



Photo 3.55 Screw pine growing among the *Casuarina* trees.

Further south at Area 4, the vegetation were mostly creepers, young and short palm trees and a few other trees as shown in Photo 3.56 when surveyed in September 2017. This area was then classified as herbaceous. However with the construction of the new road network along Pantai Teluk Ketapang, this area is no longer covered with any vegetation.



Photo 3.56 Creepers dominated the vegetation at Area 4 during September 2017 site visit.



Photo 3.57 Bare sand close to Area 4 after the construction of a new coastal road.

3.6.3 Discussion

The general physiognomic type of terrestrial vegetation areas along the shoreline are open spaces covered with either grass, creepers and some shrubs. A large part of the area also comprised of sparse woodland and woodland which were presumably planted as neat rows of young trees were observed in a few areas. The purpose could either be for beautification or soil stabilisation. The lack of vegetation diversity within survey boundary is expected as the soil which is predominantly sand is only suitable for certain plant species. The type or species of plants observed are typical of this environment where the landuse is a mix of beach, open spaces and residential.

4 Human Environment

4.1 Land Use

4.1.1 General Land Use

The land use within 5 km of the Project has been developed with mainly unplanned and planned residential areas along the coast /32/. The Sultan Mahmud airport is located next to the project area and has been in operation since 2003. Sri Pantai Army Camp is located next to the airport. Other administrative buildings are concentrated at Kuala Terengganu town area. A few chalets and resorts are found along the shoreline. It is less developed further inland with the presence of plots of unused land.

Existing land use around the project site (as per the Kuala Terengganu District Local Plan 2008 - 2020) is shown in Figure 4.1. A land use survey was conducted to identify key land use features and verify the general land uses as indicated in the District Local Plan.

