

CHAPTER 4 : PROJECT OPTIONS

4.1 SITE OPTIONS

The proposed Project is located on parts of Compartment 126, 131 & 132 (Block 1) and parts of Compartment 125, 126, 131 & 132 (Block 2) with an area of 1,600.00 Hectares (3,953.67 Acres) at Piah Forest Reserve, District of Hutan Kuala Kangsar, Perak Darul Ridzuan. The proposed Project area consists of valley and high hills where the highest level is 890 m above mean sea level (MSL) and the lowest level is 190 m above mean sea level (MSL). Most of the proposed area is covered with forest trees. Most of the proposed Project land is covered with forest trees. Based on Jabatan Perancangan Bandar dan Desa Negeri Perak, existing land uses of proposed site are hilly, agricultural and forest areas.

Pos Gapeh and Sekolah Kebangsaan Pos Piah are lies about 2km southwest and 2.8km southern from the proposed site, respectively. Kampung Lalang is situated approximately 2.5km southwest from the proposed site. Meanwhile, Kampung Chat and Kampung Kekabu are located about 3km southwest and 3.75km southwest from the proposed Project site. Ladang Tasik Kenering is located about 5km northwest from the proposed site. Sekolah Kebangsaan Pos Poi (Sungai Siput Utara) is located about 8.8km southeast from the proposed site. Lenggong is located about 25km western from the proposed Project site. Sungai Siput and Taiping are situated approximately 35km southern and 56km southwest from the proposed Project site, respectively. Thus, the proposed Project is seen to be compatible with the existing landuse.

4.1.1 Buffer Zone

According to the Department of Environment Malaysia latest Guidelines for Siting and Zoning for Industries, the required buffer zone for a forest plantation to the nearest structure within the settlements area is 500 m. The reserved area for every river in the

site area is shown in **Table 4.1**. With appropriate mitigation measures to be implemented, it is expected that the proposed forest plantation operation shall be able to effectively achieve the objective of maintaining the distance as stipulated in the guidelines and shall not have any negative impact to the said land use. The buffer zone involve in this analysis are riparian zone for main river (20m each side), riparian for stream (10m each side) and road reserve (4m each side). The details of the analysis as in **Figure 4.1**. (see *JPS Guidelines as in Appendix 4-A*)

Table 4.1 : Reserved Area for River

Width of Waterway Between Bank	River Reserve Between Bank
> 40 meters	50 meters
20 – 40 meters	40 meters
10 – 20 meters	20 meters
<10 meters	10 meters

Source: Department of Irrigation and Drainage (JPS)

From the analysis, it shows that overall low risk area are 1054.35 ha, which are about 65.89% from overall area. Estimated overall production of timber will be around 35,000 ton. Thus;

- Production rate of timber will be around 33 ton/ha.
- Discarded biomass for the whole Project will be around 340,744 ton. (Further discuss in Chapter 7).

4.1.2 Central Forest Spine (CFS)

Project site are free from Central Forest Spine (CFS) reserved area. There are two nearest locations of CSF, which are Papulut (± 15 km) and Bintang Hijau (± 23.5 km). **Figure 4.2** exhibit the map of CFS.

