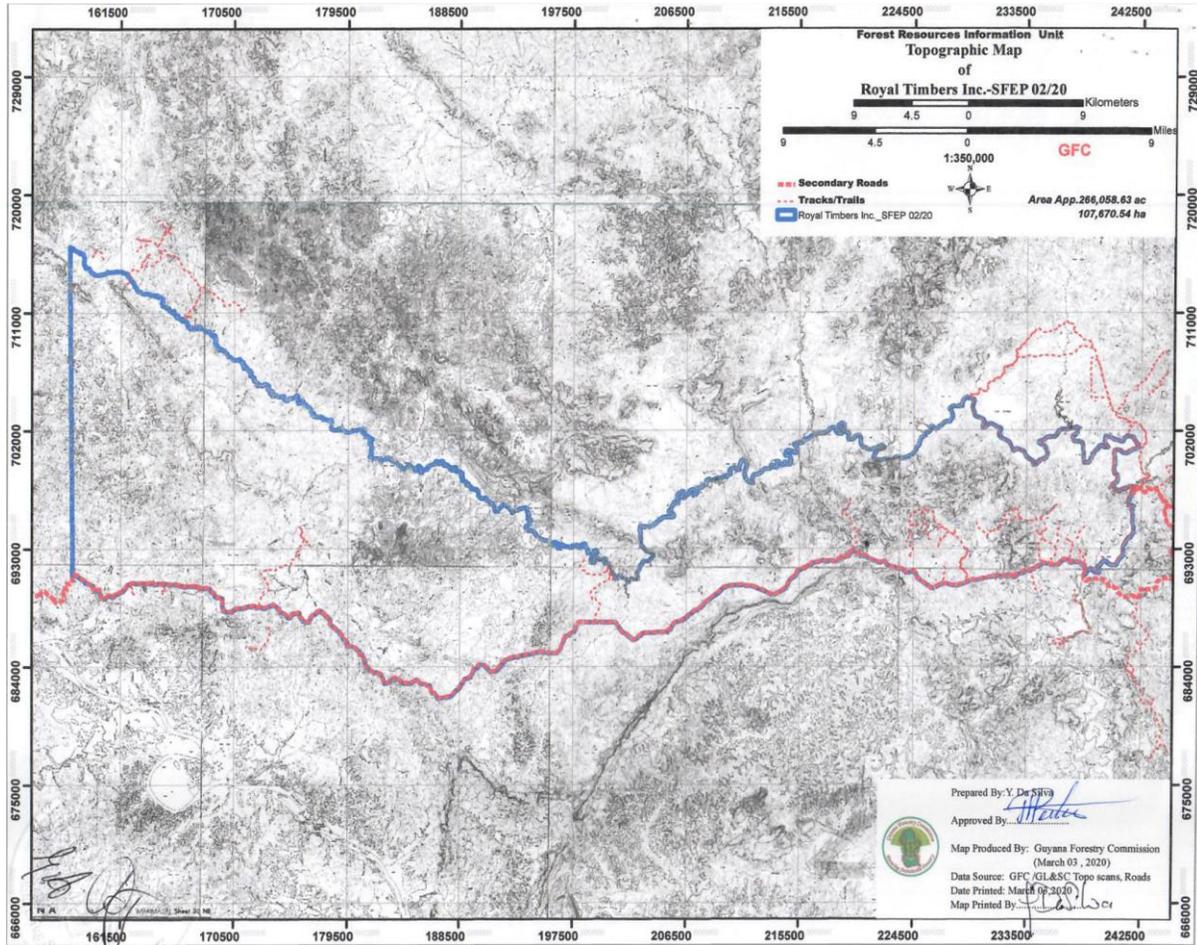


Figure 2: Topographic map of SFEP 2/2020 showing primary access option

2.2 Topographic Features

The general configuration of the area is mainly flat to undulating and hilly terrain (Figure 2). The northwestern and the eastern districts are characterized by *very hilly terrain*. The highest elevation is the East Puruni Peak reaching 427 meters (1,500 feet).