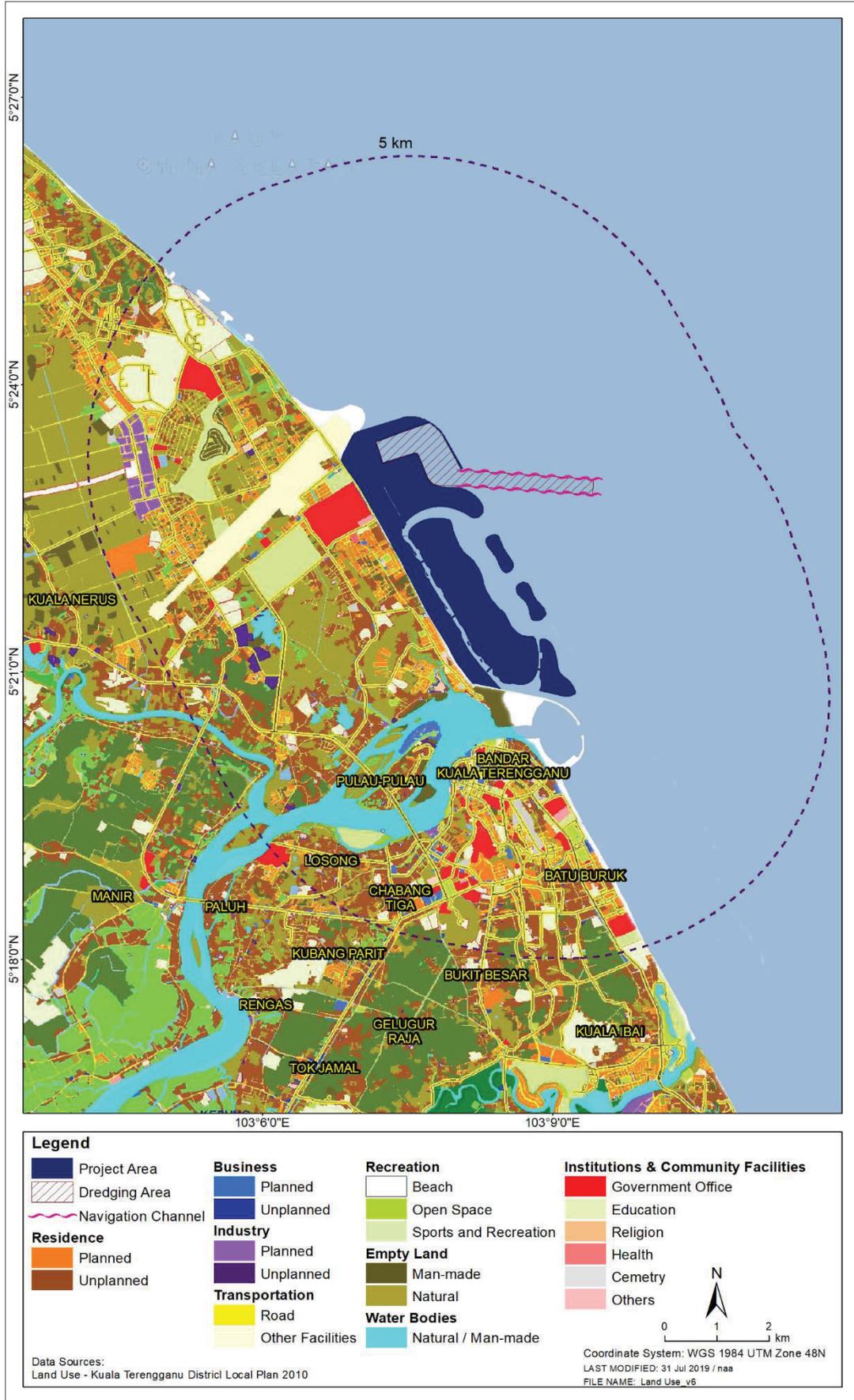


Figure 4.1 Existing land use around the Project site as per Kuala Terengganu District Local Plan 2010.

4.1.2 Survey Methodology

A survey was carried out within a 5 km radius from the Project to ground truth the key land uses and sensitive land use features within the survey area.

The latest Google Earth maps covering the study area were printed and features seen on the maps were identified by ground-truthing. Using a GPS-enabled camera, pictures and the coordinates of the sensitive features were documented, and any related observations were noted.

On-site investigation and ground truthing were undertaken on 30th September, 2nd, 3rd and 5th October 2017 covering mainly Mukim Kuala Nerus, Kuala Terengganu town, Mukim Batu Buruk, Mukim Losong and small part of Mukim Cabang Tiga. Additional site inspection along the shoreline of Pantai Ketapang was undertaken on April and June 2019 given the changes in landuse whereby a new coastal road was built in 2018 and completed in May 2019. In general, the total area covered inside the 5 km impact zone is approximately 6,216 hectares of land.

4.1.2.1 Survey Location

Figure 4.2 shows the land use survey coverage of 5km radius from Project.

