

# KRA Reports and Maps

Key Resource Area reports and maps 1 to 40

July 2017

## **RAVENSBOURNE KEY RESOURCE AREA - KRA 1**

**LOCAL GOVERNMENT AREA:** Toowoomba Regional Council

**LOCATION:**

The resource is located northeast of the village of Ravensbourne off the Esk-Hampton Road (see map KRA 1).

**EXTRACTIVE RESOURCE:** Sand

**EXTRACTIVE RESOURCE DESCRIPTION**

The sand resource comprises weathered soft, friable sandstone that underlies basalt lavas to the northeast of Ravensbourne. Clay is washed from the sand to prepare a suitable grading for general purposes.

The resource has been worked for more than 20 years and a sizeable quarry is currently active.

**SIGNIFICANCE:**

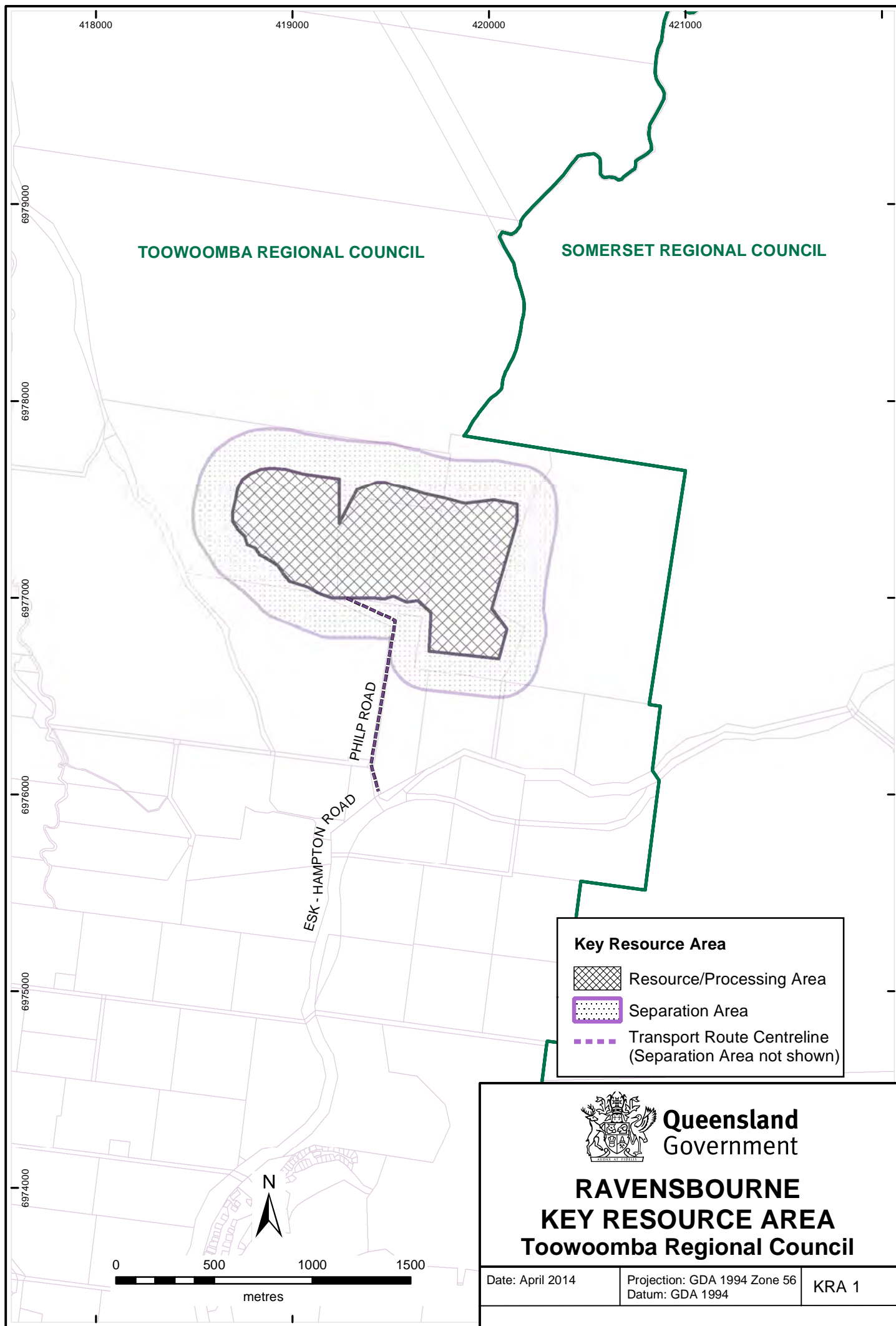
The large resource is sufficient for many years and is well placed to supply Toowoomba and the northeastern Darling Downs, which are otherwise deficient in sources of construction sand. Because of the scarcity of natural construction sand for Toowoomba and the Darling Downs, the Ravensbourne resource is conveniently situated to supply these markets.

**SEPARATION AREA:**

A separation distance of 200 metres around the resource has been adopted.

**TRANSPORT ROUTE:**

The sand is transported a short distance along Philp Road to the main Esk-Hampton Road



## **INGLEWOOD KEY RESOURCE AREA – KRA 2**

**LOCAL GOVERNMENT AREA:** Goondiwindi Regional Council

**LOCATION:**

The resource is located about 10 kilometres east of Inglewood via the Cunningham Highway (see map KRA 2).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of a basalt plug, intruded through older sedimentary rocks. It forms a flat-topped hill with gentle outer slopes.

A quarry supplying various rock products is located at the eastern end of the hill.

**SIGNIFICANCE:**

The life of the available resource is expected to be over 50 years at the present rate of production. The resource has provided the majority of various rock products to the Goondiwindi region and to townships and road works further west, such as St George. Some products have been transported into New South Wales.

**SEPARATION AREA:**

The outermost slopes of the basalt hill are weathered and thus unsuitable for extraction. Thus any future development will tend to be confined to the slightly weathered or fresh basalt in the middle part of the hill, with the outer slopes being retained to screen the operations from the surrounding land.

Therefore the separation distance is set at 500 metres from the outermost edge of the basalt resource.

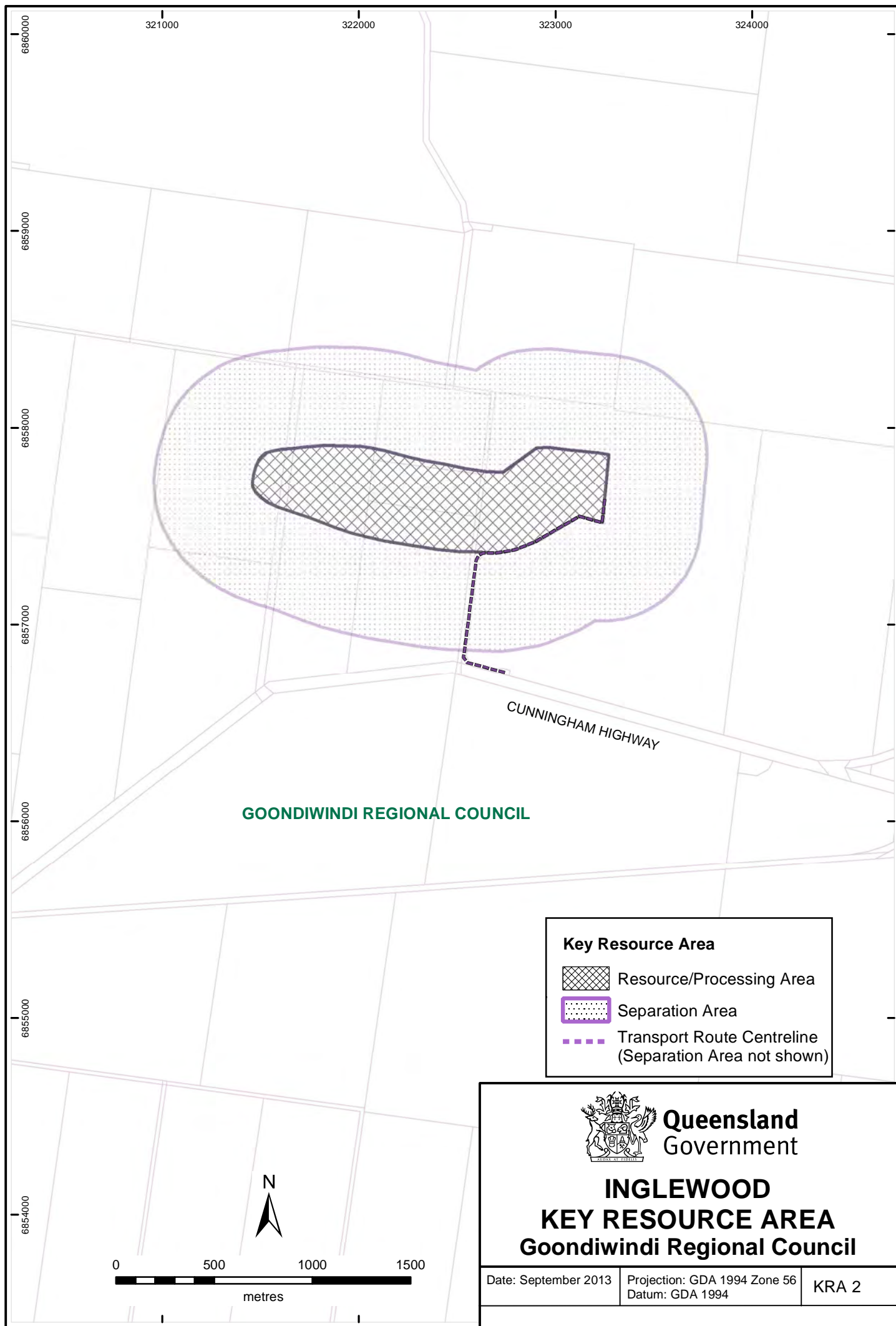
**TRANSPORT ROUTE:**

A transport route constructed across private property extends westwards around the southern flank of the hill, then along the boundary with the adjacent property and onto the Cunningham Highway to the south.

**SPECIAL CONSIDERATIONS:**

Most of the KRA is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.





## **WELLCAMP DOWNS KEY RESOURCE AREA – KRA 3**

**LOCAL GOVERNMENT AREA:** Toowoomba Regional Council

**LOCATION:**

The resource is located south of the Cecil Plains Road about 12 kilometres west of Toowoomba (see map KRA 3).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The extractive resource consists of hard basalt from a thick volcanic flow or plug, which forms a prominent hill at Wellcamp Downs beside the Cecil Plains Road. The reserves are very large with only minor variations in quality. Resources are believed to be sufficient for over 100 years at present production rates.

The resource is the site of the largest quarry in the region, which supplies a wide range of crushed rock products.

**SIGNIFICANCE:**

The size of the resource, the proximity to proposed major road and rail transport routes, the ability to work the resource unobtrusively and its location in a broad acre rural area zoned for future industry make this a very important rock resource for the eastern Darling Downs region. The resource is conveniently situated to supply the Toowoomba and eastern Darling Downs markets.

**SEPARATION AREA:**

Although the quarry is currently located in the centre of the hill, in the longer term it could extend further into the outer slopes of the hill.

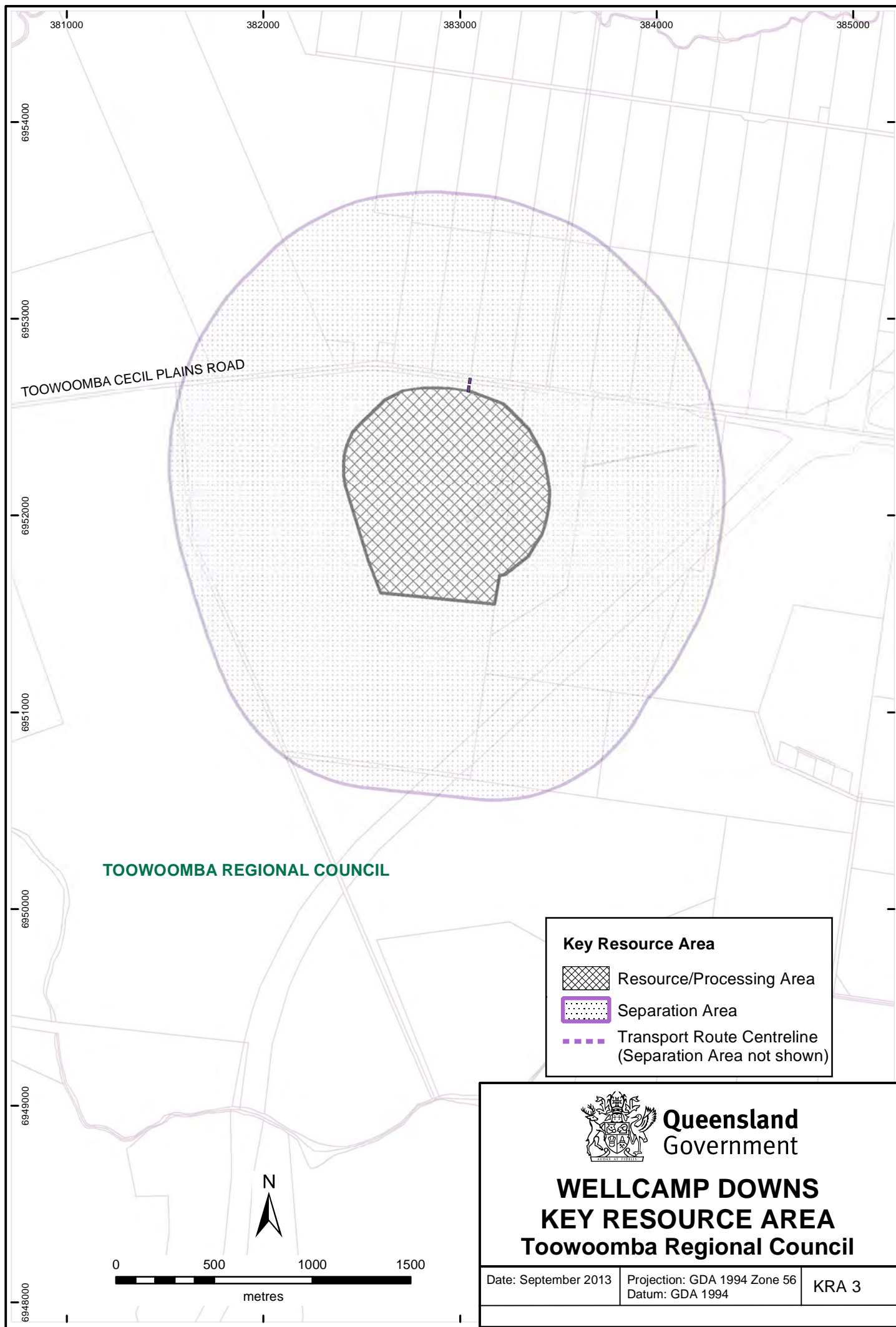
Accordingly, the separation distance is set at 1000 metres from the outer extent of the resource to protect its long-term availability. The separation area thus extends north of the Toowoomba-Cecil Plains Road.

**TRANSPORT ROUTE:**

Materials are transported directly onto the Toowoomba-Cecil Plains Road, mainly to the east.

**SPECIAL CONSIDERATIONS:**

Some parts of the separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **GLENVALE KEY RESOURCE AREA – KRA 4**

**LOCAL GOVERNMENT AREA:** Toowoomba Regional Council

**LOCATION:**

The resource is located about 6 kilometres southwest of Toowoomba (see map KRA 4).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The extractive resource comprises hard basalt that forms part of Glenvale Mountain.

It is the site of a major quarry supplying a wide range of crushed rock products.

**SIGNIFICANCE:**

The resource is understood to be sufficient for 25 to 30 years supply of material at current levels of extraction. The resource is conveniently situated to supply the Toowoomba urban area and the eastern Darling Downs markets and is thus of regional significance.

**SEPARATION AREA:**

On the eastern and southeastern sides of the hill where the face and processing area are visible, the full 1000 metres separation distance is adopted. On the southern and southwestern sides, the distance is reduced progressively to 500 metres, as the rim of forested land at the base of the hill will screen the adjacent land.

On the northwestern side, the boundary is constrained by the rural residential area adjacent to Riethmuller Road. To the northeast, the boundary follows the base of the hill and down a small ridge to the east to run beside a new subdivision off Boundary Street and then progressively reaches the 1000 metres distance further east and south.

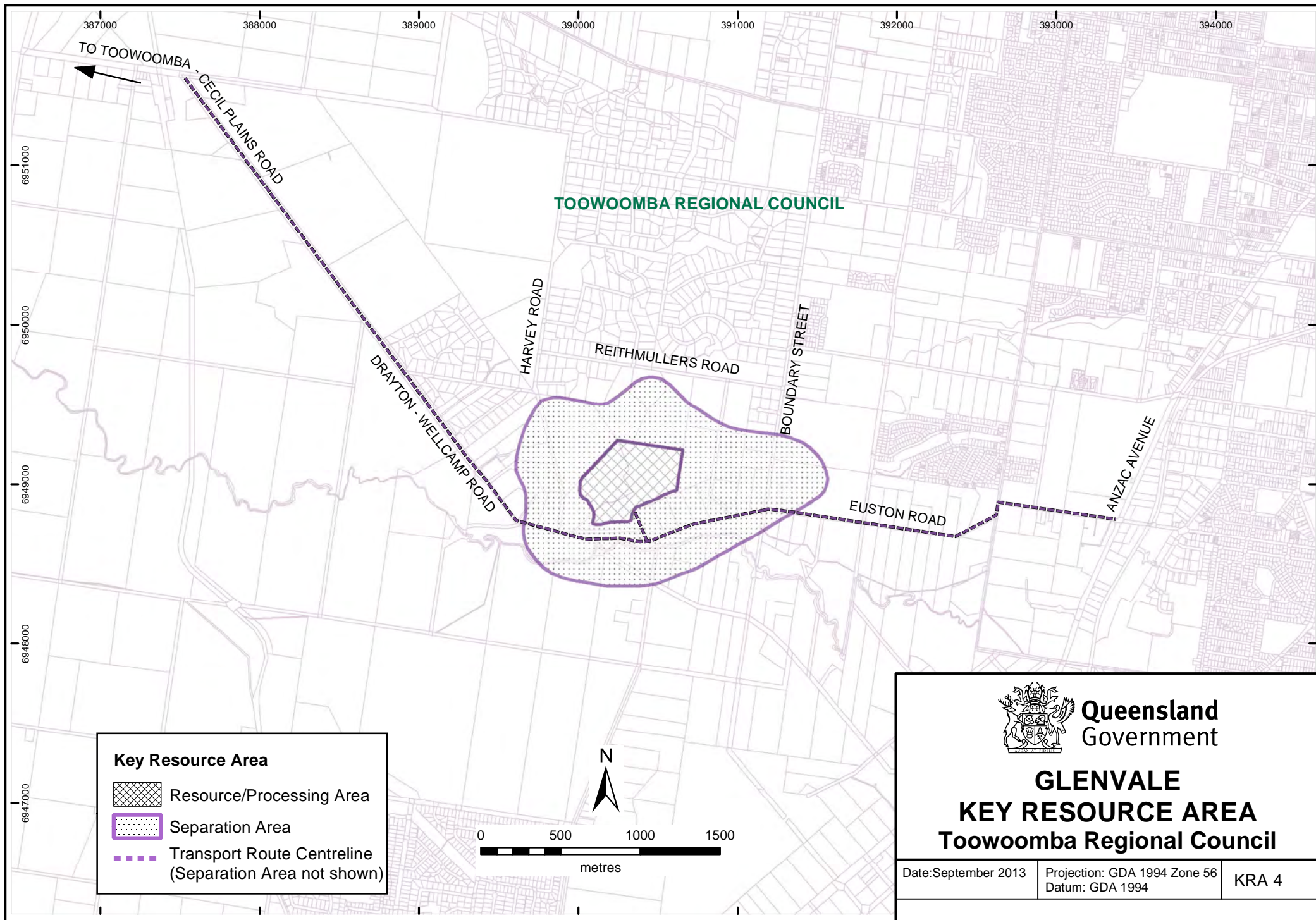
**TRANSPORT ROUTE:**

The transport route to the east is along Euston Road to the Gore Highway (Anzac Avenue), and westwards along Drayton-Wellcamp Road to the Toowoomba-Cecil Plains Road.

**SPECIAL CONSIDERATIONS:**

A small portion of the separation area is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.





## **MALU KEY RESOURCE AREA – KRA 5**

**LOCAL GOVERNMENT AREA:** Toowoomba Regional Council

**LOCATION:**

The resource is about 4 km northwest of Jondaryan along the Malu Road (See Map KRA 5).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of extensive massive basalt flows of the Tertiary Main Range Volcanics interbedded with weathered basalt, with sedimentary interbeds also likely to occur. Where groundwater bores drilled either for production or investigation have reached the base of basalt, it is over 100 metres thick. The current resource area is defined by the existence of groundwater drill intersections and rural lots larger than 100 hectares. A small quarry supplying concrete aggregate, bitumen and sealing aggregates, road base and ballast is located immediately north of the grain silos near Malu siding.

**SIGNIFICANCE**

The Malu site is favoured because of proximity to rail transport and the Warrego Highway, and the very large volumes set in relatively level land with minor scenic amenity issues. The resource is well placed to supply the expansion of urban and infrastructure development in the western part of the SEQ Regional Plan Area and Eastern Darling Downs. The resource is suitable for most types of construction aggregate and may be capable of producing rip rap with application of appropriate extraction techniques.

The estimated resource would be sufficient for over 100 years at the current rate of production for the Eastern Darling Downs region.

**SEPARATION AREA:**

As the rock mass is expected to become denser at depth, requiring blasting, a separation distance of 1000 metres is adopted.

**TRANSPORT ROUTE:**

The rock is transported directly from the site onto the Warrego Highway, or in the case of ballast, loaded at the rail siding near the quarry.

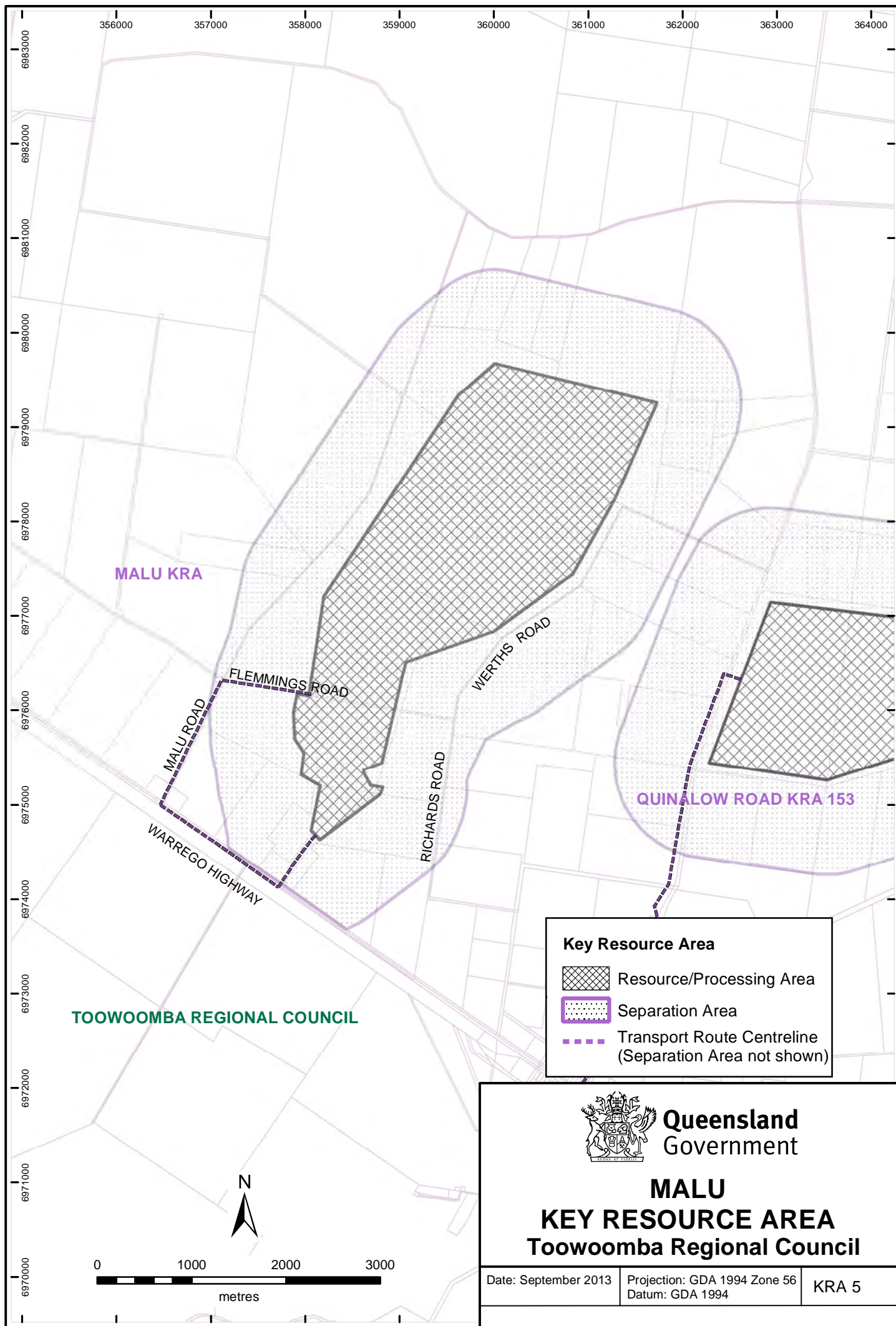
Potential transport routes exit the resource/processing area along Malu Road and extend southwards to the Warrego Highway near Malu Siding. Upgrades of existing roads and intersections with the highway would be required.