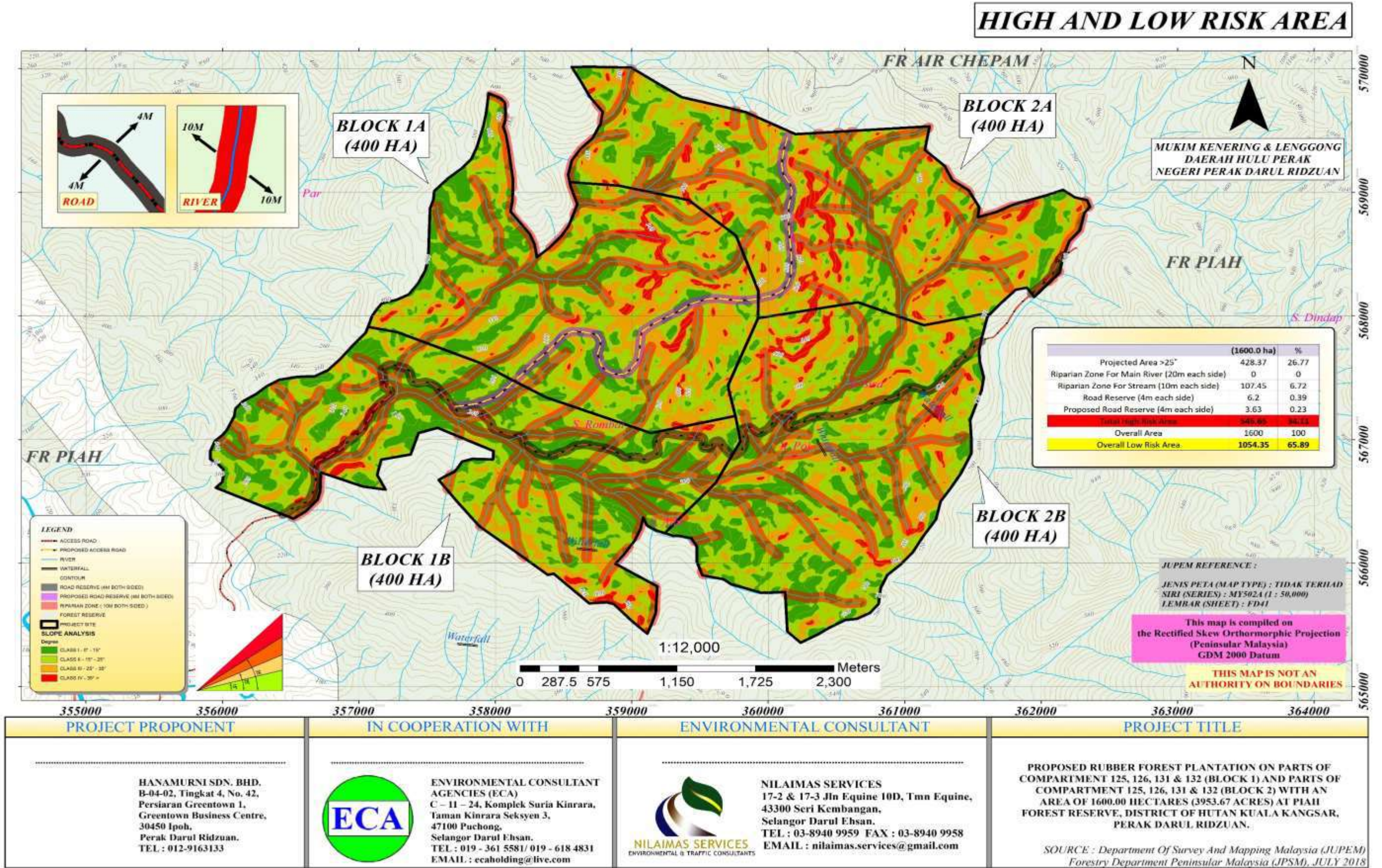
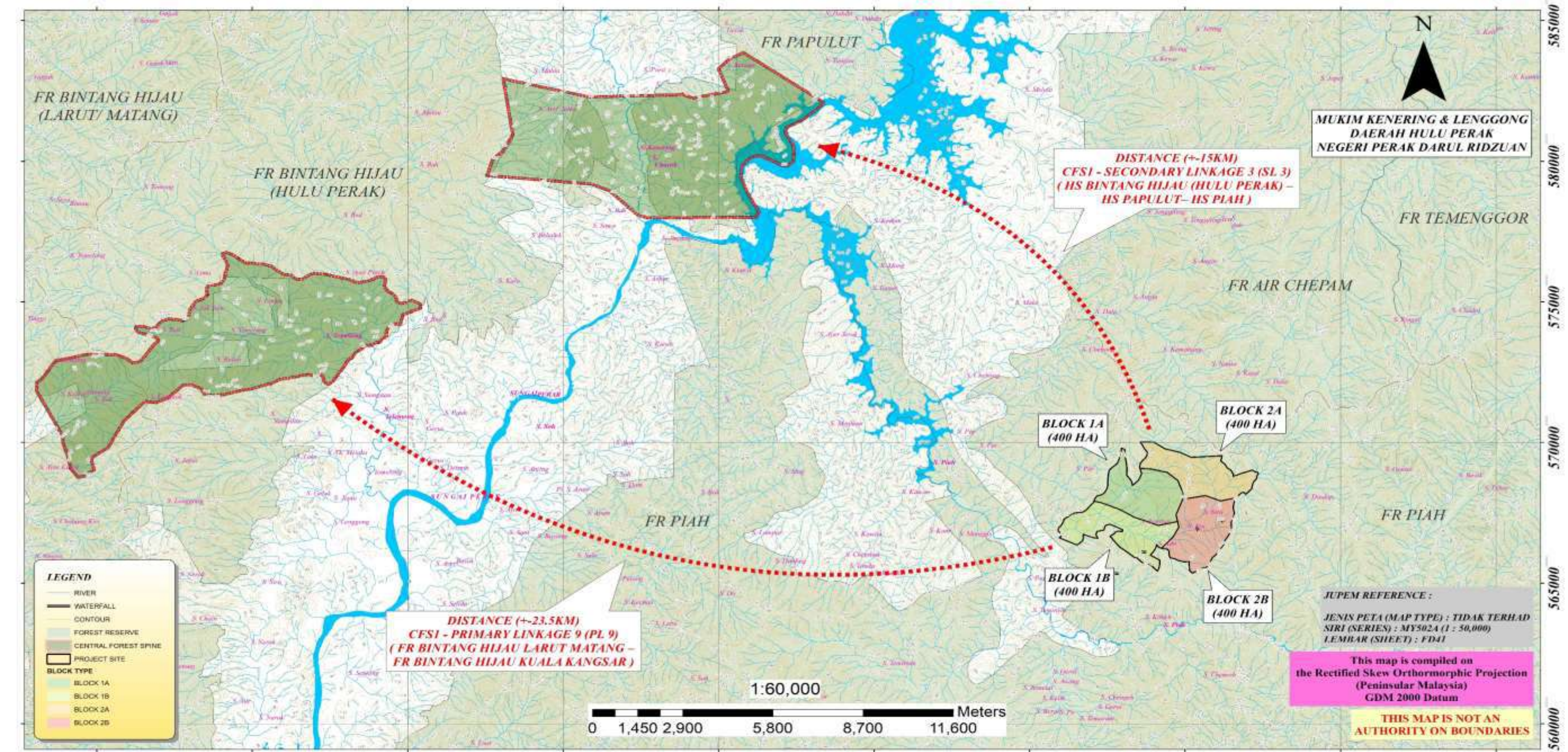