A 175km segment of (right bank) Puruni River² forms the northern boundary of the concession area. The central and eastern areas of the concession are drained mainly by right bank tributaries of the Puruni River, including the Kamiguin (Kumong-Kumong) River and the Pashanamu River. The western end of the concession area is drained primarily by the Putareng River, itself a left bank tributary of the Mazaruni River.

² The Puruni River is a left bank tributary of the Mazaruni River

Several smaller rivers and creeks form an intricate drainage pattern that creates a mostly well-drained area, interspersed with small swamps. The average drainage density for the entire concession area is about 0.8km/km² but there are several areas where the drainage density reaches 2.5km /km². Along the Kartabu-Puruni Road corridor, there are several ponds in the rainy season, due to flooded ex-borrow pits in low lying areas, at the margin of the road. Further way from the road corridor, ponds and swamps have their origin in natural depressions as well as poorly managed, ex-gold or diamond mining sites.

The concession area experiences annual rainfall of around 2600 mm.

2.3 Surrounding Communities

2.3.1 Iteballi Community

Iteballi is a small village located more than 100km from the proposed project site; **however, the company plans to join other logging companies that use Iteballi as a timber transshipment facility.** WTTCL set up Iteballi as a timber in the late 1950s, but persons began occupying the site in the early 1970s. According to the 2002 Population Census, there were 84 houses with evidence of extended family structures in some homes. Iteballi is primarily a farming community, with bananas, pears, and ground provisions being the main produce. Farming is carried out mainly on a subsistence basis, with the surplus sold to shops in the area and other residents. The main economic activities of the residents there are gold mining and subsistence farming.

2.3.2 Kartabu Community

Kartabu is a small village set up at the confluence of the Mazaruni River and the Cuyuni River in the 1920s. The village lies some 108km from the eastern end of the concession area. The KPR starts at Kartabu, but in fact traffic was diverted to Iteballi in the 1970s after the startup of the Upper Mazaruni Development Authority in the 1970s and the establishment of a barge service between Iteballi and Teperu. According to the 2002 Population Census there were twenty-one (21) single family dwelling houses in the community, which seems to be supported by the Community Development Council (CDC) Secretary who estimated the population at 130 individuals, comprised mostly of children. The ethnic make-up of this small community is mixed, though Amerindians are in the majority.

2.3.3 Puruni Landing Community

Puruni Landing situated at the junction of the KPR and the Puruni River has a resident population of about 300 persons. The village is a major commercial hub that supports the regional mining industry: there are several large grocery stores, several hotels with moderate basic amenities and several restaurants. GGMC maintains an office there and there is a MEDEX Centre. There are reportedly plans to establish a police station there.

Puruni Landing has critical strategic value due to the barge crossing there. There is ongoing discussion between agencies in MNR and the MOPW respectively in relation to a bridge across the Puruni River, at or near Puruni Landing.

2.3.4 Kumong-Kumong

Kumong-Kumong³ is a small mining community at the confluence of left bank Kumong-Kumong River and right bank Puruni River. The population there is about 90 persons engaged in in gold mining and/or ancillary enterprises or vending groceries and fuel. Residents of Kumong-Kumong by virtue of their location will be impacted directly by RTI's logging operations.

2.3.5 Other communities

There are small clusters of miners and/or businesses along the western segment of the Kartabu-Puruni Road: the main ones adjacent to the concession area are Pashanamu (30 persons) and Turtle Creek (35 persons). Most residents are miners.

There is an airstrip with a few dwellings at Olive Creek, left bank Mazaruni River, opposite the mouth of Kurupung River on right bank Mazaruni River and there is the Pappy Show Landing at the western extremity of the KPR. On right bank Mazaruni River, opposite Pappy Show, there is small community called Martin Landing. Olive Creek, Pappy Show and Martin Landing lie *outside* the concession area but persons travelling there by road will be sharing the use of the KPR with RTI.