**SPECIAL CONSIDERATIONS**

Most of the KRA is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.

The site is also part of the Eastern Darling Downs subartesian water area. Interference with groundwater tables may place constraints on quarry development.







## **JIMBOUR KEY RESOURCE AREA – KRA 6**

**LOCAL GOVERNMENT AREA:** Western Downs Regional Council

**LOCATION:**

The resource is located about 30 kilometres north of Dalby along the Jimbour Quarry Road, between Jimbour and Bell (see map KRA 6).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of a slightly weathered basalt flow that overlies sedimentary rocks. This forms an extensive gently sloping ridge.

The Western Downs council quarry is located in the lowest part of the ridge on the northern side within a quarry reserve, and supplies various rock products.

**SIGNIFICANCE:**

The resource life within the Council reserve is expected to be over 25 years and additional basalt is present in adjacent areas. The resource provides a large percentage of various rock products to the Western Downs, South Burnett and Toowoomba Regional Council areas and at times, material has been sold to other areas as far away as Taroom and Roma.

**SEPARATION AREA:**

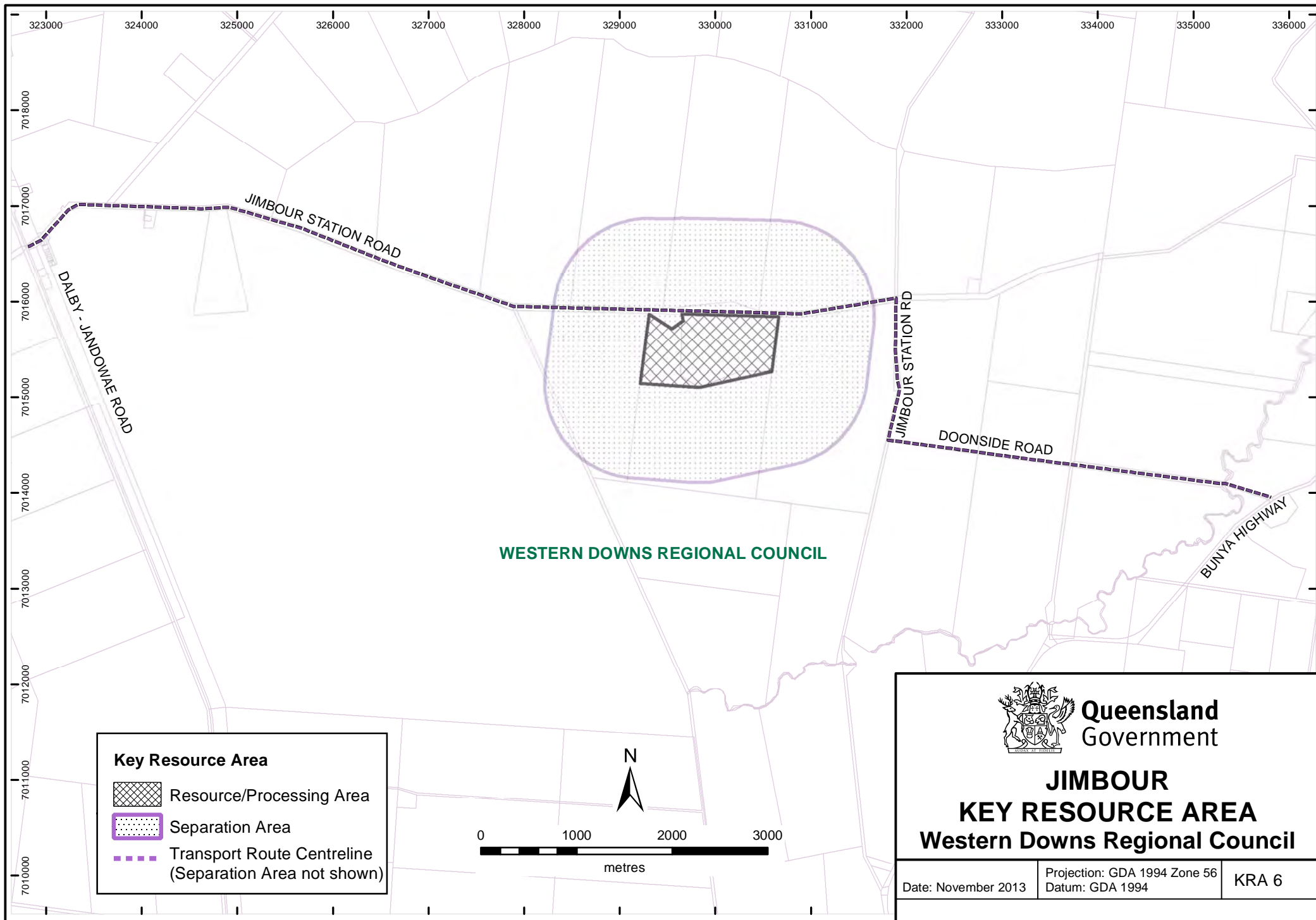
The separation distance is mostly set at the full 1000 metres. A separation distance of 1000 metres extends to the eastern end of the ridge where a house is situated.

**TRANSPORT ROUTE:**

Materials are transported along the Jimbour Quarry Road and then westward to the Dalby-Jandowae Road. Some material is transported eastward to the Bunya Highway.

**SPECIAL CONSIDERATIONS:**

Most of the resource/processing and some parts of the separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **BRAESIDE KEY RESOURCE AREA – KRA 7**

**LOCAL GOVERNMENT AREA:** Southern Downs Regional Council

**LOCATION:**

The resource is located 22 kilometres south of Warwick on the New England Highway (see map KRA 7).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The hardrock resource comprises hornfels (contact metamorphic rock) developed adjacent to a granitic intrusion. Weathering of the granitic rock has produced decomposed granite and boulders which also form part of the resource.

An existing quarry supplies a range of crushed rock products and an adjacent part of the resource has also been approved for extraction.

**SIGNIFICANCE:**

There are resources sufficient for 50 years supply at the current rate of production. The potential resource in surrounding properties may be much larger.

The resource is conveniently situated to supply the southern part of the Southern Downs region.

**SEPARATION AREA:**

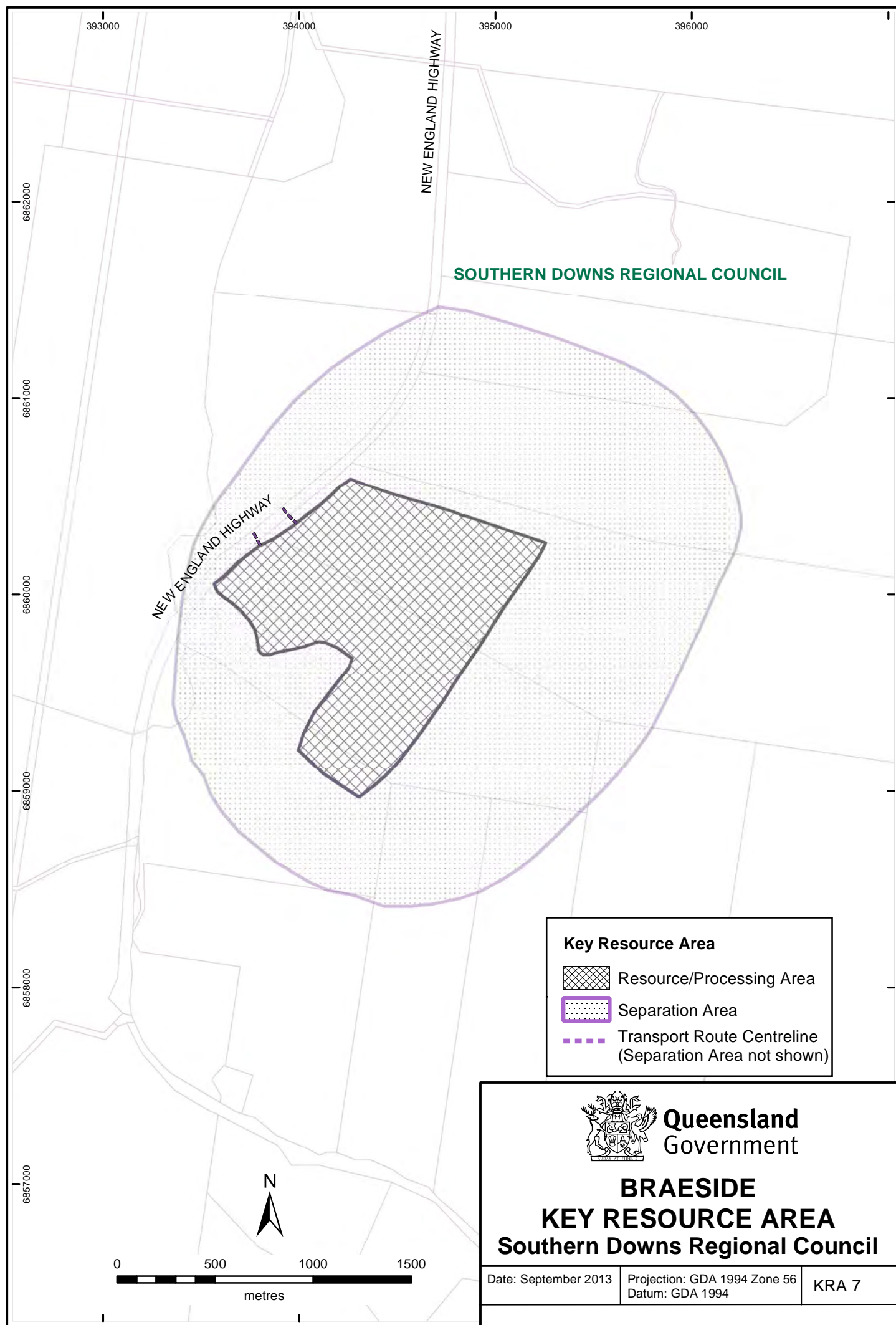
The western boundary of the separation area allows a total distance of 1000 metres from any proposed blasting operations within the quarry rock resource. Partial screening of the existing operation is provided by a low hill on the western side of the highway. The northern boundary is 1000 metres north of the existing quarry along the highway, and from there eastwards around the northern extremity of the potential resource. The boundary is 1000 metres from the eastern limit of the extractive resource. The southern boundary is set at 1000 metres south of the proposed operation. Extension into the adjacent property would be possible if the southern end of the ridge is retained as a screen with a 500 metre separation distance.

**TRANSPORT ROUTE:**

Materials are transported directly onto the New England Highway over a route owned by the existing operator. The approved operation will also transport materials directly to the highway.

**SPECIAL CONSIDERATIONS:**

A small section of ‘endangered’ vegetation under the *Vegetation Management Act 1999* occurs at the western end of the extractive licence area. This is to be retained as part of the operational plan to serve as a visual buffer to the New England Highway. ‘Of concern’ vegetation in the KRA is covered by pre-existing approvals. The KRA also contains areas having State biodiversity significance determined through the Environmental Protection Agency’s Biodiversity Planning Assessment.



## **HARLAXTON KEY RESOURCE AREA – KRA 8**

**LOCAL GOVERNMENT AREA:** Toowoomba and Lockyer Valley Regional Councils

**LOCATION:**

The resource is sited on the northern fringe of the built-up area of Toowoomba east of the Western railway line and the New England Highway (see map KRA 8).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The extractive resource comprises a very thick basalt sequence near the edge of the Toowoomba escarpment at Harlaxton on the northern fringes of Toowoomba.

It is the site of a major quarry that yields a wide range of crushed rock products.

**SIGNIFICANCE:**

There are substantial resources remaining sufficient for some decades. The resource is conveniently situated to supply the Toowoomba, northeastern Darling Downs and Lockyer Valley markets.

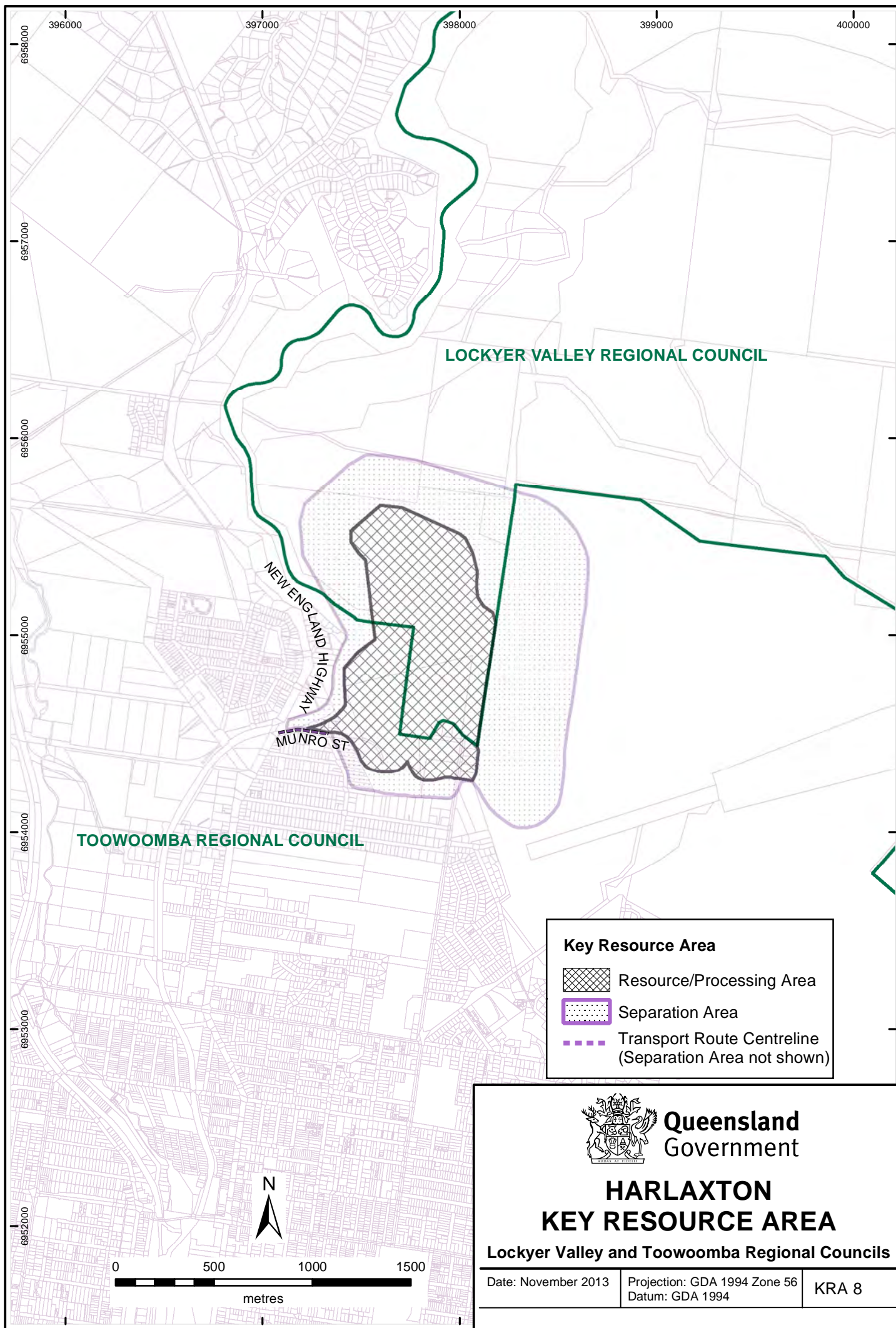
**SEPARATION AREA:**

The separation area is constrained by residential blocks to the south and west, and the edge of existing residential settlement above the railway line on the northwest side. It extends northwest from the base of the escarpment over the steep slope below the Western Railway Line and eastwards over Commonwealth land.

**TRANSPORT ROUTE:**

Materials are transported a short distance along Munro Street to the New England Highway. A rail siding in the quarry facilitates loading of rail ballast when required.





**Key Resource Area**

- Resource/Processing Area
- Separation Area
- Transport Route Centreline (Separation Area not shown)



**Queensland  
Government**

# **HARLAXTON KEY RESOURCE AREA**

**Lockyer Valley and Toowoomba Regional Councils**

Date: November 2013

Projection: GDA 1994 Zone 56  
Datum: GDA 1994

KRA 8

## **WONGABEL KEY RESOURCE AREA – KRA 9**

**LOCAL GOVERNMENT AREA:** Tablelands Regional Council

**LOCATION:**

The resource is located about 9 kilometres south of Atherton, on Wongabel Road, off the Atherton-Herberton Road (see map KRA 9).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The extractive resource, which consists of partly decomposed, coarse-grained granite, is an important source of road base materials for the Atherton Tableland area. At deeper levels some knobs of hard unweathered rock allow production of crushed aggregate.

Two adjacent quarries are currently in operation. One site produces higher-class road base and some crushed rock aggregates from blasting and crushing of relatively fresh granite exposed in the floor of the quarry. The other site mainly produces lower-class road bases, maintenance gravels and fill by ripping of weathered granite.

**SIGNIFICANCE:**

The resource is one of the main sources of road base for the Atherton Tableland market, supplying several local government areas and the Department of Transport and Main Roads, and considerable resources remain for the future. The Tablelands Regional Council is supplied, with some material transported as far as Cairns.

**SEPARATION AREA:**

The separation area extends 1000 metres across Wongabel Road from the fresh granite face in Wongabel Quarry, as the land is flat and exposed to the processing area. On the southeast the boundary of the separation area is along a ridge trending southwards from the road at about the same distance. The northwestern boundary is the northern base of the ridge on which the workings of Cattle Camp Quarry are situated (where no blasting is undertaken). The southern boundary is in State Forest on the ridge about 400 metres uphill from these workings.

**TRANSPORT ROUTE:**

The materials are transported along the partly sealed and partly gravel Wongabel Road either westward to the Atherton-Herberton Road or eastwards to Hemmings Lane and then the Kennedy Highway.

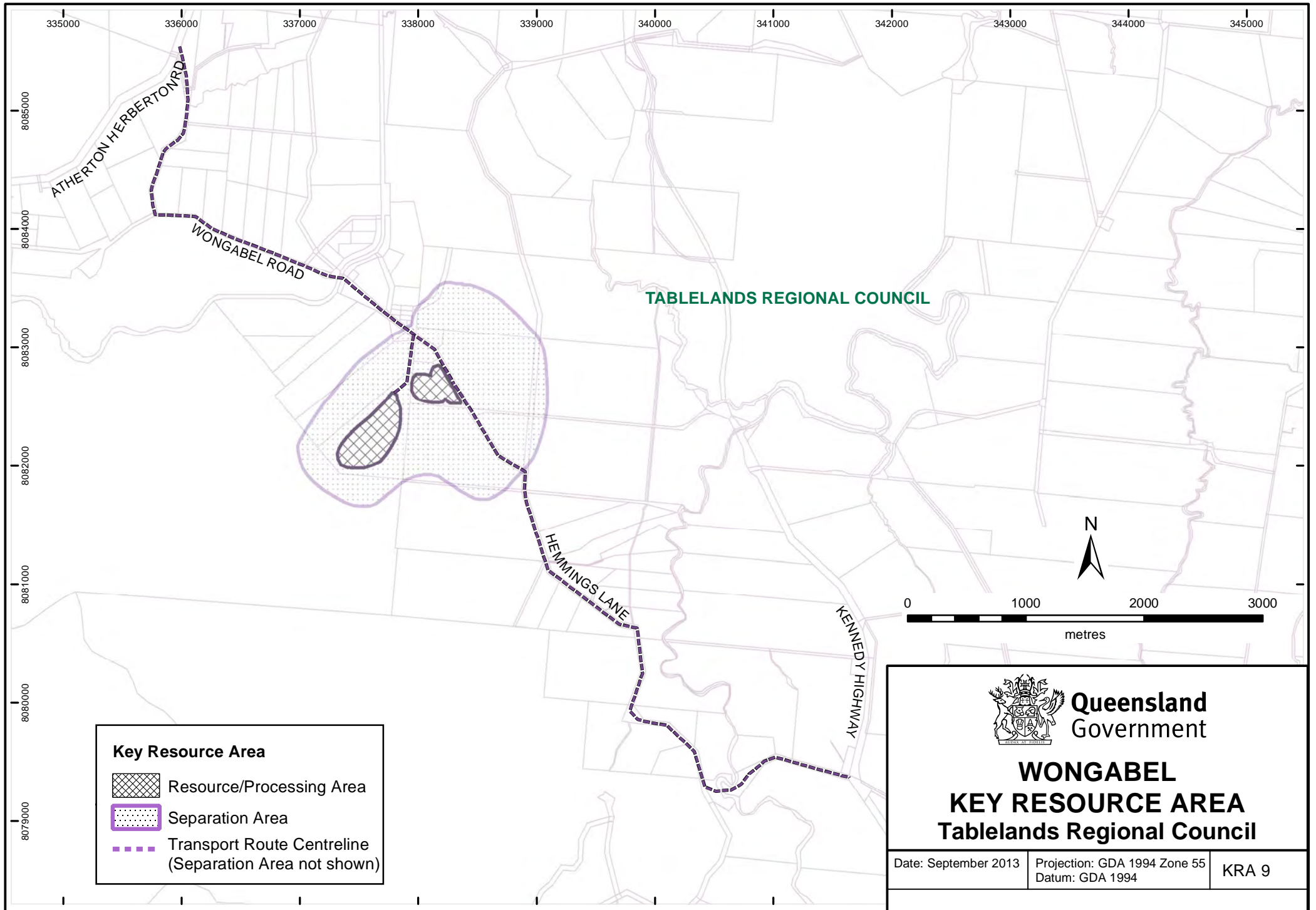
**SPECIAL CONSIDERATIONS:**

A small area of 'of concern' vegetation under the *Vegetation Management Act 1999* occurs on the northwestern edge of the resource area. This is covered by pre-existing approvals.

Some parts of the separation area and a small portion of the resource/processing area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and

Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.





## **BARRON RIVER FLATS KEY RESOURCE AREA – KRA 10**

**LOCAL GOVERNMENT AREA:** Cairns Regional Council

**LOCATION:**

The resource occurs in parts of the alluvial flats of the Barron River between Kamerunga and the coastline in the northern suburbs of Cairns (see map KRA 10).

**EXTRACTIVE RESOURCE:** Medium to Coarse Sand

**EXTRACTIVE RESOURCE DESCRIPTION:**

The extractive resource comprises three separate areas in the alluvial flats of the Barron River downstream of its exit from the Barron Gorge. These are underlain by medium to coarse sand with some gravel that occurs beneath the sand. The sand is suitable for concrete aggregate, bedding sand and fill sand. As no comprehensive survey of potential resources in the surrounding flats has been undertaken, the three parts of the Key Resource Area do not represent all possible occurrences of sand in the area and others may be delineated in the future.

**SIGNIFICANCE:**

The resource in the Barron River Flats is one of only three sources conveniently located to supply the needs of the Cairns regional market for natural medium to coarse concrete and asphalt sand, as well as being a prime source for bedding and fill sand for the same market. Very large resources remain.

**SEPARATION AREA:**

The boundaries of the sand resources are indicative only, being based on the approximate extent of the existing operations. A maximum separation distance of 200 metres has been adopted around each resource/processing area except where residential boundaries are closer.

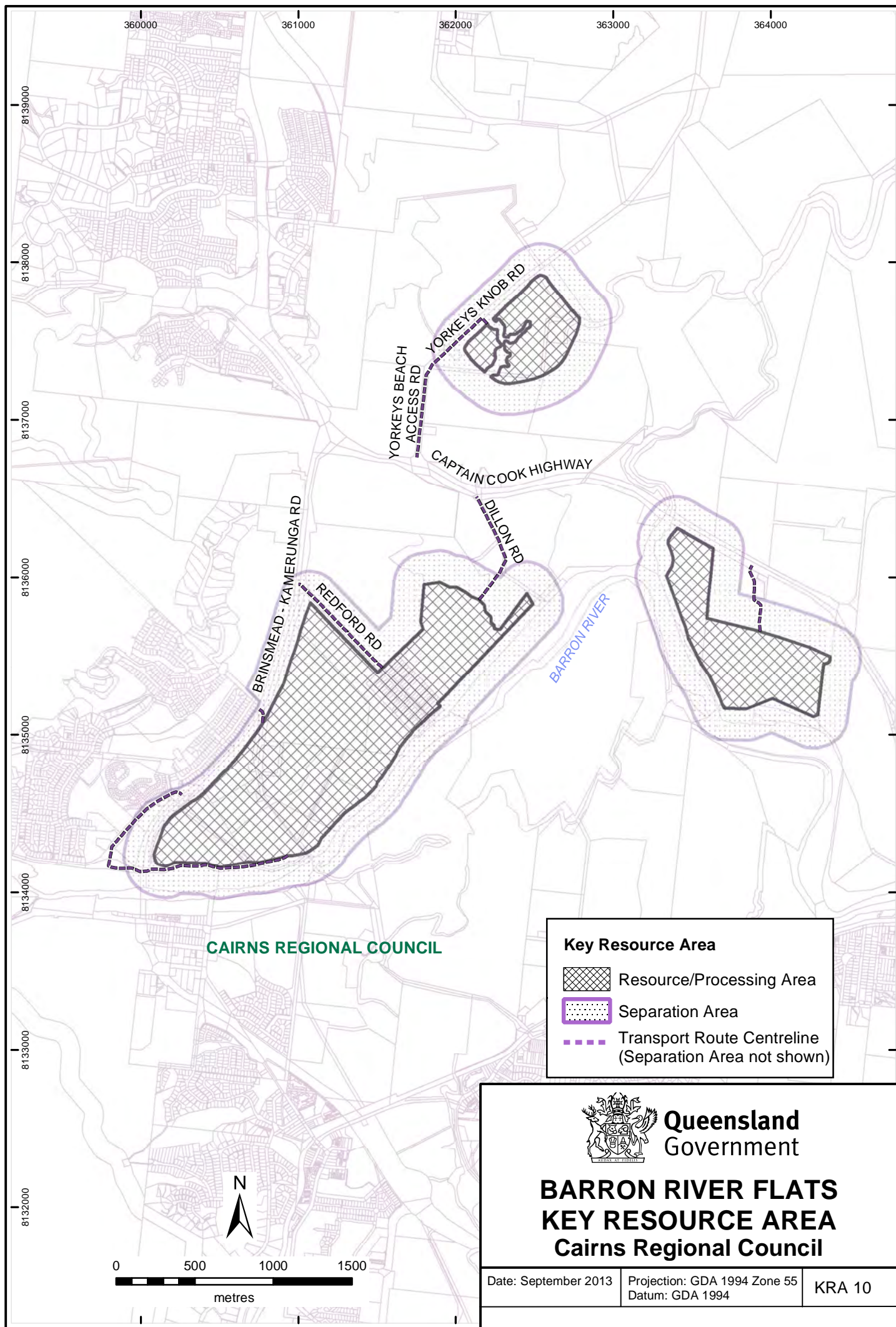
**TRANSPORT ROUTE:**

The sand from the two southern pits is transported directly onto the Brinsmead-Kamerunga Road and the Captain Cook Highway. Material from the northern resource is transported onto the Yorkeys Knob Road to the Captain Cook Highway.

