



5.8. Traffic

This section details the existing road and traffic conditions in the vicinity of the Burringbar Quarry, and assesses the likely impact of the quarry operations on traffic flow and road safety, which are further detailed in **Appendix H**.

5.8.1. Existing Conditions

The Burringbar Quarry is located on Cudgera Creek Road to the north of the town of Burringbar, in the Tweed Shire Council area. The location of the site and local roads are shown in **Figure 5-8**.

Key local roads in the vicinity of the quarry are:

- Tweed Valley Way; and
- Cudgera Creek Road.

Cudgera Creek Road connects Tweed Valley Way at Burringbar with the coast at Pottsville. It also has an interchange with the Pacific Highway. Between Tweed Valley Way and the Pacific Highway, Cudgera Creek Road winds through mountainous terrain. The road is sealed only for the 1200m north of Tweed Valley Way, the 2.7km west of the Pacific Highway and into Pottsville. The unsealed section through the Burringbar Range is characterised by a very narrow road formation and frequent blind hair-pin bends. Between the quarry and Tweed Valley Way, Cudgera Creek Road is sealed with a 6m carriageway.

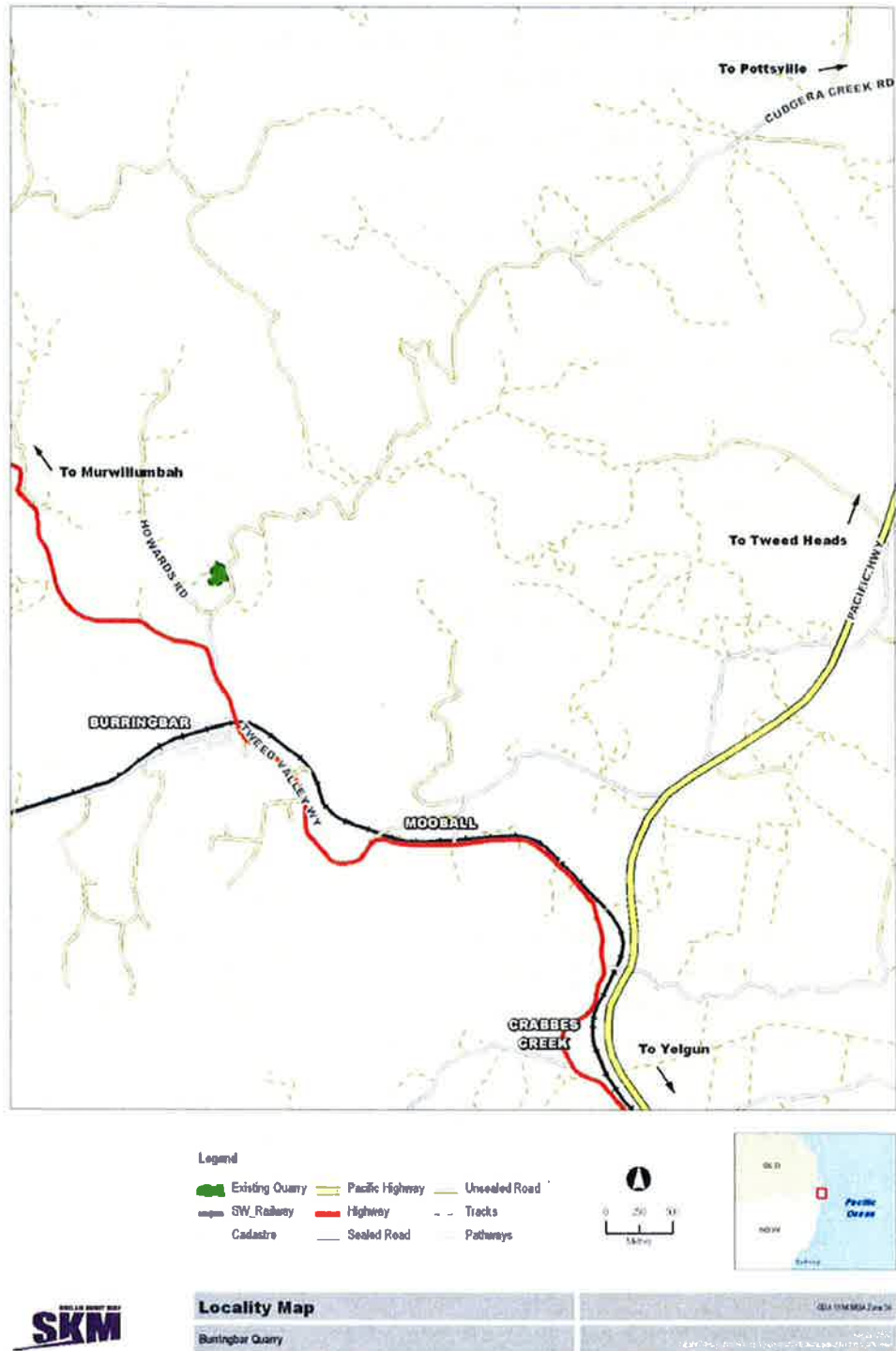
Data from Tweed Shire Council indicates that north of Burringbar, approximately 300 vehicles a day use Cudgera Creek Road. Apart from several houses close to the Tweed Valley Way, the road serves mainly rural properties, including banana plantations.