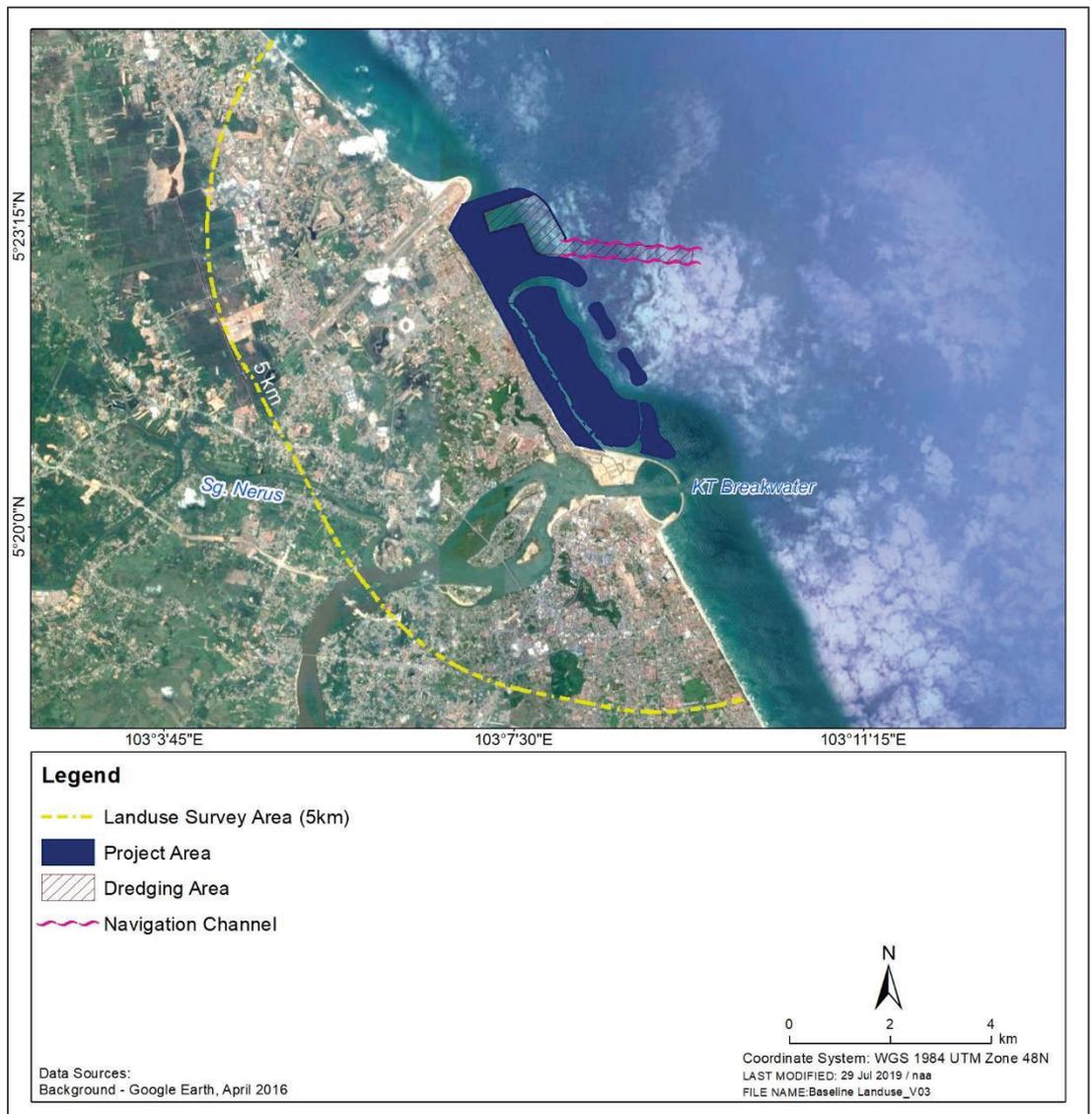


Figure 4.2 Land use survey area.

4.1.3 Survey Findings

The major distributor road to Project site is via Federal Route 3, along Jln. Kelantan, then Federal route 3685, Jalan Tengku Ampuan Intan Zaharah. This route is further connected through some secondary and local distributors before reaching the Project area via Jalan Lapangan Terbang and T143 (Figure 4.3). The existing coastal road adjacent to the Project site is a narrow, dual lane road (Jalan Ketapang Pantai; Photo 4.1 no. 1 and 2) located next to Pantai Rekreasi Pantai Teluk Ketapang. However, in 2018, a new coastal road was built and completed on May 2019 as shown in Photo 4.1 (no. 3, 4 and 5).