**SPECIAL CONSIDERATIONS:**

The boundaries of the resource/processing areas reflect a minimum buffer width of 50 metres from the Barron River to protect fish habitats. In the southern resource area, a small area of 'endangered' vegetation under the *Vegetation Management Act 1999* is surrounded by the resource/processing area. However, the vegetation is protected by the conditions of the extraction licence. The presence of acid sulfate soils is possible at depth.

Most of the KRA is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.





## **MOUNTAINVIEW KEY RESOURCE AREA – KRA 11**

**LOCAL GOVERNMENT AREA:** Cairns Regional Council

**LOCATION:**

The resource is located in the Mulgrave River valley about 10 kilometres west of Gordonvale on the Gillies Range Road (see map KRA 11).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The extractive resource consists of a thick basalt flow, which forms gently sloping ridges between the Mulgrave River and the Gillies Range road near the Mountainview Hotel.

The resource has been the site of a major quarry supplying large volumes of concrete aggregate and bitumen screenings (with minor road pavement gravels), making it one of the major producers for the Cairns market. It is currently inactive, but significant resources remain.

**SIGNIFICANCE:**

The resource is sufficient for at least 20 years at normal production rates, and is strategically situated to supply the broader Cairns market.

**SEPARATION AREA:**

The southern, western and northwestern boundaries of the Key Resource Area are along the crests of ridges that are higher than the quarry. These boundaries are about 600 metres to 800 metres from the face and processing facilities. The northern boundary is along the edge of the existing residential subdivision and thence down Roos Creek to the river, at about 800 metres from the face. The Mulgrave River forms the boundary on the east.

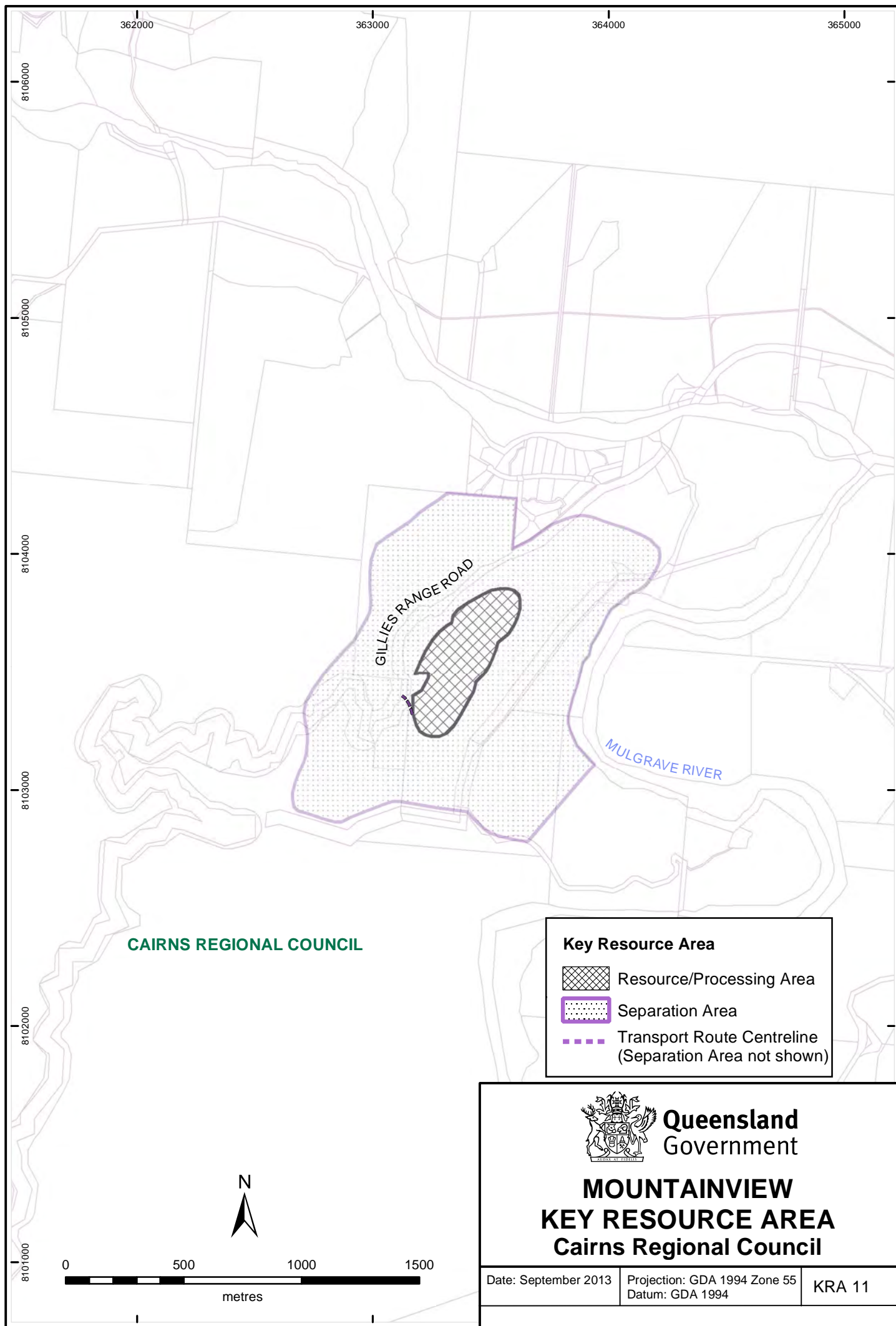
**TRANSPORT ROUTE:**

Rock is transported directly onto the Gillies Range road on the southwestern side of the resource.

**SPECIAL CONSIDERATIONS:**

The Key Resource Area is adjacent to Little Mulgrave Forest Reserve on the western and southern boundaries. A small area of ‘endangered’ vegetation under the *Vegetation Management Act 1999* occurs between the western edge of the resource/processing area and the Gillies Highway.

Some parts of the resource/processing and separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **REDLYNCH KEY RESOURCE AREA – KRA 12**

**LOCAL GOVERNMENT AREA:** Cairns Regional Council

**LOCATION:**

The resource is located in Freshwater Creek valley about 5 kilometres south of Redlynch in the western suburbs of Cairns (see map KRA 12).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of dark, fine-grained granite, which outcrops on a major northwest trending ridge on the western side of the Freshwater Creek valley. The rock is more massive and of a higher strength than other sources in the district, and is thus capable of supplying specialist products as well as armour stone.

The resource is the site of a major quarry supplying concrete aggregates, sealing aggregates and manufactured sands.

**SIGNIFICANCE:**

The resource life is estimated in the order of 30 years at present rates of consumption. The Redlynch resource is one of three major rock deposits currently supplying the Cairns regional market, with material being supplied as far as Mossman and Port Douglas. The resource is close to major regional markets.

**SEPARATION AREA:**

The separation distance adopted has been constrained by existing subdivisions and conservation areas. The northern boundary is along the southern and western edges of the existing rural residential/urban development to the north of the quarry and thus provides 250 metres to 600 metres of separation. To the south, the boundary is on the ridge crest south of Currunda Creek, thus encompassing the land exposed to direct view and noise from the quarry face and plant site. The eastern boundary is the Redlynch Intake Road. Where the steep and dissected slopes in the State Forest/World Heritage Area provide a physical buffer to the west they form the boundary of the separation area, with a maximum separation distance of 1000 metres directly to the west along a deep gully.

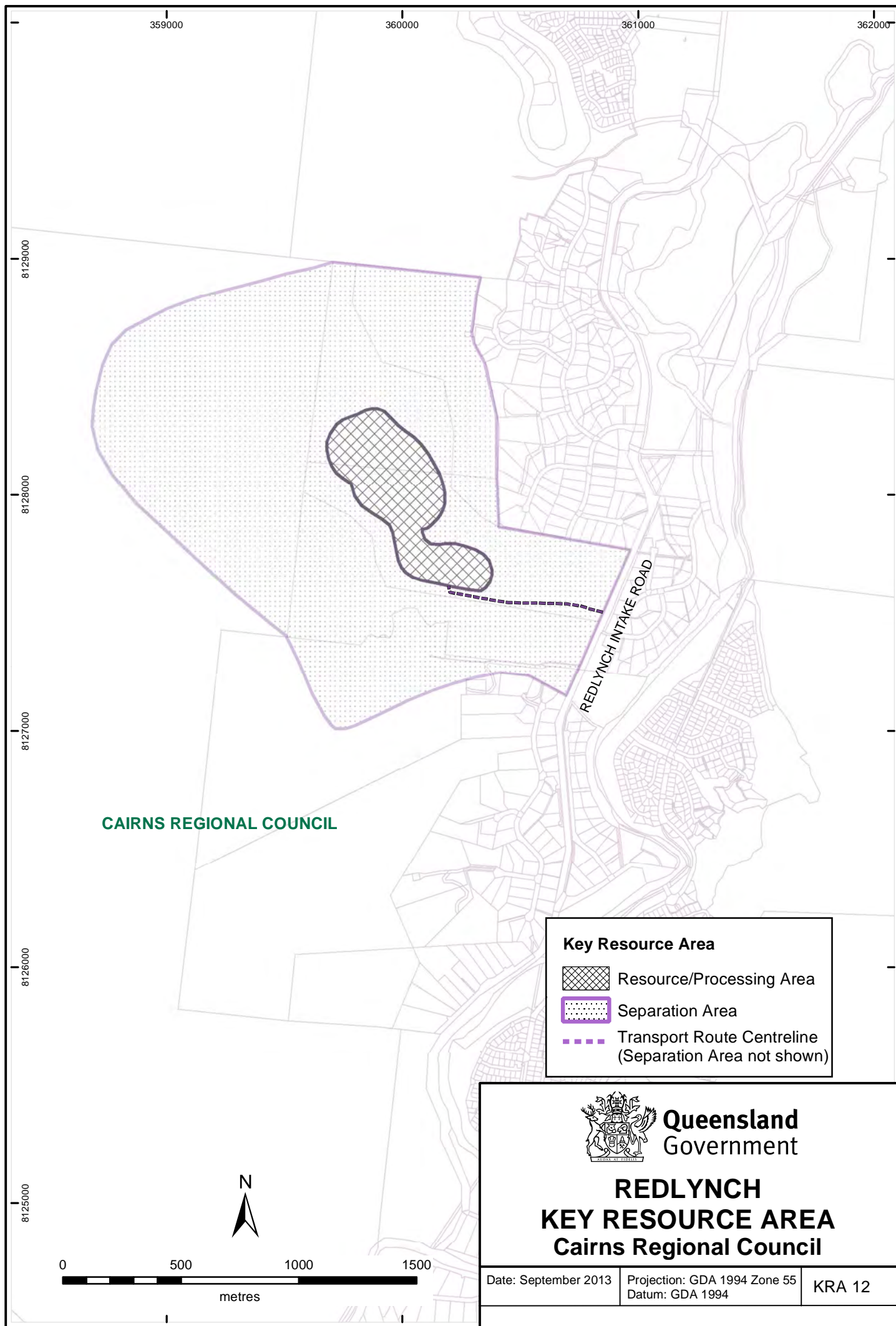
**TRANSPORT ROUTE:**

The materials are transported from the property onto the Redlynch Intake Road.

**SPECIAL CONSIDERATIONS:**

The Key Resource Area is adjacent to the Dinden Forest Reserve and the southeastern corner of Barron Gorge National Park is less than one kilometre to the northwest. These areas are essential habitat for cassowaries.

Small portions of the resource/processing and the separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **WRIGHT CREEK KEY RESOURCE AREA – KRA 13**

**LOCAL GOVERNMENT AREA:** Cairns Regional Council

**LOCATION:**

The resource is located in the headwaters of Wright Creek about 6 kilometres south of Edmonton (see Map KRA 13).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The extractive resource consists of two occurrences of interbedded greywacke and argillite. The greywacke has been considerably sheared, giving a tendency to flaky aggregates, and the depth of weathering is considerable. The resource is valuable particularly for road base.

Two large quarries have been established on the resource and are worked as one operation, supplying road base and screening products.

**SIGNIFICANCE:**

The remaining resource, estimated to be sufficient for about 15 years, is limited by a State Forest boundary to the south and general steepness of terrain. The resource supplies a large proportion of the road base and screenings for the Cairns regional market, being one of three current operations to do so. Materials are transported as far as Mossman, Port Douglas and Malanda on the Atherton Tableland.

**SEPARATION AREA:**

The northern boundary is 1000 metres from the Mount Peter quarry face, as the open flat land there is exposed to the operations. The eastern boundary is at the foot of the ridge to the east of the face. The northwestern boundary is along a ridge crest about 1000 metres north from the Hussey Road quarry face. The steep slopes in the State Forest/World Heritage Area form the southern and western boundaries.

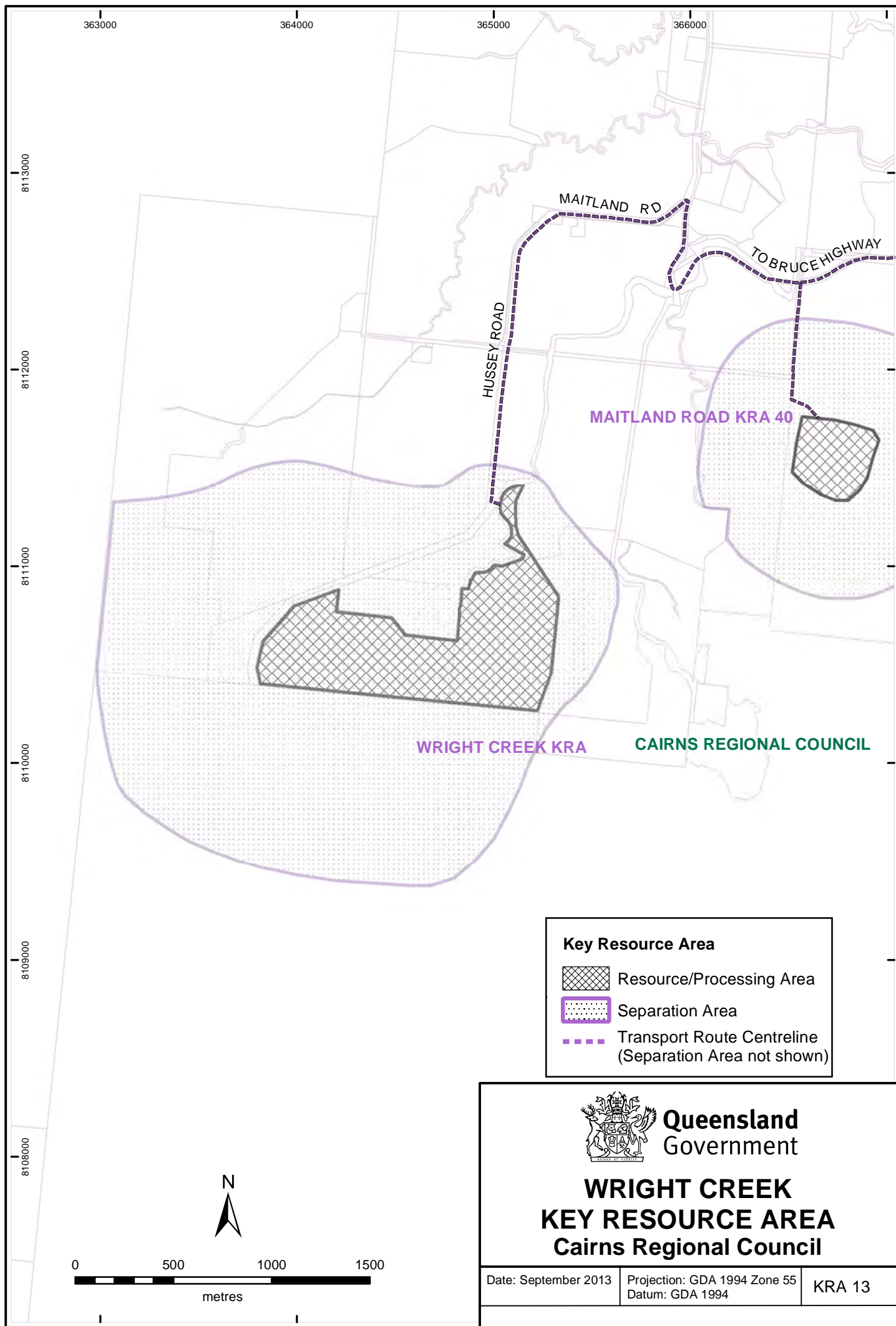
**TRANSPORT ROUTE:**

Transport is via the sealed Hussey and Maitland Roads to the Bruce Highway south of Edmonton.

**SPECIAL CONSIDERATIONS:**

The Key Resource Area is adjacent to Little Mulgrave Forest Reserve. Some 'of concern' vegetation under the *Vegetation Management Act 1999* is adjacent to the resource/processing area.





## **RAVENSHOE KEY RESOURCE AREA – KRA 14**

**LOCAL GOVERNMENT AREA:** Tablelands Regional Council

**LOCATION:**

The resource is located about 1.5 kilometres north of the town of Ravenshoe (see map KRA 14).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of rhyolitic welded tuff forming a ridge immediately to the north of the town of Ravenshoe.

The resource is the site of a large quarry, which produces a range of products, including concrete and bitumen sealing aggregates, road bases of various classes and manufactured sand.

**SIGNIFICANCE:**

The resource remaining on the ridge is very large and is one of the main sources of supply for the southern Atherton Tableland, Normanton and Greenvale markets, as well as extensive rural areas to the south and east for which it is the only developed source of higher class materials.

**SEPARATION AREA:**

The southern boundary is the northern extent of the residential zone of Ravenshoe town providing a separation distance of 200 metres to 500 metres, extending eastward along the course of North Creek at about a distance of 700 metres from the operations on the ridge crest. The western boundary is the tourist railway line west of Tumoulin Road, which is about 500 metres from the lowest face. The northern boundary is in the State Forest at about 1000 metres from the workings, which are more exposed from this direction.

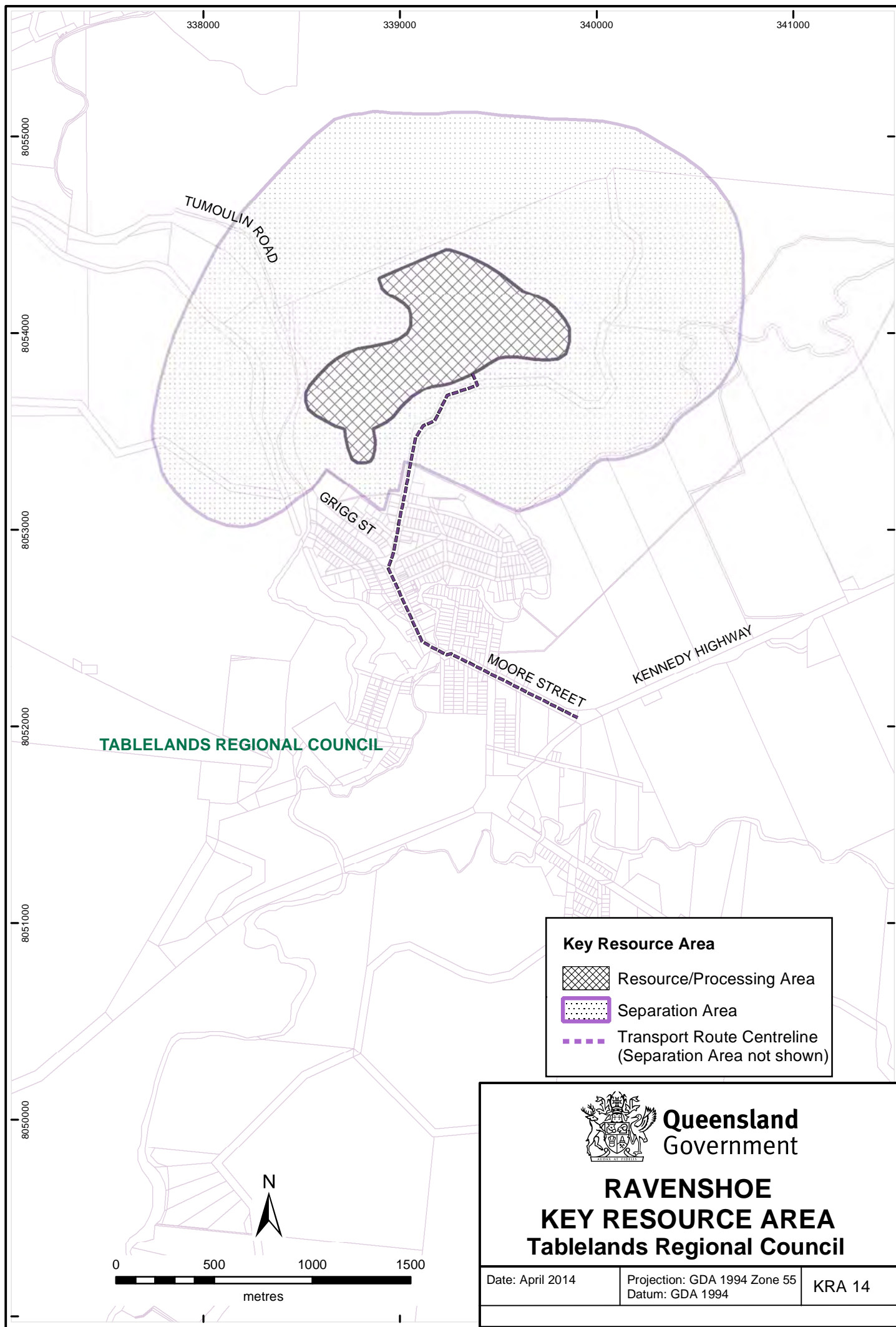
**TRANSPORT ROUTE:**

The rock materials are transported down the ridge to Grigg Street, along Moore Street through Ravenshoe and onto the Kennedy Highway on the eastern outskirts of town.

**SPECIAL CONSIDERATIONS:**

The Key Resource Area is adjacent to the Tumoulin State Forest. The resource/processing area is partly covered by 'of concern' vegetation under the *Vegetation Management Act 1999*, and is classified as 'Endangered' Regional Ecosystem by the Department of Environment and Heritage Protection. However, the quarrying operation has 'as-of-right' use that predates the *Integrated Planning Act 1997* and the *Vegetation Management Act 1999*.

A small portion of the separation area is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **COORUMBA ROAD KEY RESOURCE AREA – KRA 15**

**LOCAL GOVERNMENT AREA:** Cassowary Coast Regional Council

**LOCATION:**

The resource is located about 9 kilometres west of Innisfail, along Fisher Creek Road, north of the Palmerston Highway (see map KRA 15).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource comprises basalt, which occurs as a single lava flow that outcrops between Berner and Fisher Creeks and the North Johnstone River at Coorumba west of Innisfail.

The resource is the site of a major quarry, which supplies large quantities of railway and tramway ballast, road base, and some concrete and sealing aggregates.

**SIGNIFICANCE:**

There are very large volumes remaining in the resource and it is conveniently situated to supply the Innisfail and surrounding districts with a range of crushed rock products, being one of only two current sources capable of doing so.

**SEPARATION AREA:**

A separation distance of 1000 metres is adopted from the outer extent of the resource.