2.4 The Kartabu Puruni Road

The Kartabu-Puruni Road (KPR)⁴ represents the primary access route to the Kartabu Triangle and the forest concessions there. The road has two segments, the eastern segment from Iteballi to Puruni Landing (left bank Puruni River) and the western segment from Puruni Landing (right bank Puruni River) to Pappy Show; the two segments are connected by a barge service at Puruni Landing. (There has been considerable discussion at the level of the MOPW, MNR, GGMC and GFC regarding the construction of a bridge at Puruni Landing).

RTI will use the KPR to extract timber and in doing so will share about 200km of the KPR with a diversity of stakeholders (that include several loggers, miners, and other transporters of fuel, mining gear, personnel and rations utilizing heavy-duty trucks). The distance from Kartabu Point to the Puruni Crossing - the eastern boundary of the concession area - is 108.5km while a 99.80km segment of the KPR *west of the Puruni Crossing* forms the *southern boundary* of SFEP 2/2020.

In addition, apart from the KPR itself, RTI is expected to share another 120km of secondary roads that link KPR to areas being logged by RTI. About 30% of such roads already exist as 'mining roads' while about 70% will be constructed by RTI.

(Current projections are that by end of 2021, loggers' vehicles will represent about 15%⁵ of the total traffic on the KPR).

³ Kumong-Kumong River is a major right bank tributary of the Puruni River.

⁴ For convenience we will continue to use the term *Kartabu-Puruni Road*.

⁵ Loggers' traffic currently represents about 4% of the total daily traffic on the KPR.

2.5 Logging Operations in the general district

GFC’s projections are that by mid-2021, active timber harvesting operations will extend from Pappy-Show to Iteballi. RTI shares common boundaries with three SFAs, one of which is already active; however, the development of timber harvesting operations at the other two SFAs have reportedly been stymied by the size of barge used to traverse the Puruni Crossing. Four active SFAs currently use the KPR east of Puruni Landing; an additional two SFAs in the Ekabago and Mara-Mara Districts respectively are expected to start operations (and join the ‘traffic’) in 2021.

2.6 Land-use and Mining operations in the general district

There are no indigenous communities within (the vicinity) of the concession area. Mining represents the primary land use within the concession area.

The concession area falls within the Mazaruni Mining District (District # 3) and the entire area has been allocated under some form of mining claim. There has been a history of mining in the area since the late 1920s, with a particular surge in scale of mining in the past 30 years. RTI’s projections are that about 2,500 persons occupy the concession area: these comprise artisanal, small, and medium scale miners as well as merchants trading mainly in fuel and rations.

Ongoing and past gold mining on right bank Puruni River, especially in the north-eastern part of concession area has left extensive forest resources along the riverbank, to a depth of up to one kilometer, in a degraded or fragmented state. A typical example is the Million Dollar Mountain District. Also, there are numerous ‘deforested’ landings on right bank Puruni River, for example Kumong-Kumong and Bush Cow Landing.

RTI estimates that since 2007, the area of forests in the concession area has declined by 15% due to the expansion of mining activity. It is also apparent however that the concessionaire will be able to *salvage* timber from trees felled and set aside to facilitate mining activity.

2.7 Vegetation and Merchantable Species

Basic parameters of the vegetation within the concession area are set out in Table 1. Annex IV indicates the list of species that RTI plans to harvest.

Table 1: Basic parameters of the vegetation on the concession area (GFC, 2020)

Forest Type	Area (ha)	% of area	Remarks
1: Mixed forest on undulating to hilly terrain	61,870.65	57.5	Productive forests
1b: Mixed forest on flat to undulating terrain	23,289.95	21.6	Productive forests
1c: Mixed forest on deeply dissected terrain	2,206.39	2.0	Non-productive (subject to verification)
1h: Mixed forest on high hills	18,986.40	17.6	Non-productive (subject to verification)
3: Low swamp forests	1,308.07	1.2	Non-productive (subject to verification)
<i>No data</i>	<i>9.08</i>	<i>0.0</i>	
Total	107,670.54		

RTI’s consultants have been able to validate the types through reconnaissance work in the forest areas.

2.7 Fauna

The concession is rich in faunal species, consisting of a high diversity of terrestrial and arboreal mammals, birds, reptiles, and amphibians. During recent reconnaissance surveys, there were several sightings of a diversity of animals and birds; and it appears that fauna benefit from foraging on abandoned vegetable patches in ex-mining sites.