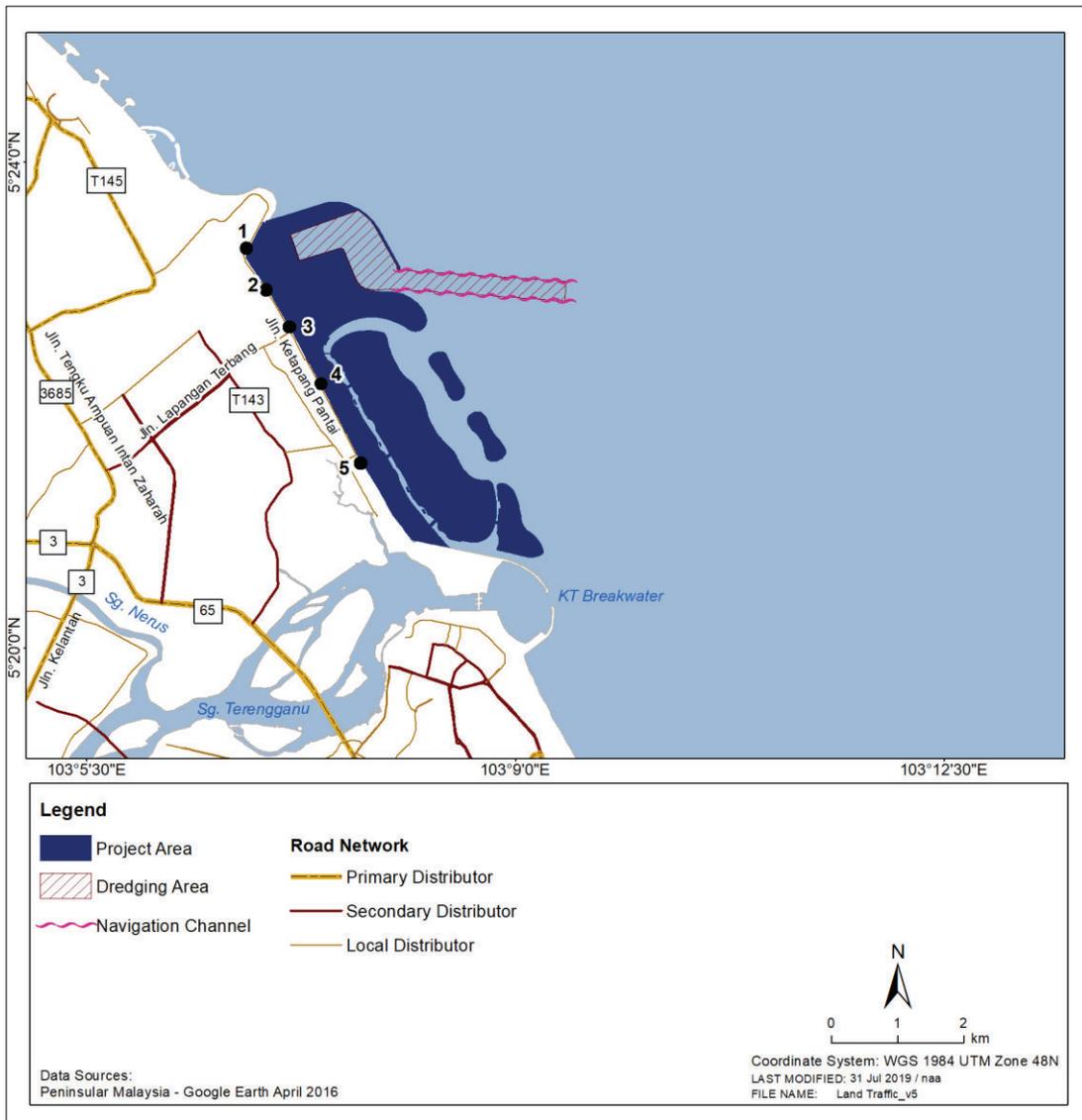


Figure 4.3 Access road to project site (photo location to refer to Photo 4.1).



Photo 4.1 Jalan Ketapang Pantai (location as per Figure 4.3).

Figure 4.4 and Photo 4.2 shows the key land use features within 5 km from the Project. There are a total of 93 villages or residential areas within 5 km of the Project. Table 4.1 lists the villages or residential areas within 3 km of the Project and other key land use features within 5 km of the Project. The existing land use pattern is based largely on Kuala Terengganu District Map, JUPEM 2010 and ground truthing.

Urban landuses within 5 km of the Project site are mainly concentrated in Kuala Terengganu town and Seberang Takir town. The dominant landuse within 1 km of the Project boundary is quite dense with rural type settlements and tourism-based facilities (e.g. hotel and homestays). Three other prominent landuse features are Sultan Mahmud Airport (~176 ha), the army camp (~87 ha) and Universiti Malaysia Terengganu (~74 ha).

Community facilities such as hospitals, clinics, mosque; church and temple are scattered within the residential areas. There are also few cemeteries within the area with one cemetery located closest to the shoreline which is Seberang Takir Muslim Cemetery located less than 150 m from the shoreline.