**TRANSPORT ROUTE:**

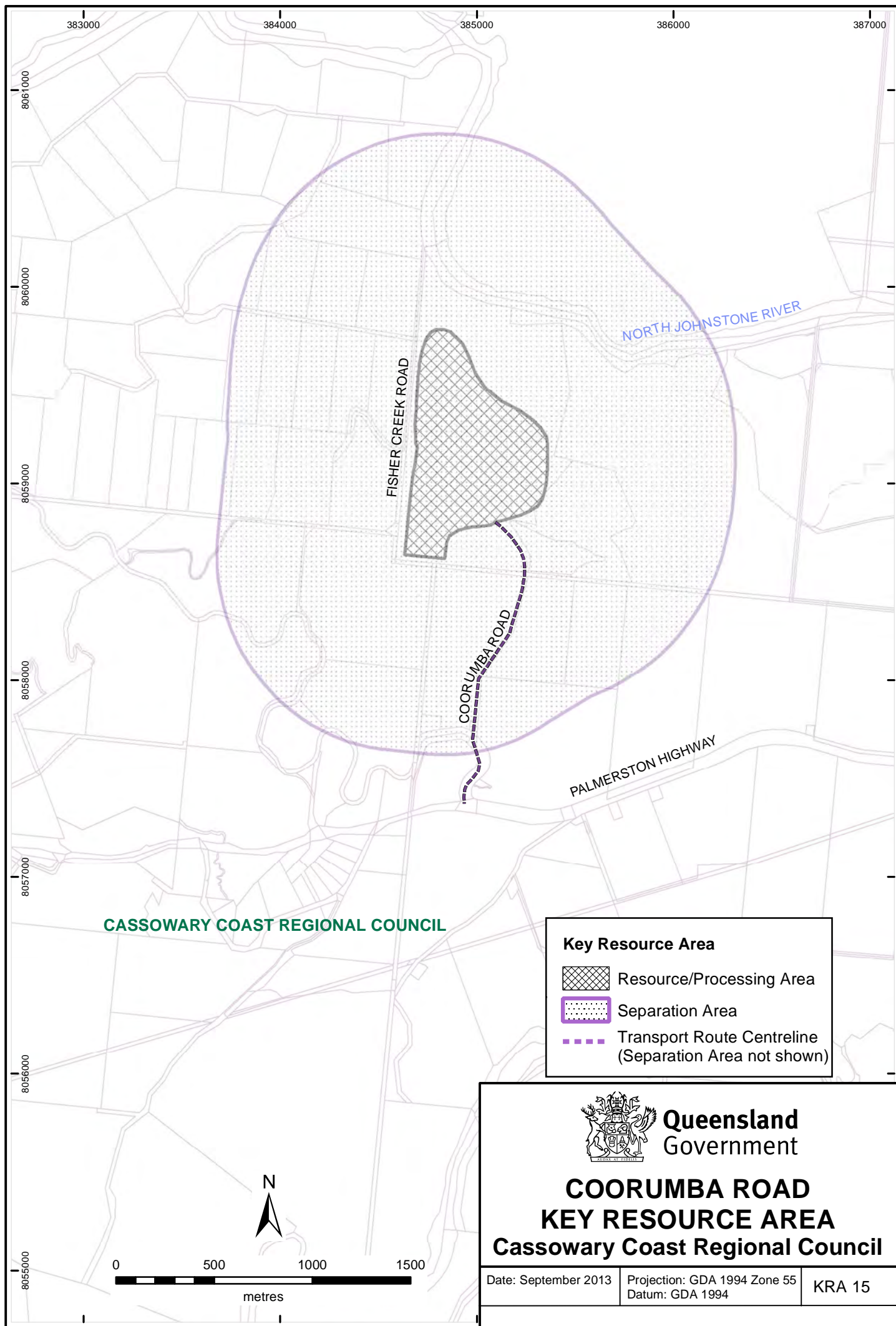
The rock materials are transported via the partly unsealed and sealed Coorumba Road to the Palmerston Highway.

**SPECIAL CONSIDERATIONS:**

The northern section of the separation area in the KRA encompasses possible essential cassowary habitat.

Most of the KRA is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.





## **PIN GIN HILL KEY RESOURCE AREA – KRA 16**

**LOCAL GOVERNMENT AREA:** Cassowary Coast Regional Council

**LOCATION:**

The resource is located about 6 kilometres west of Innisfail, off the Palmerston Highway (see map KRA 16).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of basalt, which occurs beneath about 3 metres of red soil in hills south of the Palmerston Highway west of Innisfail.

The resource is the site of a large quarry operated for several decades by the Johnstone Shire Council (the Palmerston Quarry) but which is now leased to a private company. Concrete and bitumen aggregates and road base are produced.

**SIGNIFICANCE:**

The resource remaining is very large, sufficient for several decades at the present rate of production. It is one of only two currently known sources capable of supplying a range of high quality crushed products and is of strategic significance to the Innisfail district and areas to the north as far as Babinda in Cairns City and Tully in Cardwell Shire.

**SEPARATION AREA:**

On the west, south and southeast the separation area boundary adopted is just beyond the gentle ridge crests of the land rising above the quarry. The separation distance thus varies from about 500 to 800 metres from the resource boundary. On the northeast the distance is at a full 1000 metres as this land is lower and exposed to future operations on the resource. On the north, the boundary is North Bamboo Creek, where it crosses Quarry Road, as this lies along a ridge screening the surrounding land from quarry operations.

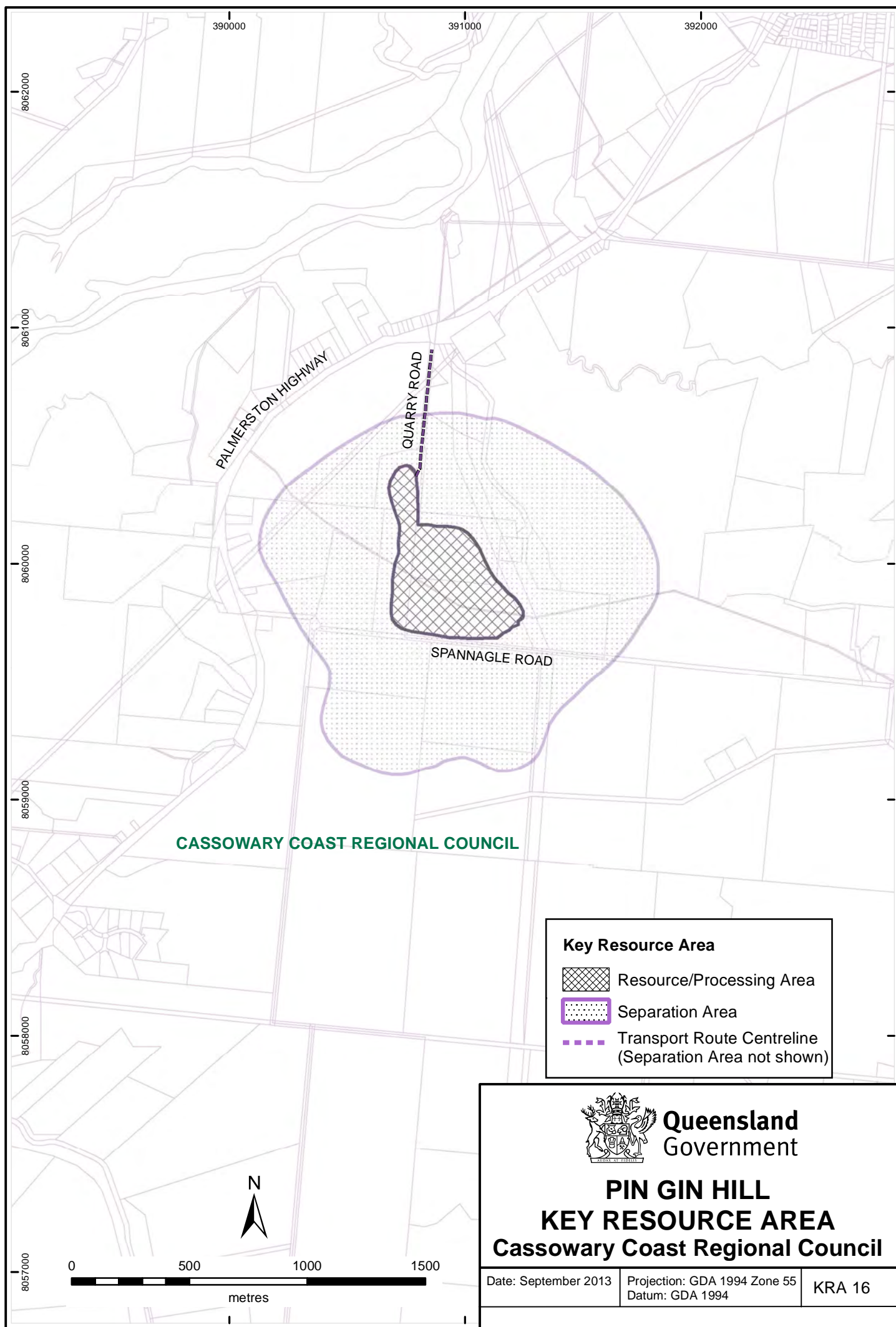
**TRANSPORT ROUTE:**

The materials are transported a short distance along the sealed Quarry Road to the Palmerston Highway.

**SPECIAL CONSIDERATIONS:**

The northwestern section of the separation area in the KRA encompasses possible essential cassowary habitat.

Most of the KRA is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **TICHUM CREEK KEY RESOURCE AREA – KRA 17**

**LOCAL GOVERNMENT AREA:** Mareeba Shire Council

**LOCATION:**

The resource is located adjacent to the Kennedy Highway between Mareeba and Kuranda (see map KRA 17).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of a number of flows of basalt beside the Kennedy Highway at Tichum Creek.

It is the site of a major quarry which has been active for over 20 years producing road base and crushed aggregates. More recently manufactured sand has also been produced.

**SIGNIFICANCE:**

The remaining resource is sufficient for another 30 years at the current rate of production. The resource supplies considerable quantities of road base and screenings to the Cairns market, being one of the three main quarries to do so, and is one of the main sources of crushed screenings and road base for the Atherton Tableland market.

**SEPARATION AREA:**

The resource is situated in a ridge south of the Davies Creek valley, adjacent to the junction with Tichum Creek. The level land to the west and southwest requires the full separation distance of 1000 metres, whereas the boundary of the separation area is set at the foot of the steep slopes to the north, east and south. This distance varies from 500 metres near the Kennedy Highway north and south of the resource, to 1000 metres along the northeastern side of Davies Creek.

**TRANSPORT ROUTE:**

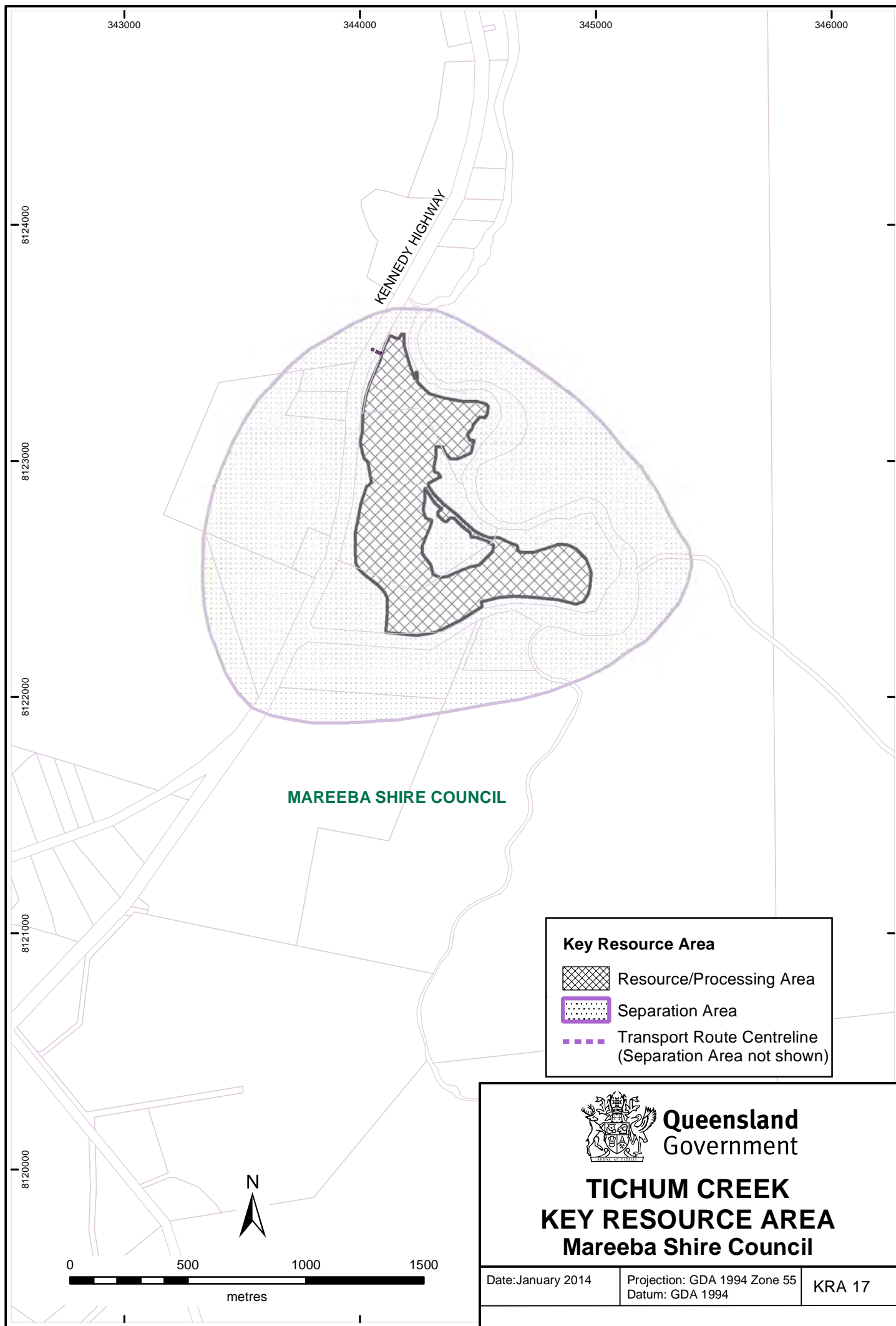
The materials are transported directly onto the Kennedy Highway.

**SPECIAL CONSIDERATIONS:**

The KRA is adjacent to the Dinden State Forest to the east.

Some parts of the resource/processing and separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.





## **BENEDICT ROAD KEY RESOURCE AREA – KRA 18**

**LOCAL GOVERNMENT AREA:** Rockhampton Regional Council

**LOCATION:**

The resource is located about 32 kilometres west of Rockhampton and 7 kilometres north of Stanwell along Benedict Road (see map KRA 18).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of basalt up to 35 metres thick, which overlies conglomeratic sedimentary rocks.

An area east of the junction of Benedict Road and Hopkins road has been included in the resource/processing area.

**SIGNIFICANCE:**

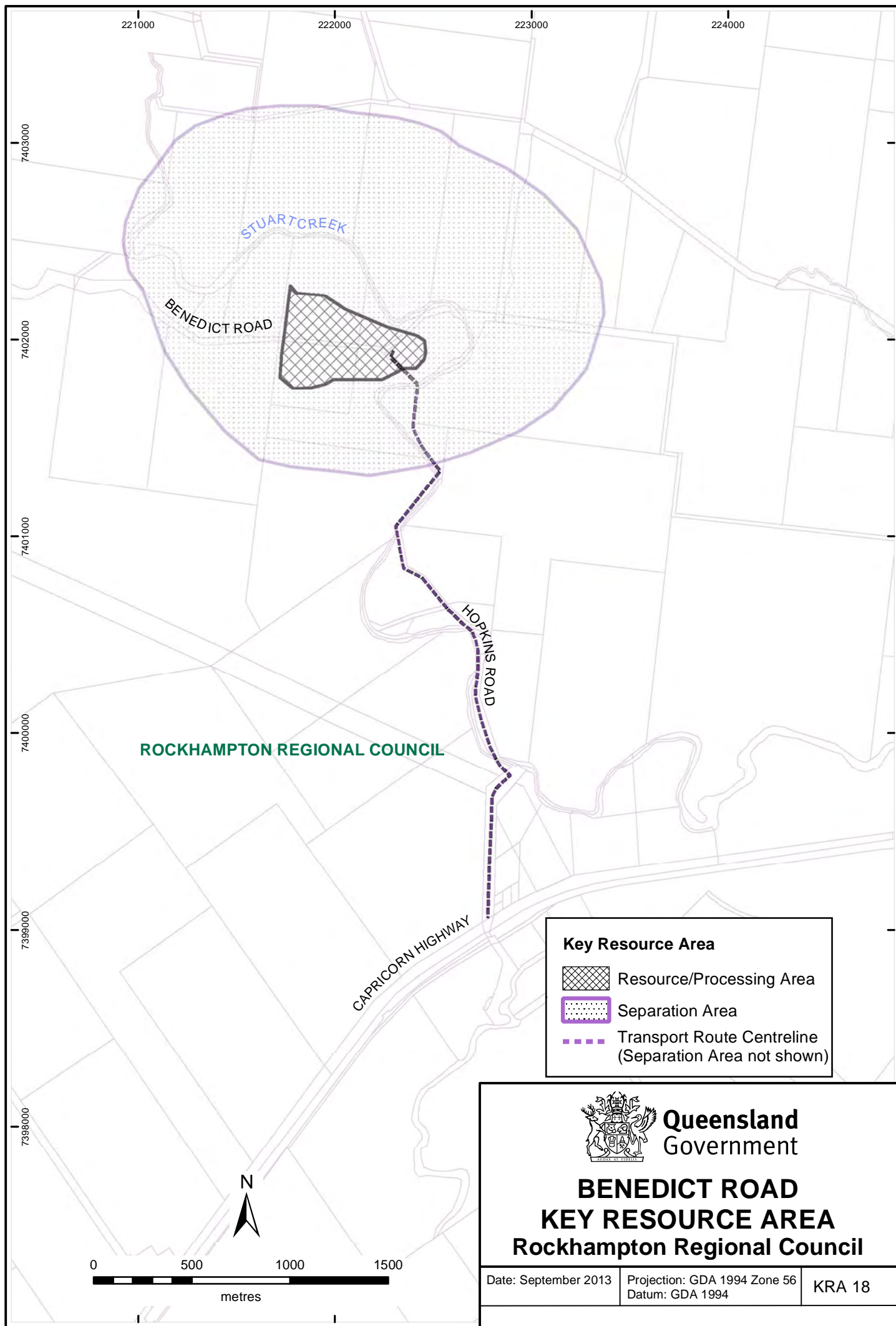
This resource has the potential to provide aggregate and other construction materials for the proposed expansion of industrial facilities and other development in the eastern part of the central Queensland region. There are additional potential resources in the basalt to the west that have not yet been proven.

**SEPARATION AREA:**




The boundary is set at 1000 metres from the extent of the resource limits to the north and east where the land is lower than the basalt ridge. On the southeastern, southern and western side the separation distance extends to the crests of ridges, which are higher than the resource.

**TRANSPORT ROUTE:**

The transport route will extend along Hopkins Road south to the Capricorn Highway.



**Key Resource Area**

-  Resource/Processing Area
-  Separation Area
-  Transport Route Centreline  
(Separation Area not shown)



**Queensland  
Government**

**BENEDICT ROAD  
KEY RESOURCE AREA  
Rockhampton Regional Council**

Date: September 2013

Projection: GDA 1994 Zone 56  
Datum: GDA 1994

KRA 18

## **TARAGOOLA KEY RESOURCE AREA – KRA 19**

**LOCAL GOVERNMENT AREA:** Gladstone Regional Council

**LOCATION:**

The resource is located 2 kilometres east of Taragoola railway siding, about 12 kilometres south of Calliope (see map KRA 19).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of a north-trending belt of limestone deposits. The resources are quarried for extractive purposes such as concrete aggregate, railway ballast, road base, and general construction work. The limestone is extracted under mining lease tenure under the *Mineral Resources Act 1989* for uses such as acid soil treatment and for lime for the alumina refinery in Gladstone.

**SIGNIFICANCE:**

The resource is one of only two major sites currently supplying crushed quarry rock to the Gladstone region. The large resources present and the convenient location of the Taragoola resource, close to Gladstone and existing rail infrastructure, means that the resource will remain of significance for the quarry rock needs of the region.

**SEPARATION AREA:**

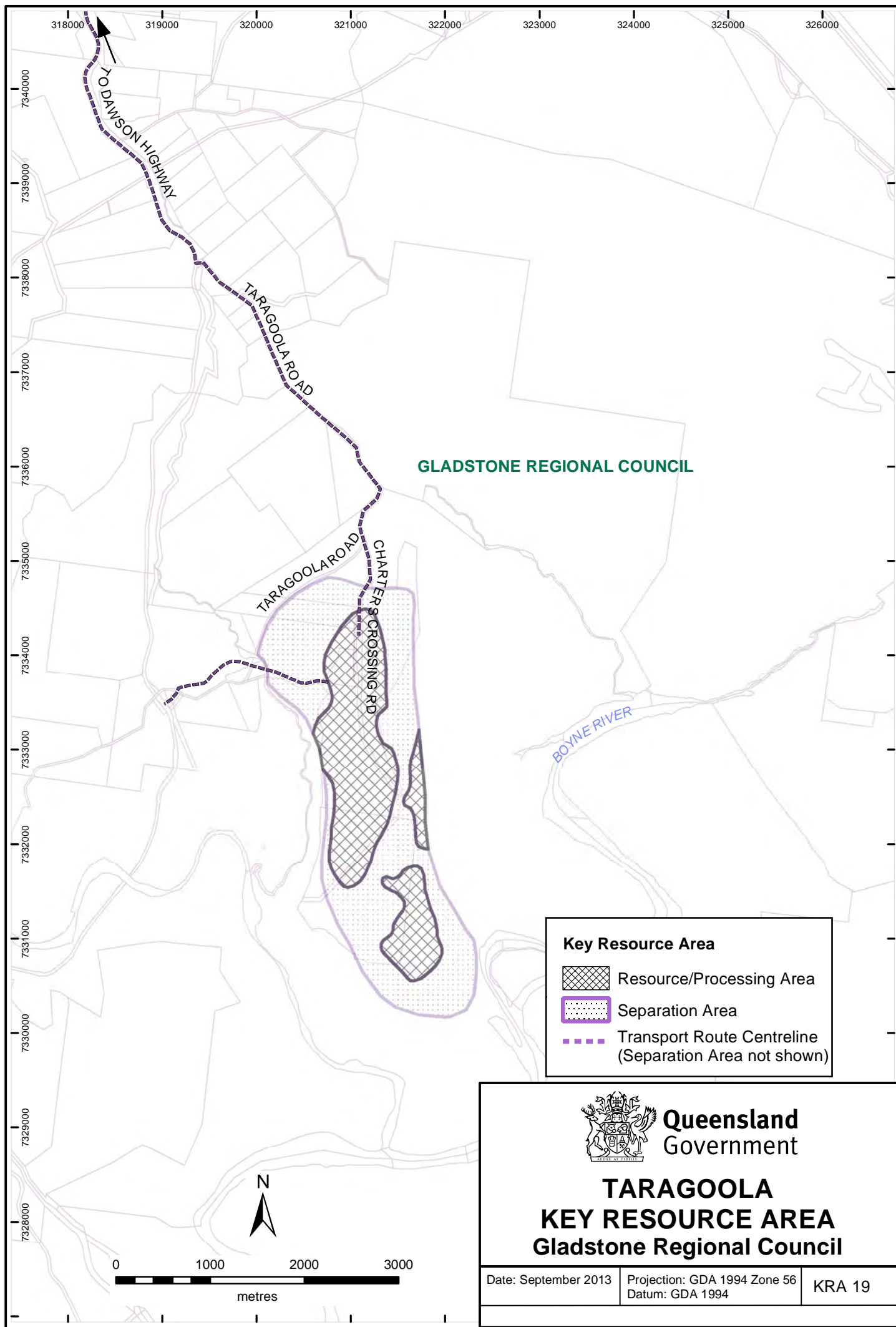
The eastern, southern and western boundaries of the separation area are defined by the full supply level of the raised Awoonga dam reservoir. The northern boundary is located about 500 metres north of the northern-most mining lease, where an intervening ridge provides partial shielding from quarry impacts. The northwestern boundary is retained at the full 1000 metres from the resource/processing area.

**TRANSPORT ROUTE:**

The materials are transported to the Taragoola rail siding along a private road, or along a rural road to the Dawson Highway at Calliope. The first 3 kilometres of this road is unsealed.

**SPECIAL CONSIDERATIONS:**

There are a number of indigenous cultural heritage sites recorded within the separation area, and two recorded sites within the resource/processing area. Both these sites were recorded during the Stage 1 survey of the Awoonga Dam Raising Cultural Heritage Project and are now protected under the *Aboriginal Cultural Heritage Act 2003*. Despite the level of disturbance within the Taragoola mining area, there is further potential for archaeological sites to exist. The limestone supports vegetation that is significant to the Traditional Owners, and the possibility that surface and subterranean rock art exists in this area has not yet been fully explored. If such sites were identified, they would be unique in the region. Further development in this KRA should be subject to appropriate management of the cultural heritage sites and values, in consultation with the Traditional Owners (Port Curtis/Coral Coast Native Title Claim Group), through a Cultural Heritage Management Plan.





## **YARWUN KEY RESOURCE AREA – KRA 20**

**LOCAL GOVERNMENT AREA:** Gladstone Regional Council

**LOCATION:**

The resource is located about 1 kilometre west of the township of Yarwun south of the Gladstone-Mount Larcom Road and the North Coast railway line (see map KRA 20).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of hardened sedimentary rocks adjacent to the railway line west of Yarwun.