Figure 4.1 : Riparian Reserve for Project Site

CENTRAL FOREST SPINE (CFS MAP)



PROJECT PROPONENT	IN COOPERATION WITH	ENVIRONMENTAL CONSULTANT	PROJECT TITLE
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Figure 4.2 : Central Forest Spine (CFS)

4.2 NO PROJECT OPTION AND BUILT

A “No Project” option will cause the project site to remain as a forest which is currently undergoing secondary forestry ranking. It will take more than 50 years (Ashton, 2008) and up to 200 years for the forest to transform into a climatic forest (Oliver and Larson 1990). There is a possibility of encroachment into the state land for illegal development since in current condition, the project site is easily accessible from the road that been used during the logging. From site observation, the boundary of the project site has been encroached and planted with rubber trees and small farms by local peoples. This potentially can result in more encroachment to the entitled land and may be a disadvantage to the land owner. These sorts of activities might cause slow profit for the state.

Developing the area for rubber forest plantation would enhance efforts of the state to increase the value of the land. In addition, the local community will be able to participate in the economic development and to benefit from the increased employment and business opportunities. With the implementation of the appropriate mitigation measures, the least environmental impacts will be achieved during project implementation.

4.3 TECHNOLOGY, RAW MATERIALS, CONSTRUCTION METHOD, OPERATION OPTIONS

The main purpose of this project is for forest plantation activity at the prospected site. The existing forest tree will be cut, processed, stockpiled and the area will be replanted with rubber forest (*Hevea Brasiliensis* of the TLC variety). Project proponent chooses terracing method for site preparation of this project. Before forest plantation activity can proceed, existing trees will be harvested first in phases. Concurrently, the land will be replanted with TLC. The proposed project has been approved by Department of Forestry Perak for the forestry plantation operation.

Hanamurni Sdn. Bhd. is concerned with its responsibility to ensure minimal impacts on the environment during the development and the establishment of their rubber forest plantation projects. To create awareness of minimising air pollution, a strict zero burning policy has been adopted and enforced at all Hanamurni Sdn. Bhd.'s plantations. It is in line with ASEAN policy that was launched in April 1999, promising Asean countries to adopt a "Zero Burning" technique for development on forest area (ASEAN, 2003).

The Hanamurni Sdn. Bhd. adopts environmentally friendly methods within the estates for clearing of new tracks for development or clearing existing old rubber plantations for replanting programme. However, according to the Jabatan Perhutanan Negeri Perak, controlled burning such as using burners to solve the problem of the waste such as branches, stumps and roots in the Project area is allowable.

In addition, Hanamurni Sdn. Bhd. are mindful that some aspects of the plantation and latex production could have environmental and conservation impacts. As part of their environmental agenda, prior to any expansion of their forest plantation, they will undertake an assessment to identify any potential negative impacts on the environment in their daily operations.

Hanamurni Sdn. Bhd.'s also do not permit any sewage and liquid effluent generated from site activities to flow from the site onto any adjoining land or allow any waste matter to be deposited anywhere within the site or any adjoining land. Their priorities are the preservation and protection of waterways. Areas are set aside as water catchments in all plantations to supply operational needs. Better utilisation of waste material contributes towards reducing the environmental impact and the Proponent endeavours to identify opportunity for continuous improvement.

The raw material for rubber forest plantation is carefully selected, where only healthy seedlings will be planted at the field. The high resistance seedlings to pest and disease are prioritized during field

planting. This is important to reduce cost management and produce high quality trees.

Manuring process is an important stage in field maintenance, where high cost of fertilizers may affect field cost management; therefore, the manuring will be focus on areas with less fertile soils or need improvements.

4.4 SUMMARY OF RESULTS

The justification in favour of the 'With Project' option is based on the following:

- The proposed Project is compatible with the usage of natural resources of the area than Project abandonment.
- The Project will help maintain the market demand in the various industries.
- This Project will have a high multiplier effect on development in the state and country by creating business and job opportunities.

Based on the above justifications, the 'With Project' option is chosen to fulfil the aspirations of all the stakeholders. The evaluations of the Project options is shown in **Table 4.2**.

Table 4.2 : Evaluation Summary of Project Option

Criteria	No Development	With Development
Government Strategy	(-)	(+)
Landuse Compatability	(-)	(+)
Environmental Acceptability	(+)	(+)
Socio-economic Acceptability	(-)	(+)
Marketability	(-)	(+)

+ = positive option

- = negative option