During September and October 2020, faunal surveys targeting mammals⁶ recorded sightings of peccaries (*Tayassu spp.*), deer (*Mazama spp.*) Baboons (*Alouatta sp.*); Capuchin monkey (*Cebus olivaceus*), and red-rumped agouti (*Dasyprocta agouti*). The presence of Capybara (*Hydrochoerus hydrochaeris*) was also detected from their scat as well as via a photograph captured by a trail camera set up by the consultants.

⁶ These appear more vulnerable to logging and mining operations.

3. THE PROPOSED PROJECT

3.1 Overview

RTI’s projections are that each year, based on parameters for a sustainable harvest, it will harvest 17,567.52 m³ per year from 21 blocks. (RTI also expects to salvage timber from trees discarded from mining operations).

RTI acquired a State Forest Exploratory Permit (SFEP) relating to an area of about 107,670.54 hectares in the upper right bank Puruni District. RTI intends to harvest a wide range of species (see Annex IV) using the principles of reduced impact logging (RIL) and prescriptions of the COP. The concession area is organized into compartments (see Table 2). In addition, the area is organized into 1000mx1000m blocks, each block having a unique alpha-numerical code. RTI will adopt a systematic system of forest development in line with the AAC, FMP and AOP agreed with the GFC.

Table 2: Division of concession area by Compartment

No.	Designation	Code	Area (ha)	Remarks
1	<i>East Puruni</i>	PUCO	22,188	Flat/High Hills
2	<i>West Puruni</i>	WECO	17,556	Hilly/High Hills
3	<i>Kamiguin</i>	KACO	23,963	Flat/Hilly
4	<i>Pashanamu</i>	PACO	39,162	Flat/Hilly
-	Bio-Reserves	BIO-RES	4,465	Flat/Hilly
Total			107,334	

The logs produced within the concession will be converted onsite (within the concession area) to lumber. The lumber will then be brought to coastal locations for sale to local merchants or for export in value-added form to merchants overseas.

3.2 Project Activities

The basic activities will involve:

- a) Putting in many survey lines (at least 20km/100 hectares) and carrying out forest inventories;
- b) Major earthworks: site preparation, road building, skid trail construction, laying out culverts and bridges and log/lumber depot construction;
- c) Selective and directional felling of trees, skidding logs to log markets, and conveying the logs to log markets or portable mill sites;
- d) Processing logs into lumber
- e) Hauling lumber to lumber depots; and
- f) Hauling lumber to Iteballi

3.3 Project Outputs

Project outputs will constitute:

- a) Lumber (~10,000m³)
- b) Debris and wood slash (wood ends, sawdust, slabs, and bark)
- c) Machine based waste (old filters, bearings, tyres, rims, chains, rope, etc.)
- d) Household garbage
- e) Pesticides and wood preservatives

3.4 Proposed operations

3.4.1 Objectives of management

RTI will be guided by the following objectives:

- a) To harvest the forest at an optimum, but sustainable level in line with sector standards for the conservation of biodiversity, watershed, and landscapes.
- b) To ensure adequate OSH practices and afford due respect for other persons occupying or traversing the concession area;
- c) To promote the exports of non-traditional timber species;
- d) To provide timber of acceptable grades to local and overseas consumers;
- e) To manage RTI operations in a responsible manner, ensuring maximum corporate discipline in compliance with local standards, including those for environmental management; and
- f) To support local community development wherever practicable

3.4.2 Timber Harvesting and Sawmilling Operations

The logging operations will follow RIL principles and address the requirements of the COP and GFFO. Annex V gives details of core logging equipment at hand.

The procedures/protocols to be followed in the development of the concession area are summarized as follows:

- a) **Construction of primary and access roads:** RTI will use topographic maps and prescriptions of the COP to determine the most cost-effective routes for its primary and secondary road network. *Advantage will be taken of existing roads where feasible.*
- b) **Productive forests:** RTI will conduct additional reconnaissance work to determine the extent of productive (and non-productive forests), and to reassess the integrity areas already selected as biodiversity reserves.