An operating quarry supplies a full range of crushed rock products, including road base, concrete aggregate, bitumen screenings, rail ballast, drainage aggregate and crusher dust.

**SIGNIFICANCE:**

The resource is one of only two major sites currently supplying crushed quarry rock to the Gladstone region. Sizeable resources are present. The convenient location of the resource to Gladstone and the available range of products make it of strategic significance to the development of Gladstone and the surrounding district.

**SEPARATION AREA:**

The resource could extend to the crest of the ridge west of Yarwun. The boundary of the separation area extends to the eastern base of this ridge southwest of the town of Yarwun. At the northern end of the town, the boundary is sited somewhat higher up the ridge. On the western side the area extends to the western base of the next ridge west of the resource area.

The northern boundary is 1000 metres away from the quarry face due to the lower topography there. This encompasses some land on the northern side of the Gladstone State Development Area corridor. The separation area includes the old railway quarry but would have to be extended if this were to be reopened.

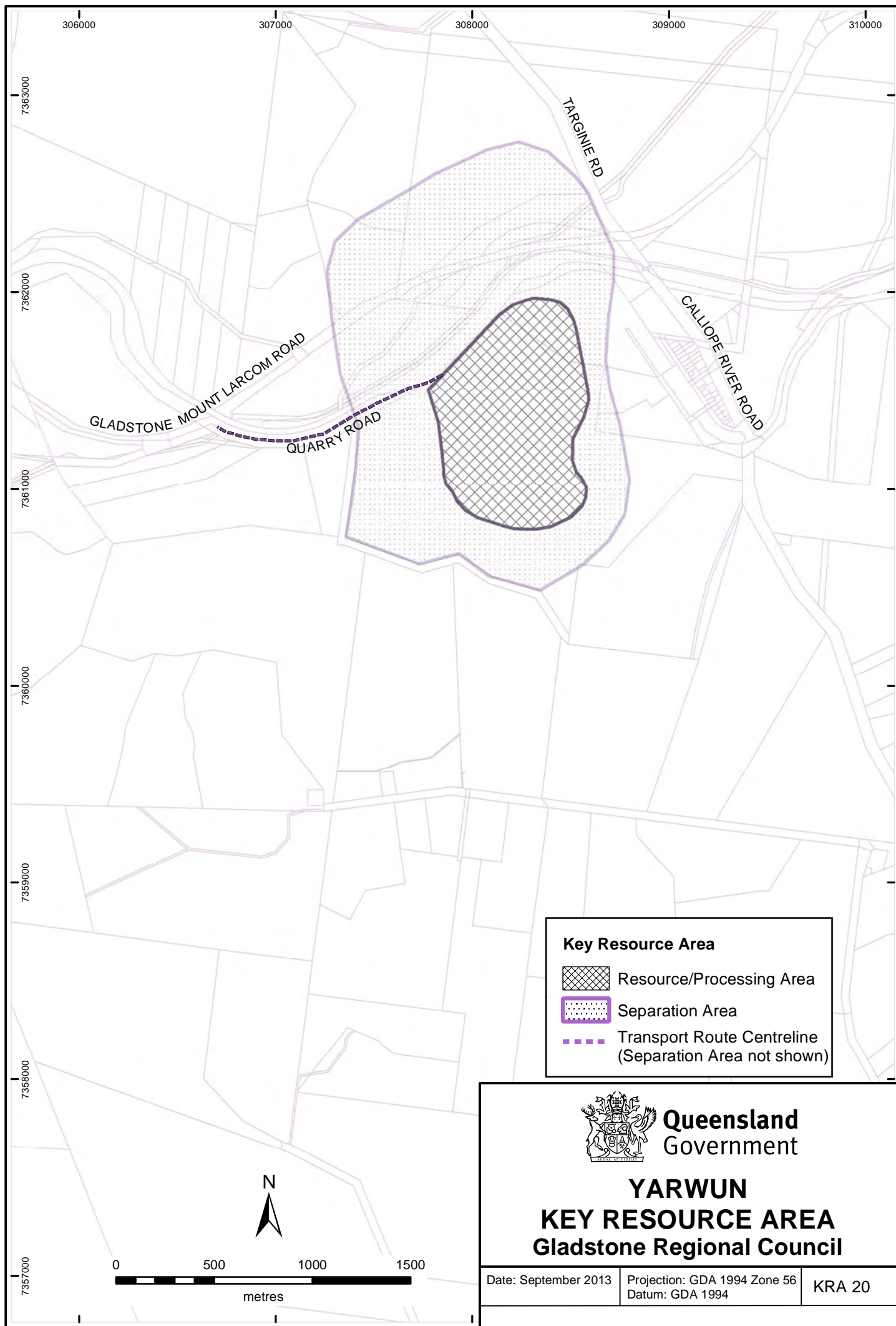
**TRANSPORT ROUTE:**

The materials are transported along Quarry Road westward from the quarry to the junction with the Mount Larcom-Gladstone Road. Ballast for railway contracts is loaded at a siding adjacent to the quarry.

**SPECIAL CONSIDERATIONS:**

‘Endangered’ vegetation under the *Vegetation Management Act 1999* occurs over part of the resource/processing area, however this is covered by a pre-existing approval for extractive industry.

A small portion of the separation area is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **NERIMBERA KEY RESOURCE AREA – KRA 21**

**LOCAL GOVERNMENT AREA:** Livingstone Shire Council

**LOCATION:**

The resource is located in the foothills of the Berserker Range about 8 kilometres east of Rockhampton, north of the Emu Park Road (see map KRA 21).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of hardened argillite and greywacke in the foothills of the Berserker Range to the east of Rockhampton.

The northern part of the resource is the site of a major quarry supplying a full range of crushed rock products. The plant and stockpile area is sited on land on the west side of Black Creek. There are plans for this operation to be superseded in future years by a new quarry on the southern part of the resource, with a processing plant adjacent to the Emu Park-Rockhampton Road.

**SIGNIFICANCE:**

The available resource is very large and is the prime source of high quality crushed rock products for the Rockhampton and wider central Queensland region. The volume of material present will enable continuity of this supply for the long term. The resource meets the criteria for State significance.

**SEPARATION AREA:**

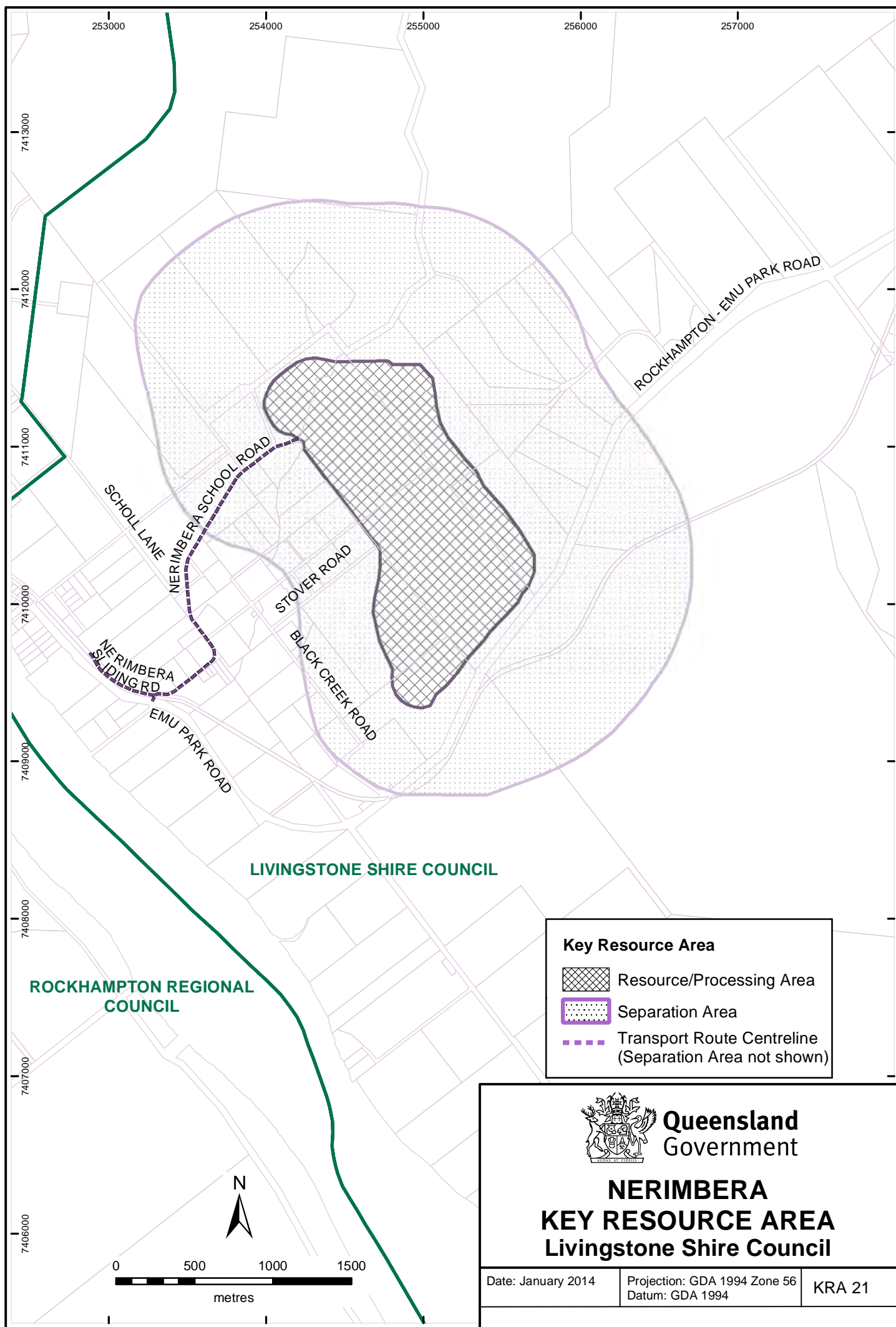
The northern boundary is set at the full 1000 metres away from the existing quarry face because of the exposure of this area to the face. The separation area extends to ridgelines where possible, either their crests or base. It extends down the crest of the ridge to the east of Scholl Lane to Nerimbera School Road, and then continues across Black Creek to the base of the main north-south ridge in the vicinity of Stover Road and Black Creek Road. The southern boundary is set at 1000 metres from the proposed quarry development. To the southeast the separation distance is the greater of 1000 metres from the proposed resource area or 500 metres from the bund screening the proposed processing area adjacent to Emu Park Road. The eastern boundary is set 1000 metres from the resource limit.

**TRANSPORT ROUTE:**

Materials are transported from the present operation along the Nerimbera School Road to Emu Park Road. Rail ballast is loaded at the Nerimbera rail siding on the Yeppoon Branch Line. The proposed quarry operation on the southern side of the ridge will access the Emu Park-Rockhampton Road directly.

**SPECIAL CONSIDERATIONS:**

A small area of 'of concern' vegetation under the *Vegetation Management Act 1999* occurs near the stockpile areas within the resource/processing area. There is also unconfirmed evidence that the KRA contains *Cycas ophiolitica*, which is listed as 'endangered' under the *Nature Conservation Act 1992*.



## **PINK LILY KEY RESOURCE AREA – KRA 22**

**LOCAL GOVERNMENT AREA:** Livingstone Shire and Rockhampton Regional Councils

**LOCATION:**

The resource is located on the banks of the Fitzroy River about 8 kilometres west of Rockhampton off the Ridglands Road (see map KRA 22).

**EXTRACTIVE RESOURCE:** Sand

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of fine to coarse-grained sand and gravel in off-stream deposits in the Pink Lily and Lilymere Lagoons areas just west of Rockhampton.

Sand is pumped to a processing plant on the bank of the river at the end of Pink Lily Road from a dredging operation in the Fitzroy River at Pink Lily Bend. Sand has also been worked from large deposits on terraces adjacent to the river on its north side.

**SIGNIFICANCE:**

These resources are the major source of fine concrete aggregate and other construction sands for the Rockhampton region and further west.

**SEPARATION AREA:**

The separation area boundary is set at the full 200 metres from the boundary of the off-stream resource. It also extends 200 metres from existing or proposed processing plants.

**TRANSPORT ROUTE:**

Sand is transported by road from the unsealed Pink Lily Road to Ridglands Road. Sand from deposits on the northern side of the river could be onto Belmont Road and then to processing plants or to the Bruce Highway via major local roads.

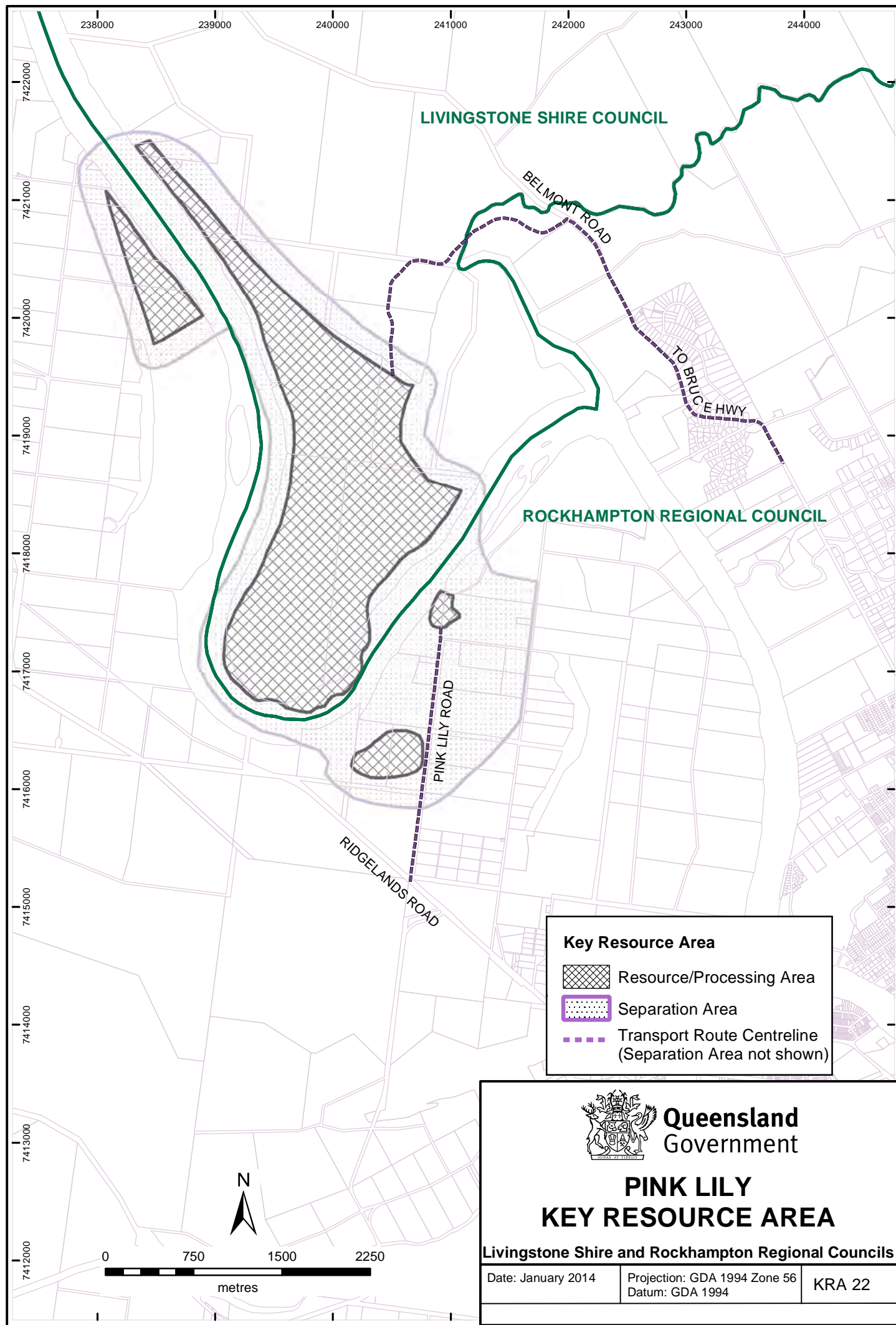
**SPECIAL CONSIDERATIONS:**

As the KRA is adjacent to the Fitzroy River, which contains valuable fisheries resources in this location, a minimum buffer width of 50 metres has been established from the resource/processing area to the river. The KRA contains areas having State biodiversity significance determined through the Biodiversity Planning Assessment process managed by the Department of Environment and Heritage Protection.

**SPECIAL CONSIDERATIONS:**

Small portion of the resource/processing and separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.





## **THE CEDARS KEY RESOURCE AREA – KRA 23**

**LOCAL GOVERNMENT AREA:** Mackay Regional Council

**LOCATION:**

The resource is located about 8 kilometres northwest of Mackay (see map KRA 23).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource comprises granitic rocks, mainly diorite and granodiorite. Large inclusions and irregular dykes of microdiorite are common and dykes of dolerite occur to a lesser extent.

It is the site of a major quarry supplying a wide range of crushed rock products.

**SIGNIFICANCE:**

The resource remaining in the existing quarry and immediately surrounding land is substantial and estimated to be sufficient for more than 30 years supply. The resource is conveniently situated to continue to supply the Mackay urban area and surrounding districts.

**SEPARATION AREA:**

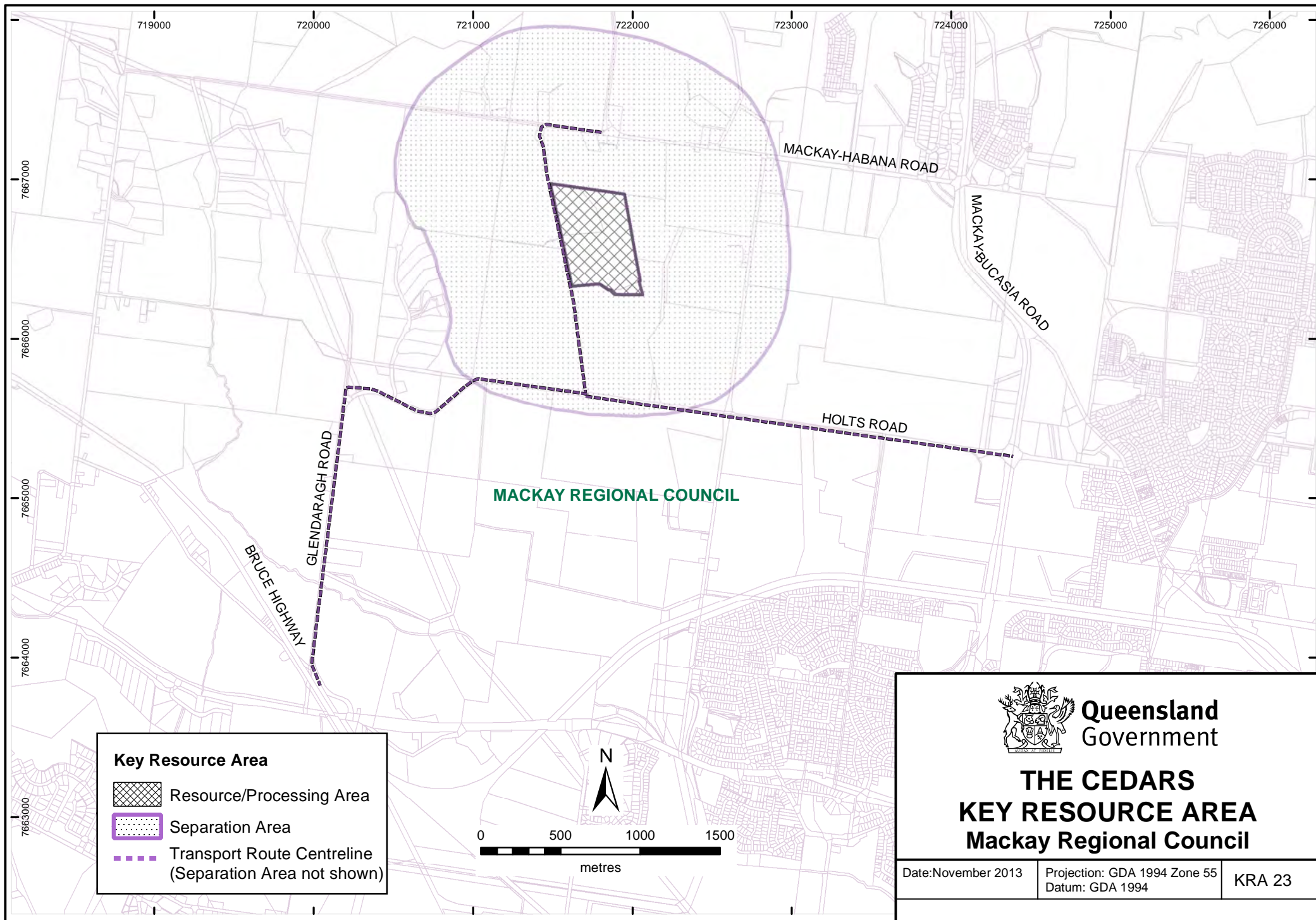
Because the surrounding land has only low relief, the full 1000 metres separation distance from the quarry has been adopted. To the southwest of the quarry, the separation distance is constrained by a pre-existing subdivision.

**TRANSPORT ROUTE:**

The transport route extends along Holts Road either northwards to the Mackay-Habana Road or southwards to connect to the Bruce Highway via Glendaragh Road or eastwards to the Mackay-Bucasia Road.

**SPECIAL CONSIDERATIONS:**

Most of the KRA is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **FARLEIGH KEY RESOURCE AREA – KRA 24**

**LOCAL GOVERNMENT AREA:** Mackay Regional Council

**LOCATION:**

The resource is located on the western side of The Black Mountain, 13 kilometres northwest of Mackay (see map KRA 24).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource comprises rocks of basaltic-andesite composition with dykes of microdiorite throughout, which are part of an unnamed Mesozoic intrusive complex that forms The Black Mountain and outcrops in the surrounding area.

It is the site of a major quarry supplying a wide range of crushed rock products.

**SIGNIFICANCE:**

The resource remaining in the existing quarry and immediately surrounding land is substantial and estimated to be in excess of 50 years supply. The resource is conveniently situated to continue to supply the Mackay urban area and surrounding district.

**SEPARATION AREA:**

On the western and southern sides of the quarry area where the face and operations are visible, the full 1000 metres separation distance is adopted. On the eastern side, the summit of the mountain will be retained to screen the quarry, and steep heavily forested land in that direction provides a separation distance of about 1000 metres. On the northern side, the distance is reduced slightly as steep spurs extending down from the summit of the mountain will screen the land to the north.

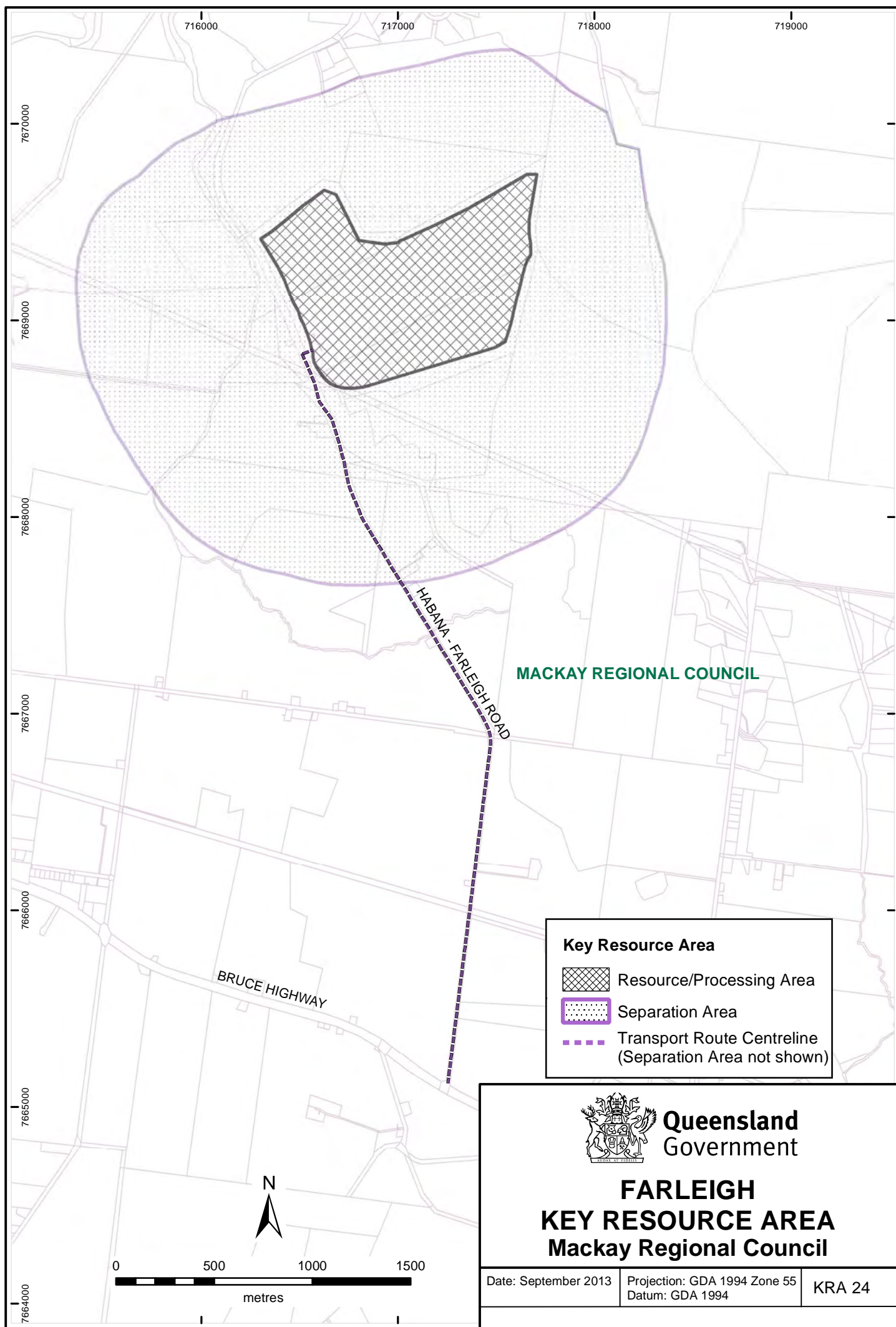
**TRANSPORT ROUTE:**

The materials are transported along Habana-Farleigh Road to the Bruce Highway.