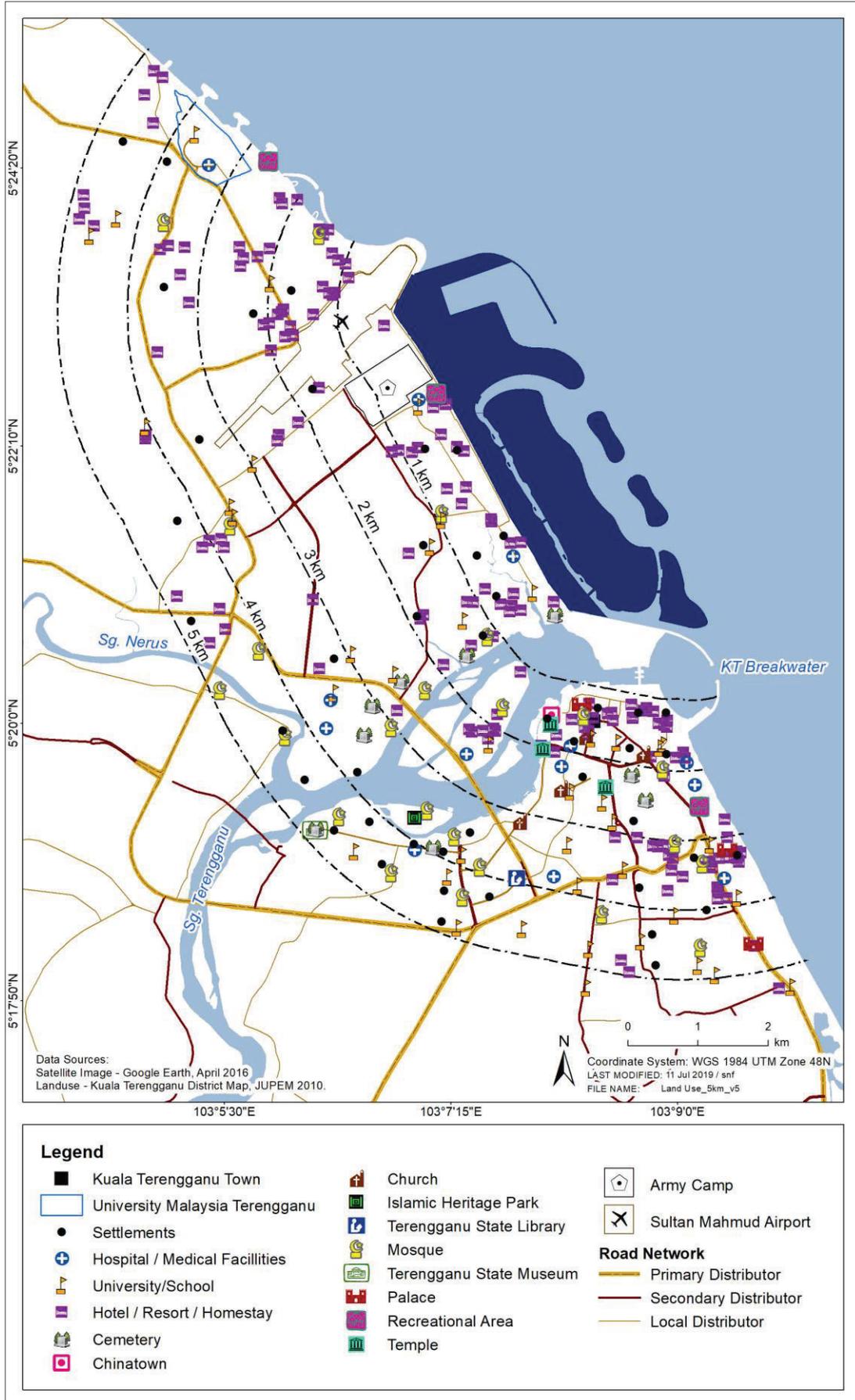


Figure 4.4 Landuse within 5 km of Project boundary.

Table 4.1 Details on key land use features found within 5 km radius of the Project.

Land use Features	Description	
Residential area/village (There are 93 residential areas within 5 km of the Project. Listed in the table are residential areas within 3 km of the Project)	Kampung Seberang Takir	Taman Permint Perdana Fasa 3
	Kampung Duyung	Kg Banggol Pak Ibrahim
	Kampung Bukit Tumbuh	Kg Banggul Pauh
	Kampung Banggol Limau	Kg Banggul Buluh
	Kg Serdang Baru	Kg Gong Setul
	Taman Perumahan Telaga Daing	Kg Gong Kolam
	Kampung Wakaf Tok Jembal	Kg Dusun
	Kampung Tanjung Gelam	Kg Tok Jembal
	Taman Uda Tok Jembal	Taman Murni Permai
	Kg Telaga Batin	Kg. Tg. Nangka
	Kg Bukit Tok Beng	Kg Tanjung Kapur
	Kg Pak Tijah	Kg Nesan Empat
	Kg Telaga Daing	Kg Kelah Pantai
	Kg Hulu Takir	Kg Ladang Sekolah
	Kg Batin	Kg Batas Baharu
	Kg Baharu Seberang Takir	Kg Banggul
	Kg Ketapang	Kg Tiong
	Kg Tanjung Seberang Takir	Kg Pulau Kambing
	Taman Permint Perdana Fasa 1	Batalion Ke-18 Rejimen Askar Melayu Diraja (PARA)
	Taman Permint Perdana Fasa 2	
Education institution	SK Kompleks Seberang Takir	SK Pasir Panjang
	SK Bukit Tok Beng	SMK Padang Negara
	SMK Ibrahim Fikri	SMK Seri Budiman
	SK Teluk Ketapang	SMK Sultan Sulaiman
	SK Bukit Tumbuh	SMA Atas Sultan Zainal Abidin
	SMK Bukit Tunggul	Sri Utama Schools
	SK Bukit Tunggul	SMK Bukit Besar
	SK Duyong	SK Losong
	SMA Sultan Zainal Abidin Ladang	SK Cabang Tiga
	SK Ladang	SK Seri Nilam
	SK Tengku Ampuan Mariam	SK Bukit Losong
	SK Paya Bunga	SM Teknik Terengganu
	Grammar School of Professional Studies	SM Sains Sultan Mahmud
	SK Sultan Sulaiman 1	Sekolah Sukan Malaysia
	SK Sultan Sulaiman 2	SMK Kompleks Gong Badak
	SMK Chung Hwa Wei Sin	SK Tok Jembal
	SJK (C) Chung Hwa Wei Sin	SK Gong Badak
	SK Gong Kapas	Universiti Malaysia Terengganu
	SK Seri Budiman	Universiti Sultan Zainal Abidin
	SMK Panji Alam	