- c) **Biodiversity reserve:** RTI will assess areas based on sightings of fauna and flora and establish partnerships with other agencies, including NGOs to manage these as biodiversity reserves.
- d) **Compartments and blocks:** Work has already been done to divide up the concession area into four compartments to allow for the orderly and systematic development of the forest concession. RTI will move to divide up areas designated as productive forests (Table 3).
- e) **100% pre-harvest inventory:** RTI will carry out 100% pre-harvest inventory within all blocks. This is essential to obtain stock maps that will form the basis for planning timber harvesting operations, including the identification of buffer zones and other applicable restrictions.
- f) **Data processing:** RTI will carry out processing of inventory and topographic data using computer hardware and software.
- g) **Skid trail layout, Log market layout:** RTI will use the stock maps produced to plan skid trails and log markets to match harvesting stock.
- h) **Skid trail, log market construction:** RTI will construct skid trails with a bulldozer prior to tree felling.
- i) **Tree marking and liana cutting:** RTI will have planning teams that will carry out tree marking and liana cutting prior to felling. *(Tree marking and liana cutting speed up the rate and at which trees are felled by carrying out all the preparatory tree felling activities and allowing the feller to focus on the actual felling activity).*
- j) **Directional tree felling:** RTI will carry out directional felling of trees to conserve timber quality and to facilitate the skidding.
- k) **Skidding of logs to mill sites:** RTI will use choker skidders with appropriate logging rigs to remove logs from stump to mill sites.
- l) **Sawmill sites:** Logs will be converted into lumber using three (3) portable mills. As far as possible, sites for portable mills will be the same as the log markets.
- m) **Scaling & Grading:** RTI's staff will be trained to scale and grade timber.
- n) **Transport of lumber to Iteballi:** Loads of 15,000 board feet (35m³) of rough sawn lumber will be transported by trucks to Iteballi.
- o) **Occupational health and safety:** RTI will implement occupational health and safety measures in accordance with the COP and proper RIL practices.

4. ENVIRONMENTAL MANAGEMENT

4.1 Overview

RTI is expected to construct more than 120 km of secondary roads to access timber resources within the concession area. Strongly associated with road construction are the necessary side drains, the construction of bridges and culverts, and the layout and use of borrow pits. The design and quality of each road segment will depend on the terrain, the soil type and the volume of timber to be extracted; the duration of use of the road, and the kinds of vehicles to be used (for example 6 x 6 trucks versus 6 x 4). RTI will have to make decisions based on these variables during the planning stages of the operations. RTI will also construct about 100km of skid trails.

Other major environmental impacts will be generated from felling and skidding operations and from sawmilling operations, respectively.

4.2 Potential Impacts

RTI is committed to the sustainable use of the forest resources within its concession. RTI is aware that its operation will contribute directly to the economic development of Region 7. It is also understood that the activities will modify the forest environment in a negative way. Possible impacts and mitigation measures are provided in Table 3.

Table 3: Summary of potential environmental impacts and basic mitigation measures

Potential Impacts	Proposed mitigation measures	Responsibility	Proposed Time frame for implementation
Physical Environment			
Earthworks: Scarification of soil surface, sub-soil exposure, erosion, compaction, water logging	<ul style="list-style-type: none"> • Use maps to optimize road alignment and plan bridges and culverts (paying attention to terrain, water courses and soil). • Use appropriate machines for specific earthworks: for example, excavators are ideal for making borrow pits, while motor graders can create roadside drains efficiently. • Schedule major earthworks for the dry season • Follow the recommendations of the COP. 	RTI	During the entire time frame for the project.
Air quality: <ul style="list-style-type: none"> • Dust and smoke (especially along roads) • minor changes in micro-climate 	<ul style="list-style-type: none"> • Ensure that vehicles are well serviced so that exhaust emissions are in line with manufacturers standards. • Undertake major earthworks in the mornings when it is less breezy and soil moisture keeps down the dust. 	RTI	During the entire time frame for the project.
Water resources: <ul style="list-style-type: none"> • modification in turbidity, temperature, & ph.; • pollution from fuel and oil spills 	<ul style="list-style-type: none"> • Strict adherence to RIL principles and prescriptions of the COP, especially regarding buffer zones along waterways, parameters for side drains/ditches and precautions during bridge and culvert construction. • Maximum care to be taken to ensure all vehicles and machinery are in a proper state. Dispense or change lube oil only in designated areas. Avoid washing vehicles in waterways. 	RTI, GFC	During the entire time frame for the project.