**SPECIAL CONSIDERATIONS:**

Some parts of the separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.







## **HATFIELD KEY RESOURCE AREA – KRA 25**

**LOCAL GOVERNMENT AREA:** Mackay Regional Council

**LOCATION:**

The resource is located about 25 kilometres south southwest of Sarina (see map KRA 25).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource comprises hard volcanic rocks, mainly andesitic tuff and dacitic lithic crystal tuff.

It is the site of a major quarry supplying mainly rail ballast for maintenance and new construction work on lines connecting the coalfields and coal loading ports as well as the main North Coast railway. A ridge consisting of similar rock extends to the north of the quarry.

**SIGNIFICANCE:**

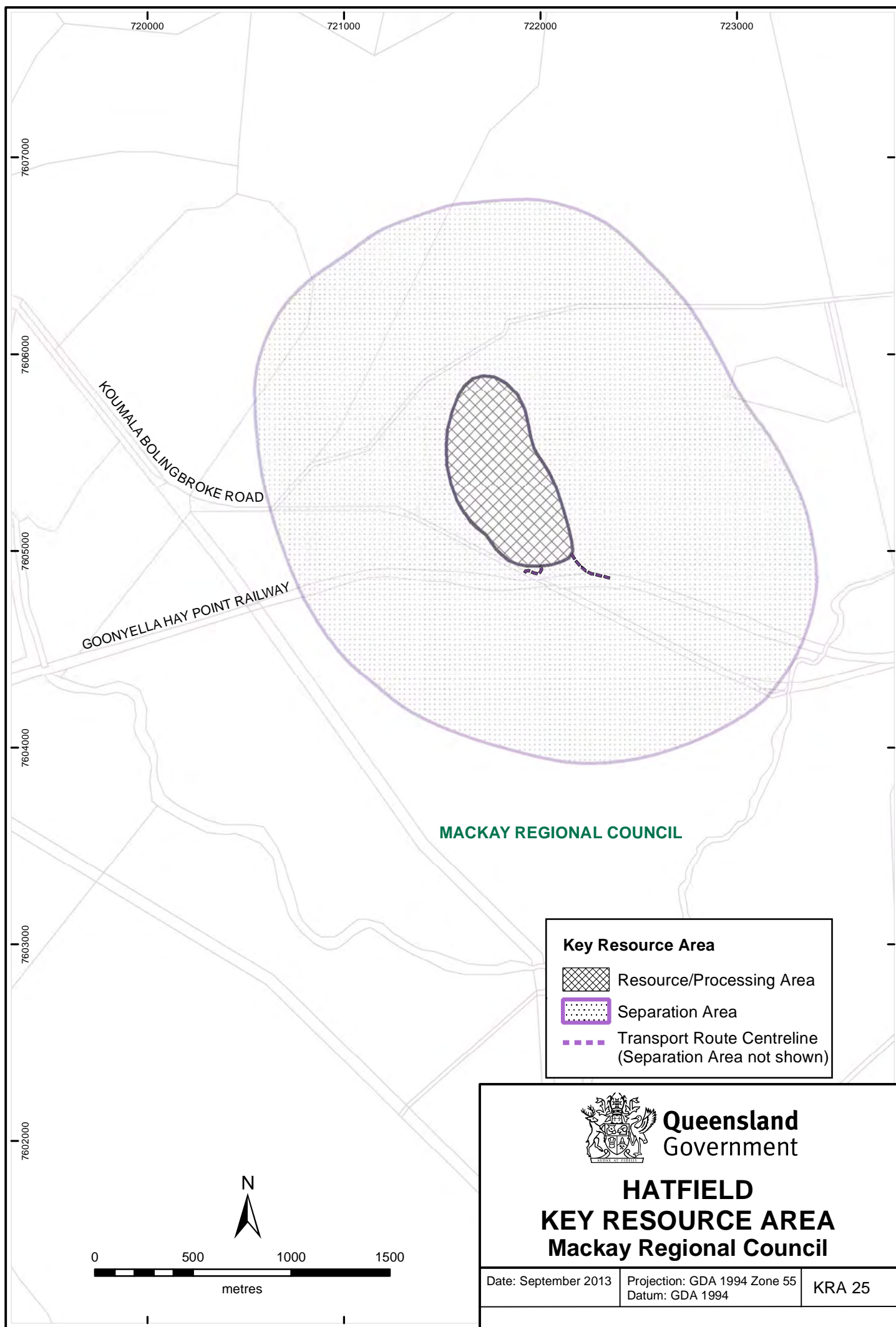
The resource remaining in the existing quarry and immediately surrounding land is substantial and estimated to be in excess of 25 years supply. The resource is conveniently situated to supply rail ballast for both maintenance and future construction work in the area.

**SEPARATION AREA:**

The full 1000 metre separation distance from the face and quarry infrastructure as well as potential resources to the north is adopted.

**TRANSPORT ROUTE:**

The majority of rock is loaded directly onto rail transport using a spur line from the Goonyella-Hay Point railway. Some rock could be transported directly onto the Koumala-Bolingbroke Road to the Bruce Highway to the east if permitted by the Department of Transport and Main Roads, or west to the Sarina Road if required



## **FOXDALE KEY RESOURCE AREA – KRA 26**

**LOCAL GOVERNMENT AREA:** Whitsunday Regional Council

**LOCATION:**

The resource is located about 4 kilometres north of Proserpine (see map KRA 26).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource comprises andesite outcropping in a low hill.

It is the site of a major quarry supplying a wide range of crushed rock products.

**SIGNIFICANCE:**

The resource remaining in the existing quarry and immediately surrounding land is substantial and estimated to be in excess of 20 years supply. The resource is conveniently situated to supply the Proserpine and Whitsunday regional areas.

**SEPARATION AREA:**

The full 1000 metre separation distance from the face and processing area is adopted. A lesser separation distance could be considered on the northern and northeastern sides of the hill because at present the crest of the hill buffers the quarry from any potential noise and dust and it is not visible from those directions. However, the potential for development of potential resources in that direction exists, so a lesser distance is not used.

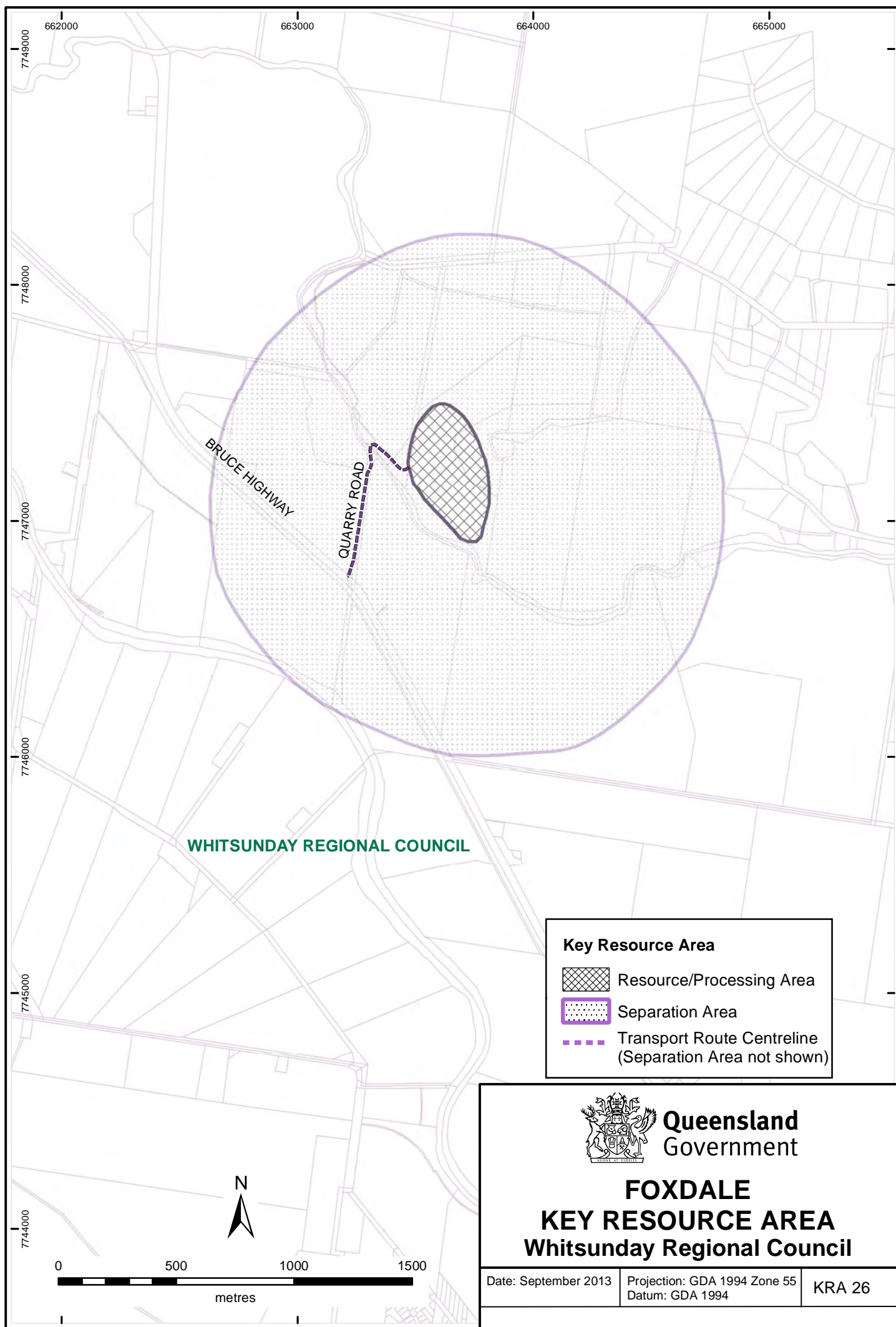
**TRANSPORT ROUTE:**

The transport route extends along Quarry Road to the Bruce Highway.

**SPECIAL CONSIDERATIONS:**

A small area of 'of concern' vegetation under the *Vegetation Management Act 1999* lies within the Council reserve and is likely to be protected by the conditions of the operational plan. It is also partly protected by a buffer around a communication tower on top of the hill.

Most of the KRA is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **NORTH GREGORY KEY RESOURCE AREA – KRA 27**

**LOCAL GOVERNMENT AREA:** Whitsunday Regional Council

**LOCATION:**

The resource is located about 14 kilometres north northeast of Proserpine (see map KRA 27).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource comprises volcanic rock (dacite) forming a low ridge.

It is the site of a moderate sized quarry supplying a wide range of crushed rock products.

**SIGNIFICANCE:**

The resource remaining in the existing quarry and immediately surrounding land is substantial and estimated to be in excess of 20 years supply. The resource is conveniently situated to supply the Proserpine and surrounding Whitsunday area.

**SEPARATION AREA:**

The full 1000 metre separation distance from the resource and processing area is adopted to avoid encroachment from any potential closer settlement or intensification of rural activities, or potential developments associated with eco-tourism in nearby protected areas and reserve land.

**TRANSPORT ROUTE:**

Materials are transported along Patullo Road to the Gregory – Cannon Valley Road, then either west to the Bruce Highway or east to the Proserpine-Shute Harbour Road.

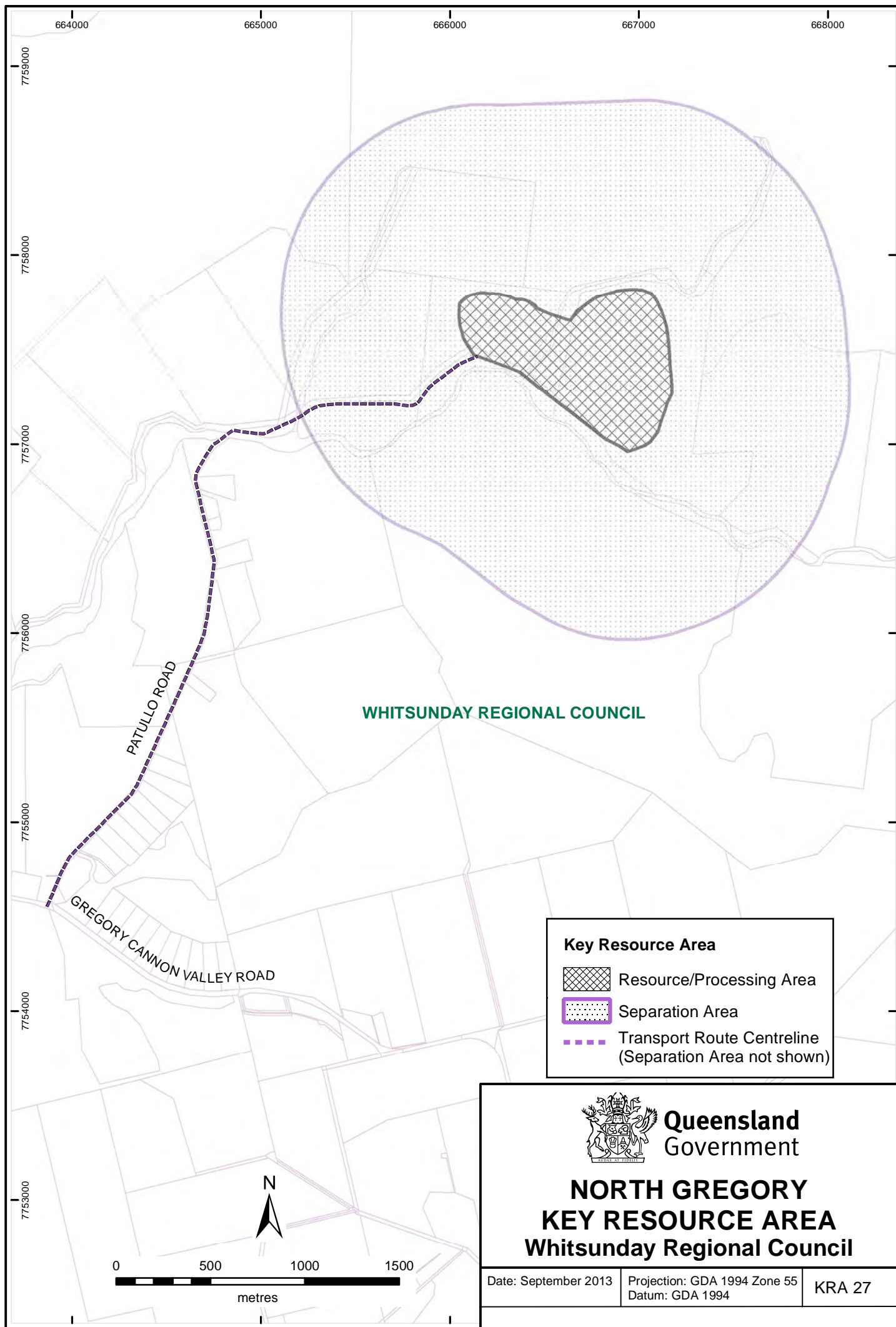
**SPECIAL CONSIDERATIONS:**

The KRA contains areas having State biodiversity significance under the Biodiversity Planning Assessment process managed by the Department of Environment and Heritage Protection.. These are in areas of ‘not of concern’ vegetation under the *Vegetation Management Act 1999* and are classified as ‘Endangered’ Regional Ecosystem by the Environmental Protection Agency.

**SPECIAL CONSIDERATIONS:**

Small portions of the resource/processing and separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.





## **THE ROCKS KEY RESOURCE AREA – KRA 28**

**LOCAL GOVERNMENT AREA:** Burdekin Shire Council

**LOCATION:**

The resource is located about 14 kilometres southwest of Home Hill (see map KRA 28).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource comprises granitic rocks, mainly adamellite.

It is the site of a major quarry supplying a wide range of crushed rock products.

**SIGNIFICANCE:**

The resource remaining in the existing quarry and immediately surrounding land is substantial and estimated to be in excess of 25 years supply. The resource is conveniently situated to supply the Ayr-Home Hill area and surrounding districts.

**SEPARATION AREA:**

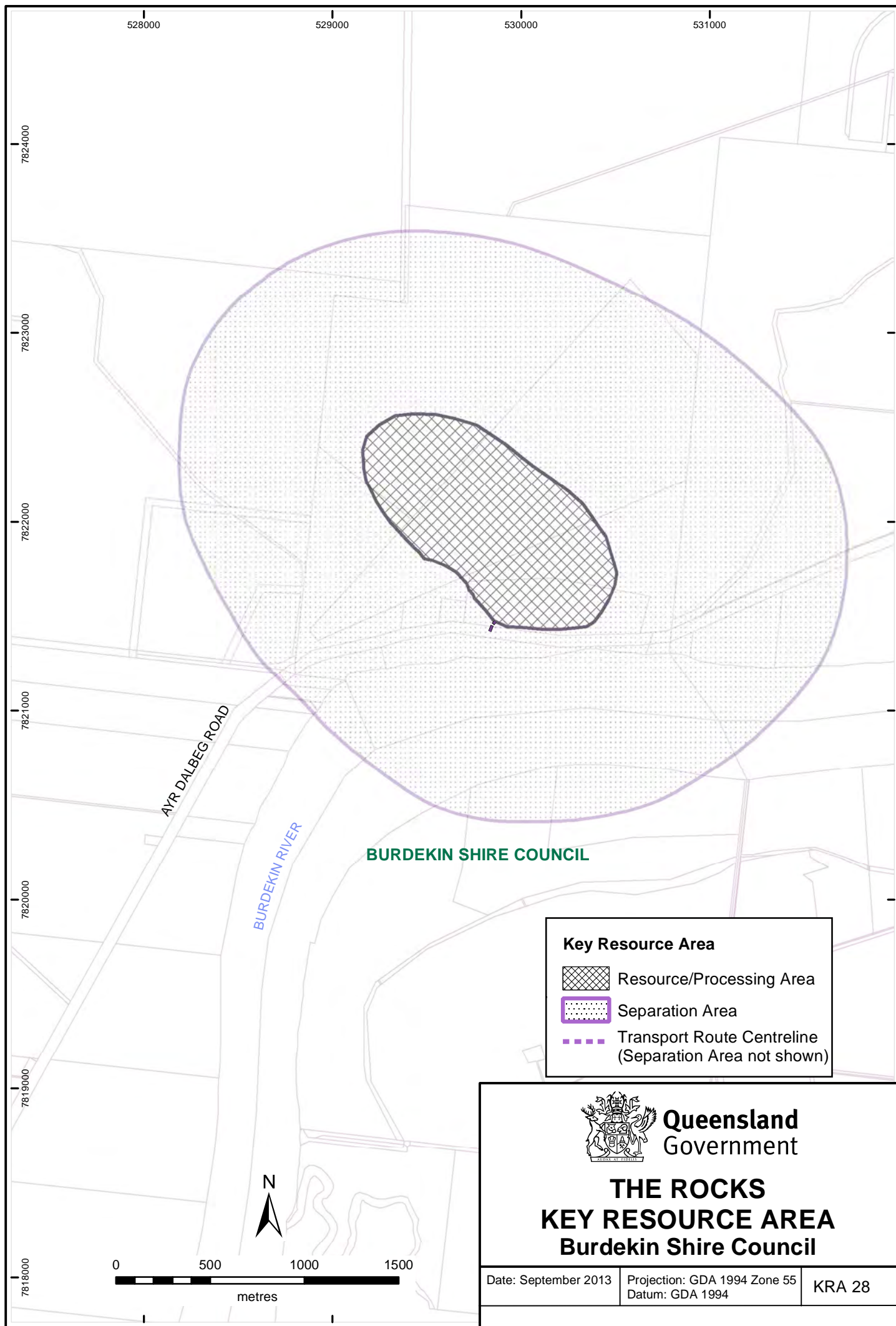
To the north, east and west the full 1000 metre separation distance is adopted to protect the resource from future subdivision, as the surrounding land is lower than the resource itself. On the southern side, the Burdekin River bed and banks are included in the 1000 metre separation distance to avoid any likely impacts from possible future development either within the river itself or in the southern riparian zone.

**TRANSPORT ROUTE:**

The rock is transported directly onto the Ayr – Dalbeg Road.

**SPECIAL CONSIDERATIONS:**

Some parts of the resource/processing and separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **MOUNT CORDELIA KEY RESOURCE AREA – KRA 29**

**LOCAL GOVERNMENT AREA:** Hinchinbrook Shire Council

**LOCATION:**

The resource is located at Mount Cordelia about 10 kilometres northeast of Ingham (see map KRA 29).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of very hard volcanic rock (rhyolitic welded tuff) on the lower northern slopes of Mount Cordelia, which forms an elongate easterly trending ridge line. The tuff is suitable for a complete range of crushed rock products.

The resource is the site of one large quarry on the western end, and a smaller face of another quarry on the east. The quarries produce road base, crushed aggregates, including railway and tramway ballast, and armour stone for river protection works for the Ingham district, with some armour stone transported further distances.

**SIGNIFICANCE:**

The large resources remaining are sufficient for at least another 20 years. The resource is of regional significance as the two quarries provide virtually all the demand for crushed rock products in the Ingham district, and some products are supplied to specialised markets further to the north and south.

**SEPARATION AREA:**

The ridge crest of Mount Cordelia is significantly higher than the quarry operations and screens the steep southern slope of the ridge. The crest forms the southern limit of the separation area at distances between 300 and 500 metres from the resource area. The lower ground to the north of the resource requires the full 1000 metre separation distance.

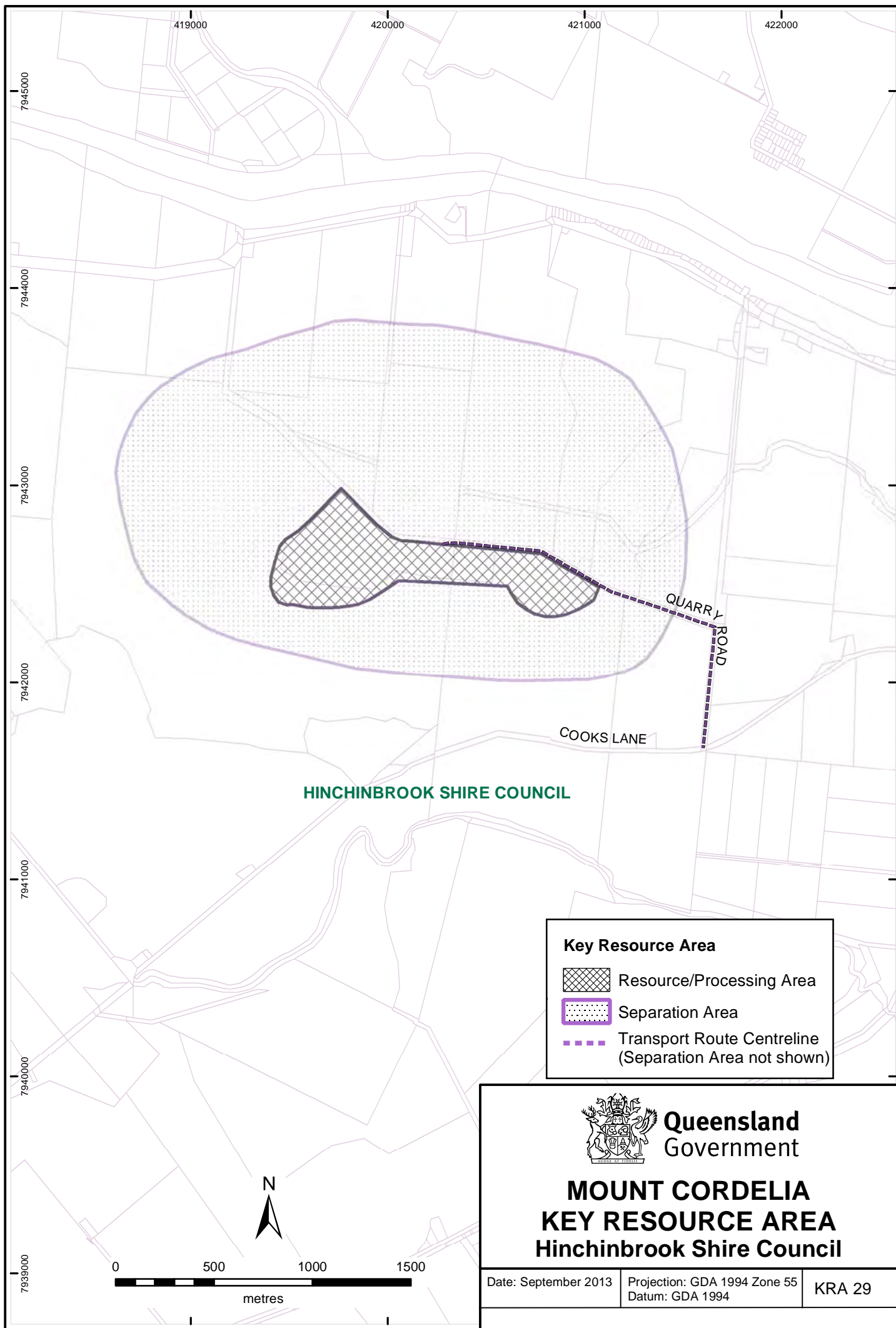
**TRANSPORT ROUTE:**

The rock from both quarries is transported eastwards along the sealed Quarry Road and then mainly west to Ingham via the sealed arterial road of Cooks Lane to the Ingham-Forrest Beach Road.