Land use Features	Description	
Health care facilities (clinic/hospital)	Air Jernih Maternal and Child Health Care	
	Bukit Tunggal Dental Clinic	
	Bukit Tunggal Health Clinic	
	Hiliran Health Clinic	
	Klinik Desa Seberang Takir	
	Kuala Terengganu Specialist Hospital	
	Losong Rural Clinic	
	PRIBA	
	Pulau Duyong Rural Clinic	
	Seberang Takir Health Clinic	
	Sultanah Nur Zahirah Hospital	
	UMT Health Centre	
	UTC 1Malaysia Health Clinic	
House of worship	Latter Rain Church	Masjid Pulau Duyong
	St Andrew's Church	Masjid Abidin
	Air Jenih Presbyterian Church	Masjid Ladang
	Baptist Church Kuala Terengganu	Masjid Raya Bukit Besar
	Ho Ann Kiong Temple	Masjid Losong
	Hindu Temple	Masjid Tok Ku
	Temple Tian Hou	Masjid Kg. Bukit Kandis
	Masjid Kristal	Masjid Bukit Tumbuh
	Masjid Kg. Buluh Gading	Masjid Kg. Batin
	Masjid Taqwa Batu Enam	Masjid Hujung Tanjung
	Masjid Wakaf Tembesu	Masjid Hj. Muhammad
	Masjid Al- Abrar	Masjid Hiliran
	Masjid Tok Jembal	Masjid Kg. Losong
	Masjid UniSZA	Masjid Makmur
	Masjid Tg. Nik Haji	
Resort/hotel/chalet <i>(There are approximately 161 accommodation areas within 5 km radius of the Project. Listed in the table are some of the known names)</i>	Chabang 3 Homestay	Hotel KT Mutiara
	Pak Aziz Homestay	Hotel Felda Residence
	Sumayyah Homestay	Hotel Seri Malaysia
	Adik Homestay	Homestay Teluk Ketapang
	Intan Beach Resort	Batu Burok Beach Resort
	Sri Indah Resort	Primula Beach Hotel
	Sri Jembal Homestay	Permai Inn Hotel
	AIZ Corner Homestay	Hotel Duyong Marina and Resort
	Nurin Homestay	Hotel Grand Continental
	JBK Homestay	Asia Premium Hotel
	Scout Inn Resort	Hotel Tanjong Vista
	As Salam Homestay	Hotel Min

Land use Features	Description	
	Anjung Pantai Seberang Chalet	Sumai Hotel and Apartment
	Purnama Homestay	Hotel Citi Point
	AbahCher Homestay	Rimba Hotel
	Hotel Kenangan	Chalet Anees
	Tabung Haji Hotel	Hotel Grand Continental
	TY Hotel	Dara Inn
	Scout Inn Resort	
Cemetery	Seberang Takir Muslim Cemetery	
	Kubur Bukit Tumbuh	
	Sheikh Ibrahim Muslim Cemetery	
	Chinese Cemetery	
	Kawasan Perkuburan Islam Kubur Teja	
Cultural Heritage site	Chinatown	
	Islamic Heritage Park	
	Terengganu State Museum	
	Istana Maziah	
Recreational Area	Pantai Rekreasi Kg. Kubang Badak	
	Taman Awam Batu Burok	
	Taman Rekreasi Pantai Teluk Ketapang	

Sultan Mahmud Aiport



Terengganu State Museum



Heritage: Chinatown



Universiti Malaysia Terengganu