Potential Impacts	Proposed mitigation measures	Responsibility	Proposed Time frame for implementation
	<ul style="list-style-type: none"> • EPA's Brochure on Water conservation to be placed at all public points around the concession. • Institute regular briefing sessions for field staff and highlight the need for water conservation during such briefings. 		
Biological/ecological environment			
<p>Timber harvesting:</p> <ul style="list-style-type: none"> • destruction of juvenile trees, • genetic erosion of species, • decline in soil fertility, • spillage of oil • forest fragmentation, increased potential for blow downs 	<ul style="list-style-type: none"> • Implement a system for conducting pre-harvest inventories and preparing stock maps for the efficient identification of trees to be harvested. • Use tree marking practices. • Use directional felling techniques for felling trees • Plan skid trails based on stock maps-specifically for the identification of the harvesting stock; • Use tractors that permit winching techniques. • Use heavy duty machines that are fully functional (no leaking of oil or fluid anywhere). • Train all field operatives in RIL practices 	RTI	During the entire time frame for the project.
<p>Wildlife:</p> <ul style="list-style-type: none"> • Modification, destruction of habitats leading to stress, temporary dislocation of fauna, and the potential for accelerated animal-animal predation • (Accidental) animal mortality depletion in 	<ul style="list-style-type: none"> • Ensure a systematic manner of timber harvesting so that once a block is harvested, the operation moves on (and animals can return). • Restrict hunting activities (by non-indigenous groups) by placing advisory notices at strategic points around the concession area. • Drivers/Operators of vehicles to slow down when encountering animals on the roadway. • Inspect trees to be felled for nesting birds such as the harpy eagle (<i>Harpia harpyja</i>) or slow, arboreal animals such as sloths (<i>Bradypus torquatus</i>). 	RTI	During the entire time frame for the project.

Potential Impacts	Proposed mitigation measures	Responsibility	Proposed Time frame for implementation
population and variety of species	<ul style="list-style-type: none"> Avoid 		
<ul style="list-style-type: none"> Ecological relationships: Modifications of ecological relationships. Increased potential for pests, 	<ul style="list-style-type: none"> Implement proper RIL practices and prescriptions of the COP 'standard operating procedures' 	RTI, GFC	During the entire time frame for the project.
Socio-economic environment			
Conflicts: restrictions of access, alienation of rights	<ul style="list-style-type: none"> Engage stakeholders in discussion and consultations to address mutual concerns. 	RTI	As required
Social problems: crime, use of alcohol, other disagreeable behaviour; increase in life threatening behaviour through exposure to various illnesses.	<ul style="list-style-type: none"> Work with public agencies (Police, staff of the Ministry of Health, staff of the Ministry of Local Government) in Region 7 and other forest/mining concessionaires in the Puruni District to address emerging issues. 	RTI	As required
Road safety: high probability of road accidents.	<ul style="list-style-type: none"> Work with the police to ensure adherence to proper road use practices and to identify road locations requiring special attention. Make sure that each vehicle is in a full functional state prior to its use on the roadways, within and outside of the concession area. Place appropriate cautionary signs at sharp turns, steep grades, bridges and near populated areas. 	RTI	During the entire time frame for the project.
Poor waste management: illnesses resulting from a polluted environment	<ul style="list-style-type: none"> Observe prescriptions of the Code of Practice. 	RTI	Monthly