**SPECIAL CONSIDERATIONS:**

Most of the separation area and a small portion of the resource/processing area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.







## **BLACK RIVER KEY RESOURCE AREA – KRA 30**

**LOCAL GOVERNMENT AREA:** Townsville City Council

**LOCATION:**

The resource is located off the Black River Road south of Yabulu about 27 kilometres west of Townsville (see map KRA 30).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resources comprise volcanic rocks (rhyodacitic and rhyolitic welded tuffs) outcropping in a well-defined ridge extending north of Mount Black, and decomposed granite beneath lower country west of the ridge. Large resources of both volcanic rocks and decomposed granite are present.

The resources are the site of a major rock quarry that supplies road base and some concrete aggregate, and a pit in the decomposed granite that supplies road surfacing and fill materials.

**SIGNIFICANCE:**

Very large resources are available at the site for the longer term. The resource is one of three major sites supplying the Townsville regional market with road base and crushed aggregates. The site is of State significance.

**SEPARATION AREA:**

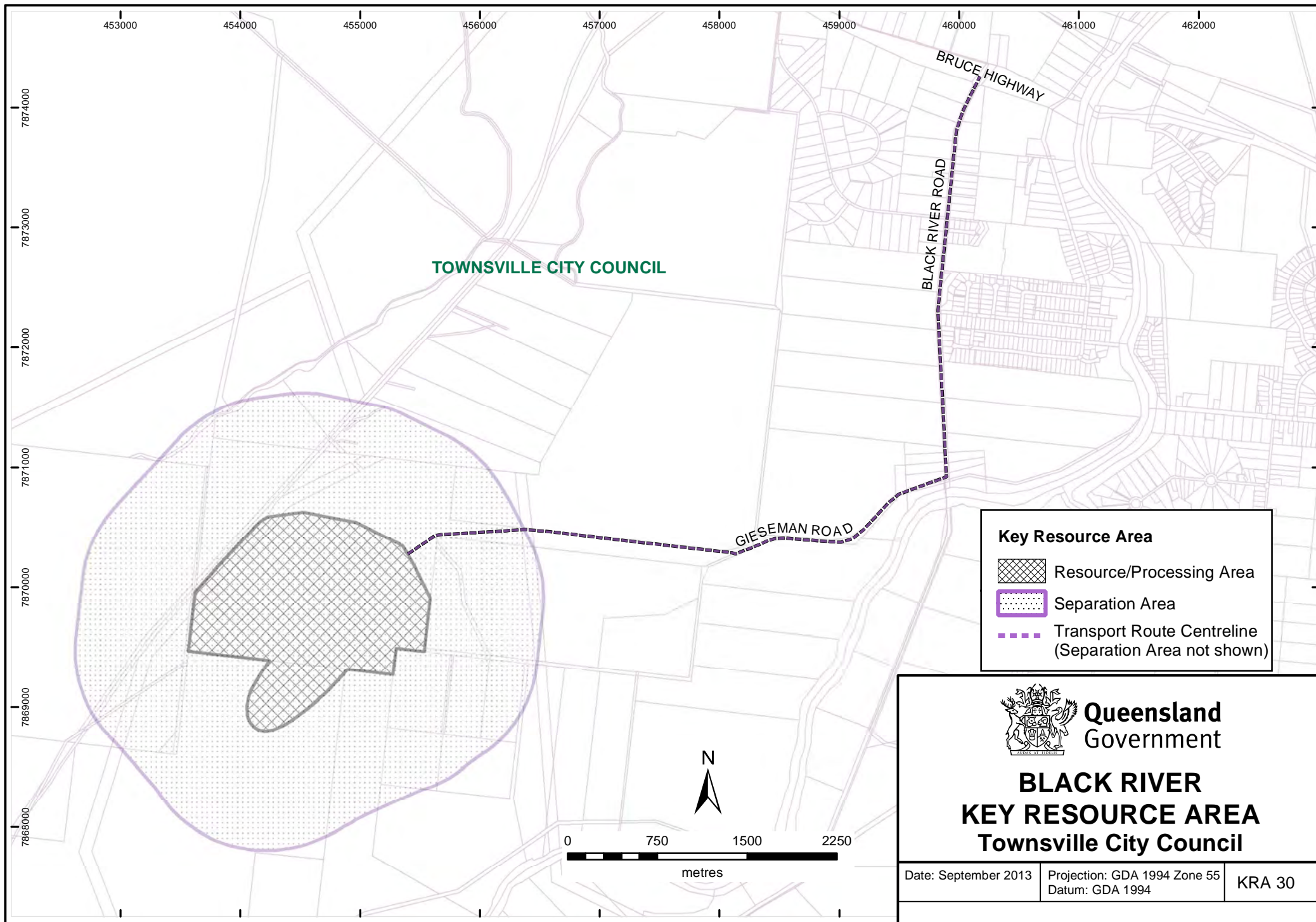
The separation distance applied around the resource is the full 1000 metres, as the surrounding land is lower than the ridge and other areas where extractive industry activities may occur.

**TRANSPORT ROUTE:**

The rock is transported along a sealed road in a quarry-owned corridor to the east and then along the sealed Gieseman Road to Black River Road, continuing north to the Bruce Highway.

**SPECIAL CONSIDERATIONS:**

Small portions of the resource/processing and separation area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **BOHLE KEY RESOURCE AREA – KRA 31**

**LOCAL GOVERNMENT AREA:** Townsville City Council

**LOCATION:**

The resource is located on the Bruce Highway about 12 kilometres west of Townsville (see map KRA 31).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource comprises rhyolitic (volcanic) rocks that formed the original Mount Bohle and occur in a line of hills extending to the northwest.

It is the site of a major quarry that has been deepened below natural surface level and supplies a wide range of crushed rock products.

**SIGNIFICANCE:**

There are substantial resources remaining in the existing quarry and immediately surrounding land, in excess of 15 years supply. The resource is conveniently situated to supply the Townsville regional area.

**SEPARATION AREA:**

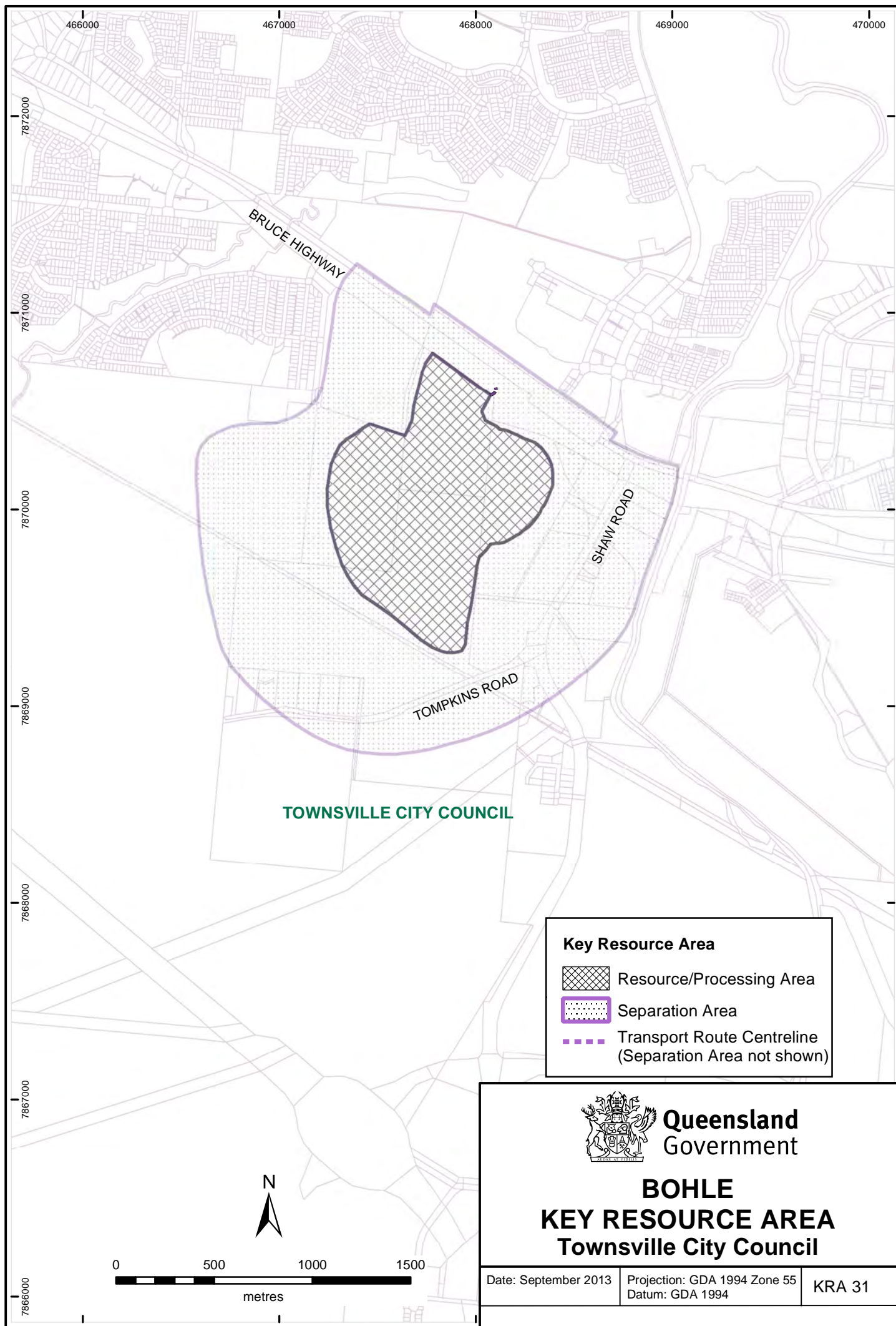
On the east the separation area boundary is along the Bohle River. On the south and southwest, the separation distance is the full 1000 metre distance from the resource boundary. On the west, the boundary is the crest of a major side spur running in a westerly direction from the line of hills; thus screening future extensions of the quarry in this direction.

On the northwestern side the separation area boundary is along the edge of the residential blocks along Bradford Street. On the northern side the boundary extends along the edge of the buffer between the railway and designated residential developments to the north of the railway.

**TRANSPORT ROUTE:**

The rock is transported directly onto the Bruce Highway, or in the case of rail ballast to an adjacent siding on the North Coast Railway.





## **PINNACLES KEY RESOURCE AREA – KRA 32**

**LOCAL GOVERNMENT AREA:** Townsville City Council

**LOCATION:**

The resource is located southwest of Townsville and 7 kilometres south of the Hervey Range Road (see map KRA 32).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of volcanic rock (rhyolitic welded tuff) on ridges running off mountains to the west of the Upper Ross River Road. These rocks are suitable for a range of aggregate products. Resources of pink microgranite, with a wide fracture spacing that makes it suitable for the production of armour rock in addition to very high strength concrete aggregate, are also present. A large quarry is currently operating within the KRA.

**SIGNIFICANCE:**

The resource is significant due to its production capacity and size, its distance from residential area, and relatively close to a major transport corridor. The microgranite also provides a resource of unfractured armour stone and high strength aggregate not readily available from other resources close to Townsville.

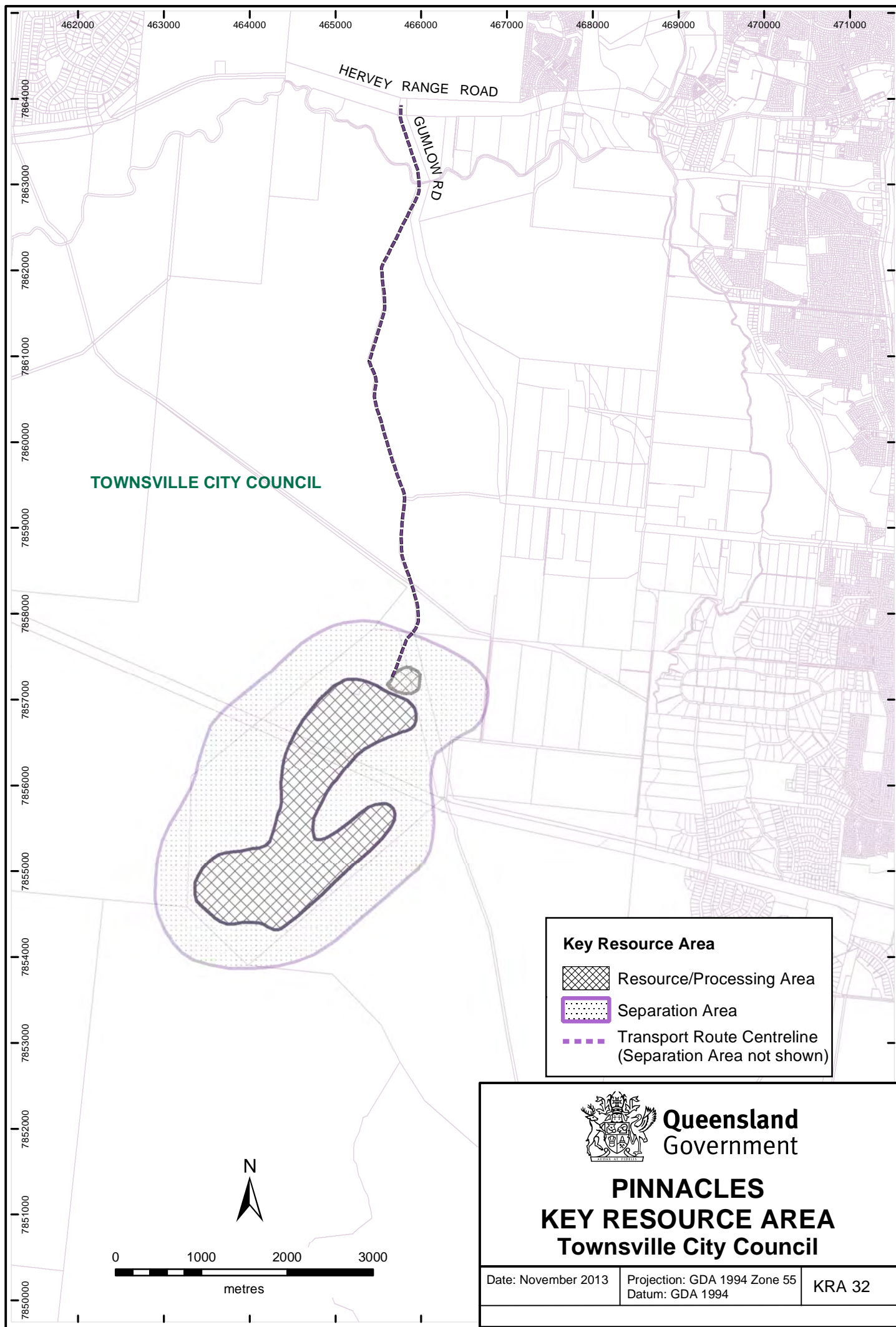
**SEPARATION AREA:**

Because of the exposure of the quarry faces to the north and northwest, the boundary on this side is the full distance of 1000 metres from the faces. This encompasses mainly land owned by the quarry, but also extends over some State leasehold land on the northwest. The boundary on the western side is set at 1000 metres from the extractive resource limit as there are no topographic barriers in that direction. To the southeast the boundary is on the crests of ridges, which overlook the resources and potential long-term operations. To the south and southwest the boundary is set at 500 metres from the extractive resource limit as the steep escarpment of The Pinnacles and South Pinnacle forms a topographic barrier.

**TRANSPORT ROUTE:**

Rock materials are transported along a private gravel road through rural land northwards to Gumlow Road and then a short distance to the Hervey Range Road. Only minor amounts of material are permitted to be transported eastwards to the Upper Ross River Road.





## **WAITARA KEY RESOURCE AREA – KRA 33**

**LOCAL GOVERNMENT AREA:** Isaac Regional Council

**LOCATION:**

The resource is located about 12 kilometres south of Nebo and 3 kilometres north of the Waitara siding on the Goonyella-Hay Point railway (see map KRA 33).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource is within a northerly trending ridge of basaltic andesite capped by rhyolite.

A quarry has been operated on this resource for over 30 years since the construction of the railway.

**SIGNIFICANCE:**

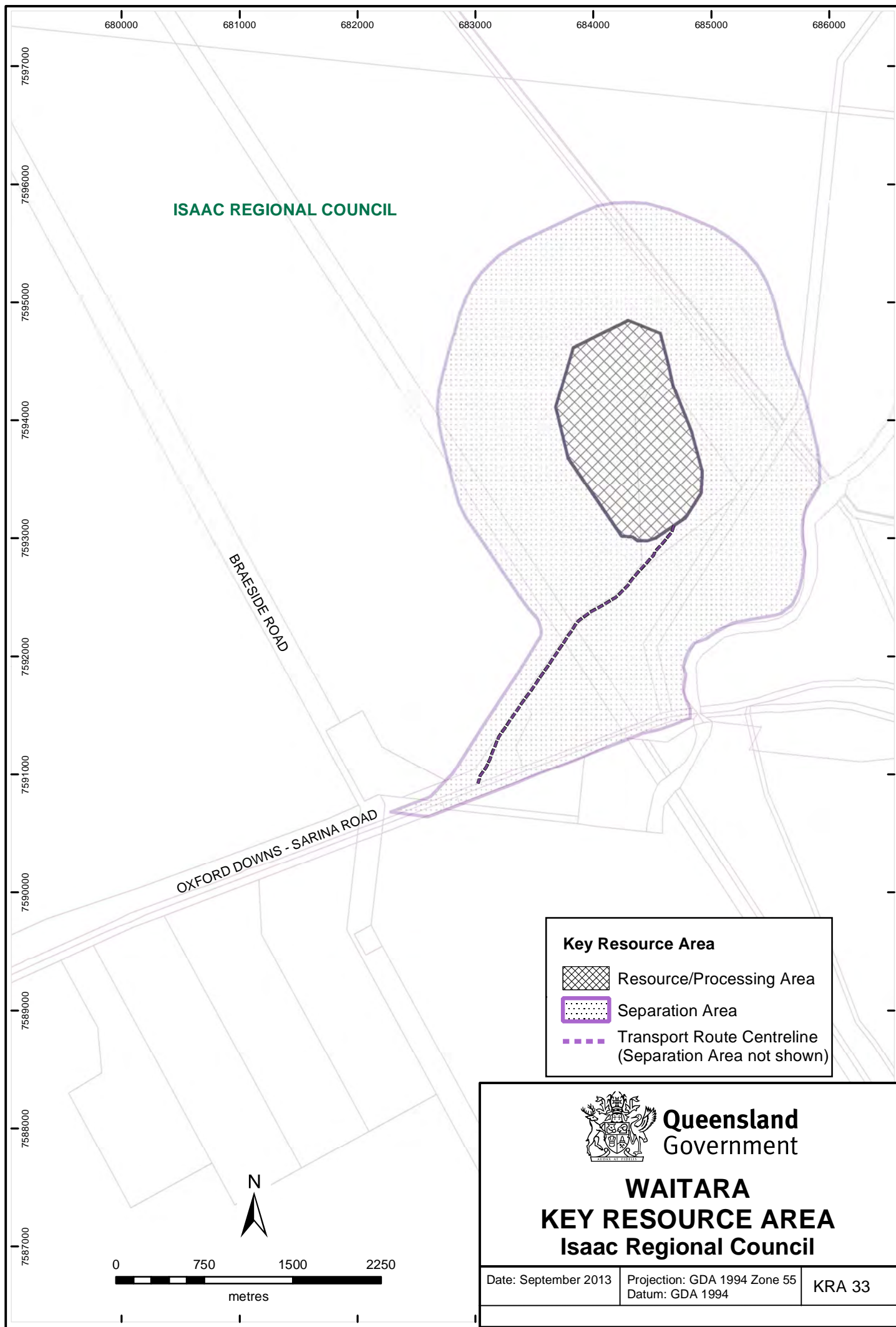
The resource has the potential to supply the regional demand for at least 20 years. It is located near a major market with established infrastructure (the railway) and several coal mines and towns in the region. Currently its principal purpose is to supply ballast for the Goonyella rail network.

**SEPARATION AREA:**

The separation area boundary is set at the full 1000 metres from the outer limits of the known resource, as the ridge containing the resource is higher than the surrounding land. The boundary has been extended to run along Denison Creek on the southeast side south to the railway line, then along the line to include the Waitara siding, and then parallel to the transport route in a northeasterly direction with a 50 metre setback.

**TRANSPORT ROUTE:**

Materials are transported to the Waitara railway siding 3 kilometres to the south, where it is loaded onto rail trucks for distribution to the rail network. Minor amounts of materials are transported to the Peak Downs Highway via the Oxford Downs-Sarina Road and Braeside Road.



## **CAPE CLEVELAND KEY RESOURCE AREA – KRA 34**

**LOCAL GOVERNMENT AREA:** Townsville City Council

**LOCATION:**

The resource is located on the Cape Cleveland peninsula about 45 kilometres southeast of Townsville (see map KRA 34).

**EXTRACTIVE RESOURCE:** Fine Sand

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource area comprises fine sand in two sections of beach ridge on the Cape Cleveland peninsula. The sand is used in concrete aggregate. As virtually the whole of the lower part of the Cape Cleveland peninsula is underlain by such sand, the two parts of the Key Resource Area do not represent all possible resources in the area and others may be delineated in the future.

Two sand pits are currently being operated in each section of the Key Resource Area.

**SIGNIFICANCE:**

Very large volumes of sand are present, sufficient for many decades, and they supply virtually all the region's requirements for this material.

**SEPARATION AREA:**

Two deposits are outlined, one over largely cleared land north of the northern pit and another over the higher broader sand ridges adjacent to the southern pit, north and south of Goodsells Road. The areas are sufficiently large to provide for adequate separation between sand operations and surrounding land uses. The separation area boundary is set along the nearest property boundary or with a separation distance of the full 200 metres from the edge of the resource.

**TRANSPORT ROUTE:**

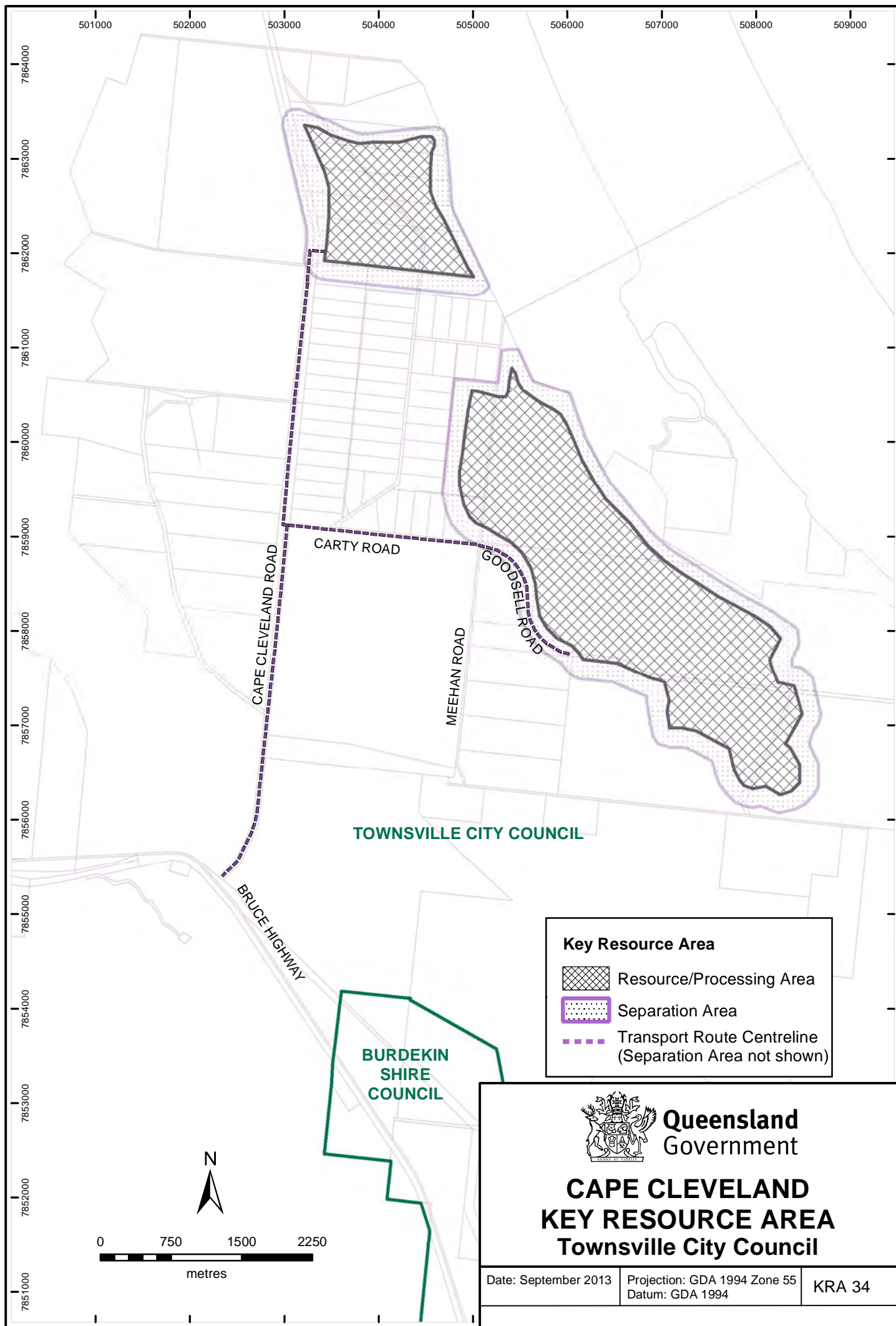
The sand is transported either along the sealed Goodsell and Carty Roads or directly onto Cape Cleveland Road then to the Bruce Highway. Sand from recently approved operations will also be transported for a short distance along Meehan Road to Goodsells Road en route to the highway.