The intersection of Tweed Valley Way and Cudgera Creek Road (see **Figure 5-9**) is controlled by a Give Way sign. Sight distance from the intersection is limited by curves in the road, but is adequate given vehicle speeds on Tweed Valley Way. No speed limit is specified for Cudgera Creek Road, apart from a 60km/h zone between Tweed Valley Way and Burringbar Creek. Drivers are instructed to “drive to suit conditions”.

Howards Road is a local road providing access to a smaller number of rural properties, connecting with Cudgera Creek Road 500m north of Tweed Valley Way



■ Figure 5-8 Site Location and Local Road Network





■ **Figure 5-9 Tweed Valley Way / Cudgera Creek Road Intersection**



Intersection Operation

A peak-period traffic count at the intersection of Tweed Valley Way and Cudgera Creek Road was undertaken on Wednesday 18 July 2007, from 7-10am and 3-6pm. Intersection operation is assessed with reference to **Table 5-19**, which indicates the Level of Service resulting from the average delay experienced by vehicles at the intersection. For sign controlled intersections, the Level of Service is determined by the average delay on the worst-performing movement at the intersection. In both peak periods, the Tweed Valley Way/Cudgera Creek Road intersection is operating at Level of Service A, with the greatest delay on the right turn out of Cudgera Creek Road (average of 6 seconds per vehicle).



- **Figure 5-10 Sight Distance to the Left from Quarry Exit**



Intersection Operation

As reported in **Section 0**, the intersection of Tweed Valley Way and Cudgera Creek Road is currently operating at Level of Service A in both the morning and afternoon peak periods. The impact of quarry traffic on intersection operation was assessed by adding the expected traffic volumes to the existing traffic.

Two scenarios have been assessed. At any one time, it is expected that quarry output would be transported along Tweed Valley Way to either the north or the south. The impacts on intersection operation would be different in each situation. A peak hourly volume of trucks was assumed to be 10% of the total daily volume. This equated to 10 truck trips in and 10 truck trips out in an hour. In both north and south scenarios, Level of Service did not change from the existing Level of Service A.

Despite the satisfactory Level of Service, the presence of slow-moving trucks turning into and out of the main traffic stream on Tweed Valley Way may cause a hazard due to the absence of acceleration lanes. Provision of acceleration and deceleration lanes for right turn movements in particular is unlikely to be a cost-effective treatment, given the relatively low volume of traffic that



would use Cudgera Creek Road. However the installation of advisory signage on the Tweed Valley Way approaches to the intersection could warn drivers of the potential for truck activity. Like the advisory signage installed on Cudgera Creek Road approaches to the quarry (recommended by the TSC road safety audit) these could be closed when material is not being transported from the quarry, ensuring the signs remain relevant.

Road Safety

The Tweed Shire Council road safety audit (see **Appendix A**) raised a number of safety issues associated with Cudgera Creek Road, particularly in regard to the operation of the quarry. All but one of the recommendations of that audit would be implemented, as they would reduce the impact of the quarry operations and improve safety for all road users. The implementation of a reduced speed limit of 60km/h for trucks is unlikely to be effective, as higher speeds would be difficult to achieve due to the narrow, winding and hilly nature of the road. The current instruction to “drive to suit conditions” is considered appropriate.

An additional safety hazard was observed by the SKM study team. South of the quarry entrance, Cudgera Creek Road has a road formation that is approximately 6m wide, and winds down the hill towards Howards Road. As shown in **Figure 5-11**, there is a steep drop away from the edge of the road formation. This poses a hazard for vehicles that may veer towards the side of the road, perhaps to allow a car to pass in the opposing direction, or due to a heavy load and the down-grade affecting steering. Improved delineation of the road formation, through linemarking or additional guideposts, would reduce the likelihood of an accident. Some form of safety barrier adjacent to the road could also be considered.



■ Figure 5-11 Steep drop off side of Cudgera Creek Road south of quarry entrance



5.8.3. Conclusion

The expansion of operations at the Burringbar Quarry is likely to generate additional traffic in the form of trucks used to transport material from the site. Up to 100 trucks per day could be expected on a busy day, although it should be noted that truck activity would not be continuous and would occur for up to 9 weeks per year. Average volumes during those 9 weeks would be around 50 trucks per day.

There would be a minimal impact of truck activity on operation of the Tweed Valley Way / Cudgera Creek Road intersection, although the installation of advisory signs on the Tweed Valley Way approaches to the intersection would improve safety by warning drivers of the likelihood of trucks turning. Pruning of vegetation at the quarry access is also required to improve sight distances to oncoming traffic.