Potential Impacts	Proposed mitigation measures	Responsibility	Proposed Time frame for implementation
	<ul style="list-style-type: none"> • Hold frequent briefing sessions with staff to ensure a shared understanding of the consequences of poor control over waste management. • Distribute and put up EPA’s brochure on waste management at all camps. 		
<p>Indigenous, archaeological assets: loss, destruction modification of habitats</p>	<ul style="list-style-type: none"> • Identify and isolate any assets encountered and post appropriate advisory signs and notices; • Ensure such sites are placed on all stock maps • Build fences around assets and place appropriate signs • Consult with the Amerindian Affairs Ministry and the Walter Roth Museum on collaborative efforts to protect any assets discovered. 	RTI	As required

5. ANNEXES

Six Annexes are set out in this document:

- I. Copy of Face Page RTI's Certificate of Incorporation
- II. Copy of RTI's TIN Certificate
- III. Copy of face page of SFEP 02/2020
- IV. RTI's primary list of targeted species.
- V. List of equipment at hand
- VI. RTI's Provisional Organization Chart

Annex I: Copy of Face Page RTI's Certificate of Incorporation

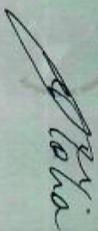


Annex II: Copy of RTI's TIN Certificate


Certificate of Registration
Taxpayer Identification Number (TIN)

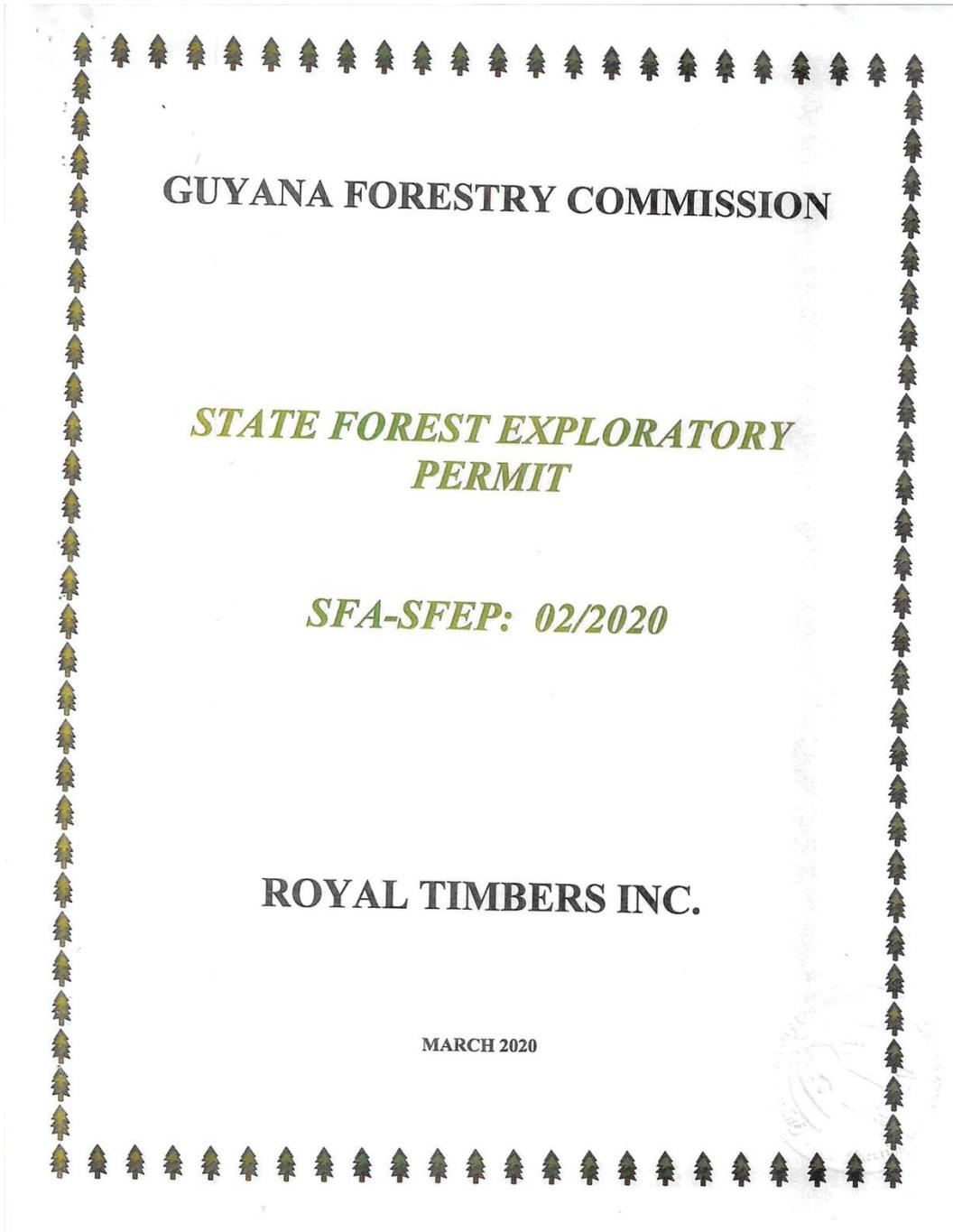
Taxpayer Name:	ROYAL TIMBERS INC.
Business Name:	ROYAL TIMBERS INC.
Taxpayer Type:	COMPANY
Address:	LOT 15 GARNETT STREET CAMPBELL VILLE
Date Issued:	December 05, 2016
Tax Office:	HEAD OFFICE
TIN: <u>016235733</u>	