**SPECIAL CONSIDERATIONS:**

The eastern boundary of the KRA extends along Bowling Green National Park, which is part of an internationally significant RAMSAR wetland. A minimum buffer width of 100 metres has been applied from the resource/processing area to the RAMSAR wetland. The transport route is through the National Park.

Most 'of concern' vegetation under the *Vegetation Management Act 1999* located in the resource processing area is covered by pre-existing approvals.







## **ROSENEATH EAST KEY RESOURCE AREA – KRA 35**

**LOCAL GOVERNMENT AREA:** Townsville City Council

**LOCATION:**

The resource is located about 13 kilometres south of Townsville, east of the Flinders Highway and east of the settlement of Roseneath (see map KRA 35).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The northern part of this resource consists of rhyolitic welded tuff and other volcanic rocks. A major quarry currently operates in this part of the resource. The southern part of the resource consists of similar volcanic rocks on land recently acquired for possible longer term extraction when the northern quarry is exhausted.

The current quarry produces road base, concrete and bitumen aggregates and railway ballast.

**SIGNIFICANCE:**

Resources are expected to be sufficient for the next 30 years. The northern part of the resource is currently supplying a large proportion of the Townsville regional market for crushed aggregates. The current quarry is one of three major quarries currently supplying crushed aggregates to the Townsville regional market. The southern section has sufficient rock to continue this supply into the longer term. The resource is of State significance.

**SEPARATION AREA:**

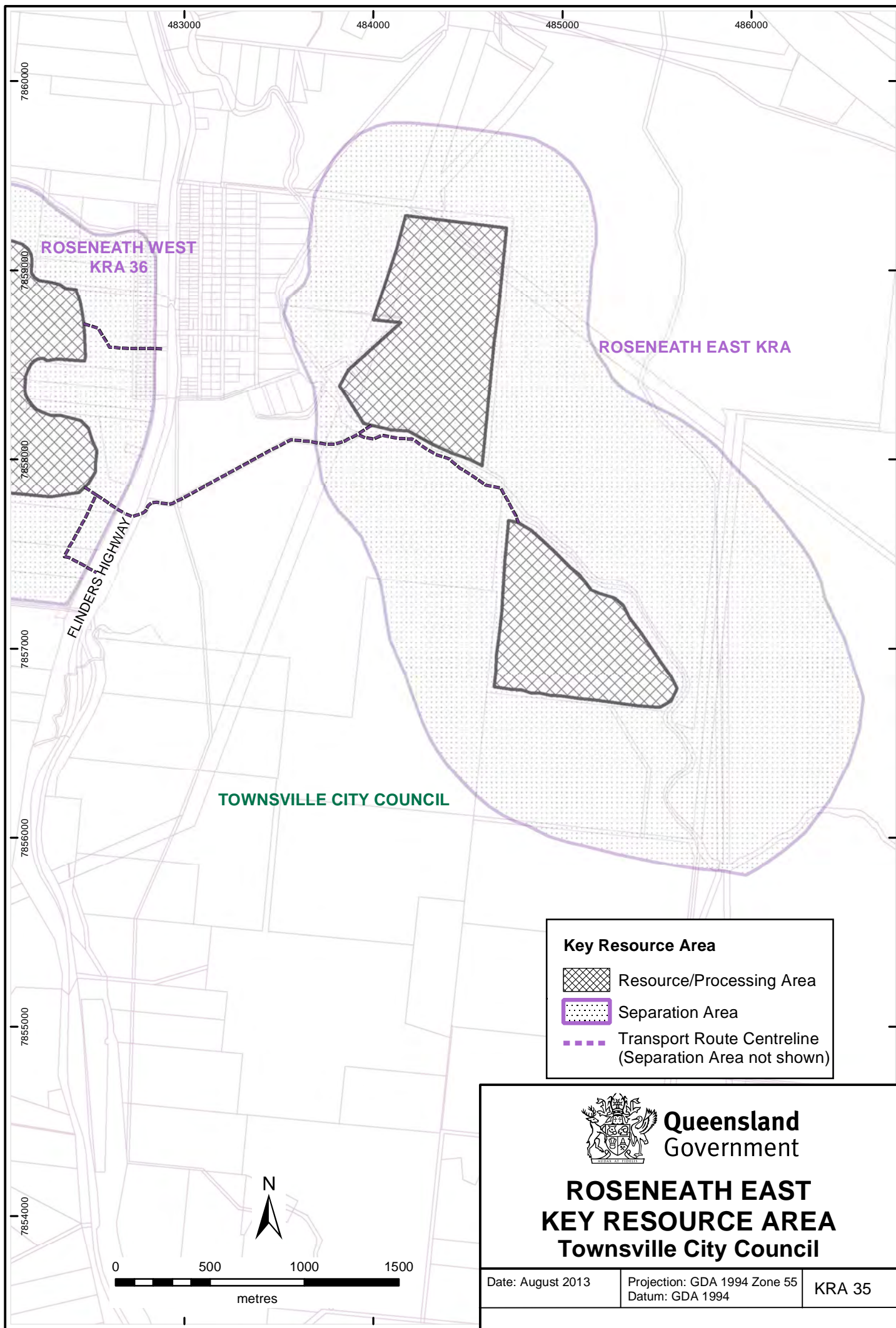
The northwestern boundary is along Stuart Creek, providing a separation of about 900 metres from the existing quarry face and about 200 m from a planned future processing area to the small lots already existing on the western side of the creek. The northern and eastern boundaries lie along crests of ridges within the Prison Reserve to the north and east of the quarry. The boundary continues around the eastern and southern sides of the southern section of the resource at a separation distance of 1000 metres due to the surrounding flat land. The southwestern boundary is on a major ridge crest. The western boundary extends about 1000 metres from the existing quarry (this is within the Brookhill Explosives Reserve) and the southern resource.

**TRANSPORT ROUTE:**

Products are transported on a private gravel road along an easement through the Explosives Reserve to the Flinders Highway. The same route would be used for extraction from the southern resource.

**SPECIAL CONSIDERATIONS:**

A small portion of the separation area is covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.



## **ROSENEATH WEST KEY RESOURCE AREA – KRA 36**

**LOCAL GOVERNMENT AREA:** Townsville City Council

**LOCATION:**

The resource is located about 13 kilometres south of Townsville, adjacent to and west of the Flinders Highway (see map KRA 36).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The extractive resource consists of rhyolitic welded tuff and agglomerate intruded by dyke rocks in the hills west of the Flinders Highway opposite the settlement of Roseneath.

In the past the resource has been the site of two large quarries, which produced a range of crushed rock products, and although both of these are now inactive, very large resources remain and the properties are being held in reserve by the companies involved.

**SIGNIFICANCE:**

The Roseneath West resource contains large quantities of high quality rock. It is strategically situated to supply major markets in the Townsville to Thuringowa region and adjacent markets for the medium to long term. The resource meets the criteria for State significance.

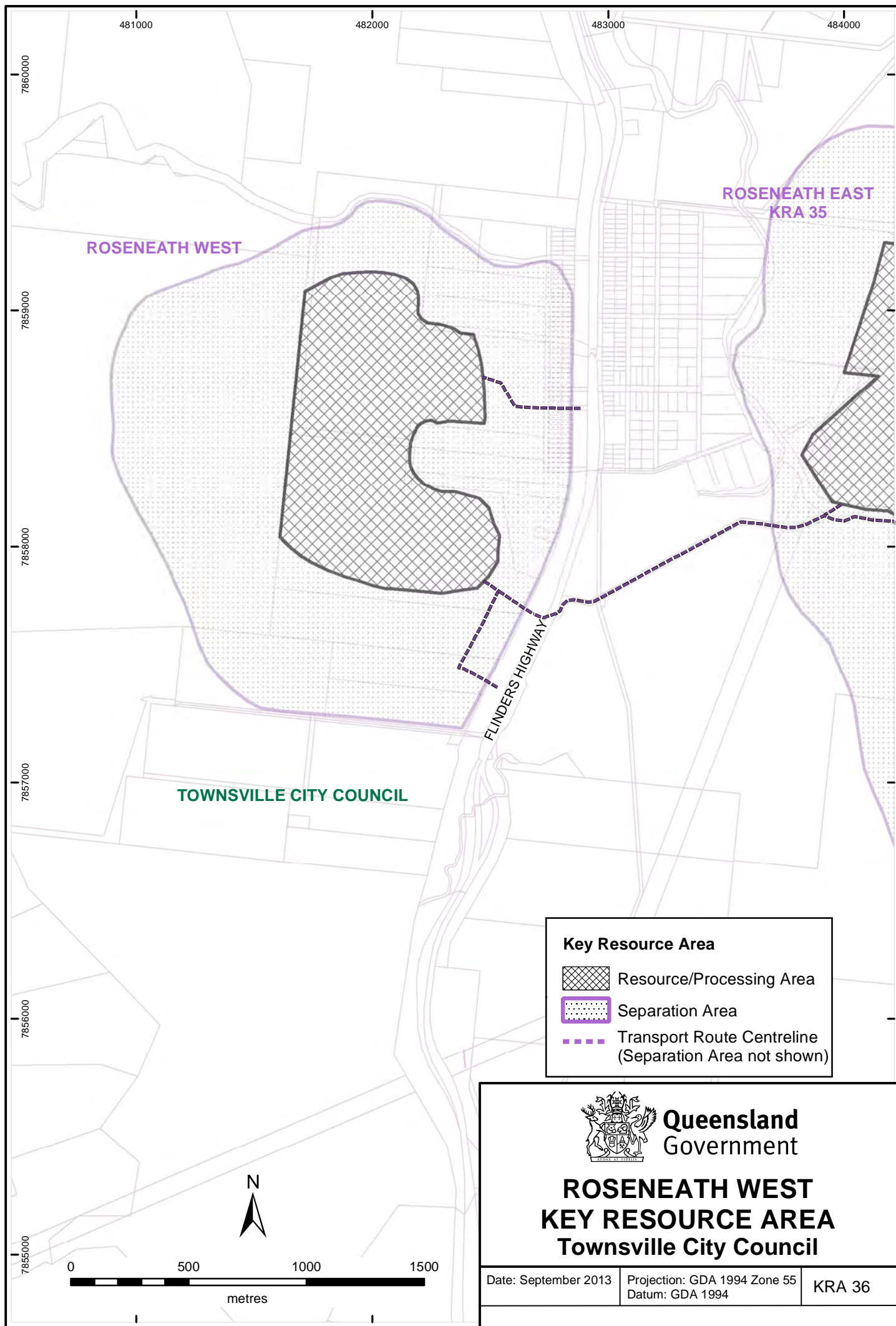
**SEPARATION AREA:**

The eastern and northern boundaries of the separation area are along the Flinders Highway and the Mount Stuart Road. The southern boundary is on a ridge crest about 500 metres to the south. The western boundary is on ridge crests within the Commonwealth Department of Defence land. Small future urban blocks along the western side of the Flinders Highway currently lie within the separation area. The status of these is unclear and any rezoning would limit the separation area to their western boundary.

**TRANSPORT ROUTE:**

The transport route for the KRA follows the access of the previous quarries directly onto the Flinders Highway.





## **WEST EURI CREEK KEY RESOURCE AREA – KRA 37**

**LOCAL GOVERNMENT AREA:** Whitsunday Regional Council

**LOCATION:**

The resource is located about 15 kilometres west-southwest of Bowen (see map KRA 37).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The extractive resource comprises mainly diorite.

It is the site of a major quarry supplying a wide range of crushed rock products.

**SIGNIFICANCE:**

There are substantial resources remaining in the existing quarry and adjacent land, estimated to be in excess of 25 years supply. The resource is conveniently situated to supply the Bowen regional area.

**SEPARATION AREA:**

The existing quarry and future resources and processing activities are all located within the one block which is covered by a lease and the extractive permit. A 1000 metre separation distance has been adopted.

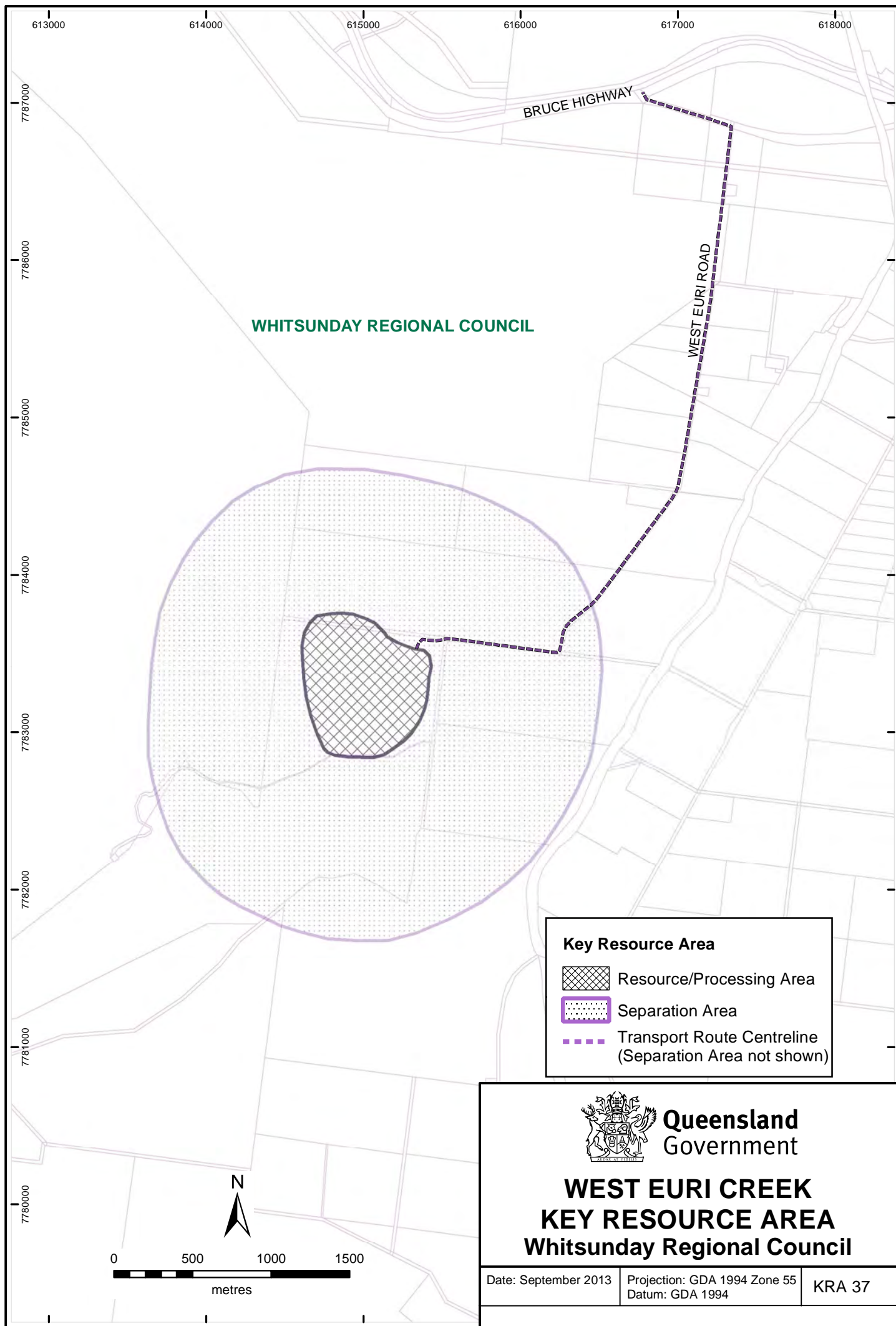
**TRANSPORT ROUTE:**

The rock is transported via West Euri Road, which leads northwards to the Bruce Highway to Bowen and other markets to the north, south, and southwest.

**SPECIAL CONSIDERATIONS:**

Some parts of the separation area and a small portion of the resource/processing area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.





## **BEHANA GORGE ROAD KEY RESOURCE AREA - KRA 38**

**LOCAL GOVERNMENT AREA:** Cairns Regional Council

**LOCATION:** Behana Gorge Road, 6.5 kilometres southeast of Gordonvale near the Bruce Highway and 25km southeast of Cairns (See Map KRA 38).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource is situated in fine to medium grained granite which forms a knoll rising 120 metres above surrounding sugarcane land on the flats of Behana Creek.

The western portions of the knoll have been previously quarried for decomposed granite.

**SIGNIFICANCE:**

Drilling and petrographic studies show that the resource has superior material qualities to other hard rock resources in the Cairns region, and has the potential to supply the region for several decades. It is the only remaining large undeveloped resource within 70 kilometres of Cairns.

**SEPARATION AREA:**

The northern lot covering most of the granitic knoll is used to define the resource/processing area. A full separation distance of 1000 metres has been adopted to allow for the low-lying and level country surrounding the resource and the knoll.

**TRANSPORT ROUTE:**

The proposed transport route exits the resource/processing area on the northern side of the knoll and follows the northern boundary of the lot until it reaches the Behana Gorge Road. It then extends northwards along Behana Gorge Road to the intersection with the Bruce Highway.

**SPECIAL CONSIDERATIONS:**

Some parts of the separation area and a small portion of the resource/processing area are covered by Strategic Cropping Land Trigger Mapping under the *Strategic Cropping Land Act 2011* administered by the Department of Natural Resources and Mines. This indicates the location of potential SCL and further on-ground assessment against the SCL criteria is required to confirm whether the area is or is not an SCL.




CAIRNS REGIONAL COUNCIL

BRUCE HIGHWAY

BEHANA GORGE ROAD

BEHANA CREEK

**Key Resource Area**

-  Resource/Processing Area
-  Separation Area
-  Transport Route Centreline (Separation Area not shown)



**Queensland  
Government**

**BEHANA GORGE ROAD  
KEY RESOURCE AREA  
Cairns Regional Council**

Date: September 2013

Projection: GDA 1994 Zone 55  
Datum: GDA 1994

KRA 38



0 500 1000 1500  
metres

## **FERNY GROVE KEY RESOURCE AREA – KRA 39**

**LOCAL GOVERNMENT AREA:** Brisbane City Council

**LOCATION:**

The resource is located approximately one kilometre southwest of the intersection of Samford and Upper Kedron Roads between the suburbs of Upper Kedron and Keperra (see map KRA 39).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of hornfels located at the western contact between the Enoggera Granite and the Bunya Phyllite.

A major quarry is located within the resource.

**SIGNIFICANCE:**

The present resource life is expected to be over ten years. The Ferny Grove Quarry provides a significant proportion of various rock products to the Brisbane City and Moreton Bay Regional Council, including bitumen screenings and concrete aggregates. It is conveniently located close to the major north and central Brisbane markets.

**SEPARATION AREA:**

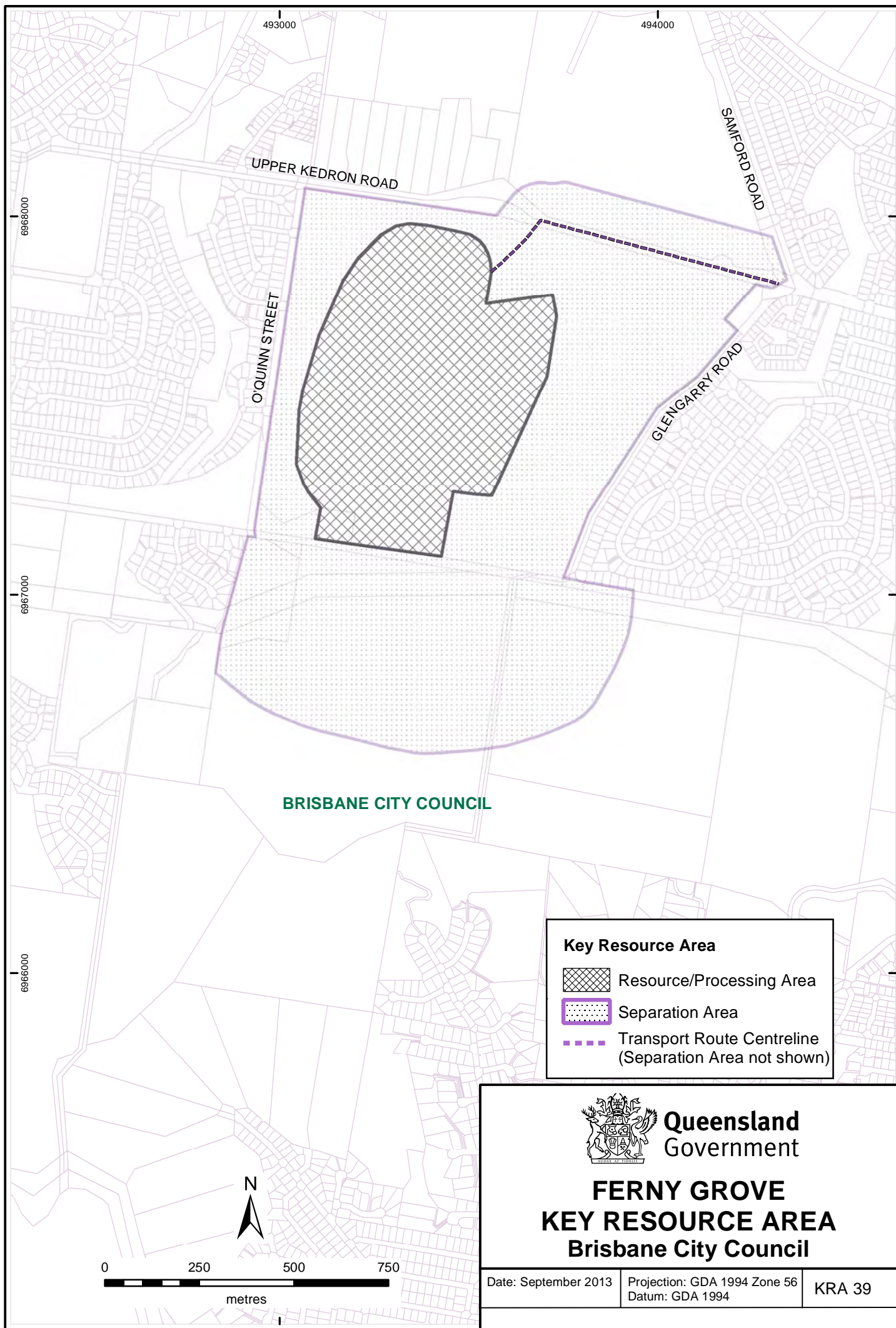
The separation area is constrained by residential developments to the east and west, limiting the separation area boundaries to the closest side of the road reserves along O'Quinn Street and Glengarry Road.

The separation distance has been set at 500 metres from the Environmental Protection and Community Use areas of the Brisbane City planning scheme in the south, because the resource is largely shielded by intervening ridges. The northernmost limit is set by the Emerging Communities area north of Upper Kedron Road. The boundary is set at the southern side of Upper Kedron Road south of the Emerging Communities area.

**TRANSPORT ROUTE:**

The materials are transported onto Upper Kedron Road and then to Samford Road via a traffic light controlled intersection.







## **MAITLAND ROAD KEY RESOURCE AREA – KRA 40**

**LOCAL GOVERNMENT AREA:** Cairns Regional Council

**LOCATION:**

The resource occurs about 5 kilometres northwest of Gordonvale (see map KRA 40).

**EXTRACTIVE RESOURCE:** Quarry Rock

**EXTRACTIVE RESOURCE DESCRIPTION:**

The resource consists of greywacke. It is situated at the northern end of a northerly trending ridge. A small quarry has been established in a well-screened location with ridges surrounding most of the workings.

**SIGNIFICANCE:**

The resource is on leased freehold land and has reserves estimated to be sufficient for more than 20 years supply. It is adjacent to the Wright Creek KRA 13 and shares the same transport route along to the Bruce Highway north of Gordonvale to the Cairns market.

**SEPARATION AREA:**

A separation distance of 500 metres has been adopted around the perimeter of the resource as it is largely screened from the surrounding land by topographic barriers. The surrounding land is zoned as Rural.

**TRANSPORT ROUTE:**

Materials are transported via an unsealed road to Maitland Road and then onto the Bruce Highway near Meringa.

**SPECIAL CONSIDERATIONS:**

The Key Resource Area is adjacent to the Wet Tropics Management Area. Some Cassowary Essential Habitat has been mapped within the Separation Area along the ridge to the south and along a riparian zone to the west.