This Taxpayer has been registered under the provisions of the Income Tax (Amendment) (No. 2) Act # 15 of 2006


Commissioner General
Guyana Revenue Authority

GRA10291277

Annex III: Copy of face page of SFEP 02/2020



Annex IV: RTI's primary list of targeted species.

No.	Local Name	Scientific Name
1	Bulletwood	<i>Manilkara bidentata</i>
2	Crabwood	<i>Carapa guianensis</i>
3	Greenheart	<i>Chlorocardium rodiei</i>
4	Huruasa	<i>Pithecellobium jupunba</i>
5	Kabukalli	<i>Goupia glabra</i>
6	Limonaballi	<i>Chrysophyllum pomiferum</i>
7	Locust	<i>Hymenea spp.</i>
8	Manni	<i>Symphonia globulifera</i>
9	Monkey Pot	<i>Lecythis davisii</i>
10	Mora	<i>Mora excelsa</i>
11	Morabukea	<i>Mora gonggrijpii</i>
12	Purpleheart	<i>Peltogyne spp.</i>
13	Shibadan	<i>Aspidosperma spp.</i>
14	Simarupa	<i>Simaruba amara</i>
15	Tatabu	<i>Diploptropis purpurea</i>
16	Tauroniro	<i>Humiria balsamifera</i>
17	Tonka-bean	<i>Dipteryx odorata</i>
18	Wamara	<i>Swartzia leiocalycina</i>
19	Washiba	<i>Tabebuia sp.</i>
20	Yellow Silverballi	<i>Aniba ovalifolia</i>

Annex V: List of equipment at hand

A. Logging equipment

Item No.	Type/Unit	Model	Expected Used Date	Remarks
1.	Bulldozer (2)	D6D/H Caterpillar	Nov 2006	New/Recon.
2.	Skidder (3)	CAT 528 /C	-do-	New/Recon.
3.	Chain Saw (6)	2@070 AV STIHL, 4@066 Stihl	-do-	New
4.	Wheel Loader (2)	966F Caterpillar	-do-	New/Recon.
5.	Pickup (2)	4x4 Toyota Twin Cab	-do-	New/Recon.
6.	Log Trucks (2)	6x6 Mack Truck	-do-	New/Recon.
7.	Lumber Truck (3)	6x6 Mack Truck	-do-	All New

B. Sawmilling equipment

Two portable mills at ha

Category	Remarks
Brand	Wood Mizer
Model	LT70HDD62-RX sawmill
Motor	Caterpillar 62 hp Turbo Charged Diesel (4 cylinder, water-cooled)
Log capacity	36" diameter x 20'
Log Handling	Hydraulic Load, Level Clamp, Chain Turner
Feed System	12V Electric (3/4 hp)
Capacity	800 Board feet per hour
Operator Location	Walk, ride or movable remote station

Annex VI: RTI's Provisional Organization Chart

