

CAPRICORN MUNICIPAL DEVELOPMENT GUIDELINES

DRIVEWAYS

D15

DESIGN GUIDELINES

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Keeping the Capricorn Municipal Development Guidelines up-to-date

The Capricorn Municipal Development Guidelines are living documents which reflect progress of municipal works in the Capricorn Region. To maintain a high level of currency that reflects the current municipal environment, all guidelines are periodically reviewed with new editions published and the possibility of some editions to be removed. Between the publishing of these editions, amendments may be issued. It is important that readers assure themselves they are using the current guideline, which should include any amendments which may have been published since the guideline was printed. A guideline will be deemed current at the date of development approval for construction works.

GENERAL

D15.01. SCOPE

D15.01.01. This document provides design requirements for residential, commercial and industrial driveways in rural areas where developments are expected to generate vehicular traffic movements during hours of darkness, self-illuminated and/or reflectorised signs and pavement marking complying with current state or national standards are to be provided.

D15.01.02. The following order of priority for interpretation of documents will apply: (Please note that reference to a Guideline or Standard, is reference to the latest version of the relevant document, unless specifically a version number is specifically stated)

***Order of
Priority***

- 1) CMDG Design and Construction Specifications
- 2) CMDG Standard Drawings
- 3) AUSTRROADS Publications
- 4) Design Guidelines for Subdivisional Streetworks, 1995 - 'Queensland Streets'.
- 5) Department of Transport and Main Roads publications
- 6) Queensland Development Code
- 7) Australian Standards

D15.02. AIMS

D15.02.01. The provision of property accesses designed to achieve the following aims:

- Provide convenient and safe access to all allotments for pedestrians, vehicles and cyclists.
- Provide a quality product that minimises maintenance costs.
- Provide a convenient way for public utilities.
- Provide an opportunity for street landscaping.
- Provide convenient parking for visitors.

D15.03. REFERENCE AND SOURCE DOCUMENTS

Australian Standards

AS 1158	-	Lighting for roads and public spaces
AS 1428	-	Design for Access and Mobility
AS 2890.1 to 6		Parking facilities
AS/NZS 3845		Road Safety Barrier Systems

QLD State Authorities

- Department of Local Government and Planning
- Queensland Residential Design Guidelines, 1998
- Queensland Transport Publications
- Public Transport Infrastructure Manual, June 2015 (PTIM)
- Department of Infrastructure, Local Government and Planning

Fact Sheet: Local government infrastructure framework

AUSTROADS

- Guide to Road Design
- Guide to Road Safety
- Guide to Traffic Management

Other

- The Institute of Public Works Engineering Australasia, QLD Division.
- Design Guidelines for Subdivisional Streetworks, 1995 -'Queensland Streets'.

D15.04. DEFINITIONS

- | | | |
|------------|---|---------------------------------------|
| D15.04.01. | Major Road Frontage is the property frontage adjacent to the higher hierarchy road. The road hierarchy is to be determined using <i>D1 GEOMETRIC ROAD DESIGN</i> . | <i>Major Road</i> |
| D15.04.02. | Minor Road Frontage is the property frontage adjacent to the lower hierarchy road. The road hierarchy is to be determined using <i>D1 GEOMETRIC ROAD DESIGN</i> . | <i>Minor Road</i> |
| D15.04.03. | Low Parking Turnover examples are employee carparking areas at industrial and commercial premises and public carparking areas such as central city parking and sporting venues. | <i>Low Parking Turnover</i> |
| D15.04.04. | Medium Parking Turnover examples are suburban shops and medical centres, visitor parking at commercial, industrial and residential premises and tenant carparking areas in residential buildings. | <i>Medium Parking Turnover</i> |
| D15.04.05. | High Parking Turnover examples are small public carparking areas (duration of stay 30 minutes or less) particularly shopping centres up to 1,000m ² GFA, drop-off areas, fast food stores etc. Parking spaces reserved for people with disabilities. | <i>High Parking Turnover</i> |

D15.05. RESIDENTIAL DRIVEWAYS

- D15.05.01. Refers to residential properties with up to two (2) dwelling units, from travel lane of the road to property boundary at the road frontage within the region. It does not override development conditions imposed for a particular development. ***Residential Driveways***
- D15.05.02. Multiple dwellings (i.e. units/townhouses etc.) shall be designed in accordance with Commercial/Industrial driveway standards.
- D15.05.03. Driveways must be wholly located on the frontage of the allotment serviced with a minimum side boundary clearance of two metres, where practical. ***Residential Driveway Constraints***
- D15.05.04. The number and size of crossing to any lot shall not exceed the following:
- Where the frontage of the lot is ten (10) meters or less, one crossing only having maximum width of three (3) metres.
 - Where the frontage of the lot exceeds ten (10) meters but is less than thirty (30) metres, one crossing only having a maximum width of six (6) metres.
 - Where the lot frontage exceeds thirty (30) metre in urban areas one additional crossing having a maximum width of three (3) metres.
 - Where the lot has more than one frontage, each frontage may be assessed separately.
- D15.05.05. Multiple crossings shall be separated by a clear space of not less than six (6) metres, at the face of the kerb.
- D15.05.06. Wherever practicable, the siting of a crossing in relation to other crossings to the lot, or to neighbouring lots, shall be such as to preserve the maximum amount of kerbside parking space.
- D15.05.07. Where the proposed access site is on a corner lot, no crossing shall be situated closer than twenty (20) metres from the corner transition point (TP) at the "kerb face line" of the alternate frontage, a greater distance may need to be determined by Local Government.
- D15.05.08. Driveways must not be located within twenty (20) metres of an intersection or roundabout unless otherwise approved by Local Government.
- D15.05.09. No crossing shall be approved unless there exists a clear space of not less than six metres within the property boundary on which a vehicle may park.
- D15.05.10. All crossings shall be set square to the kerb line and directly opposite the point of entry at the property boundary unless otherwise approved.
- D15.05.11. Constraints such as power poles and guard rails must be examined before siting the driveway.
- D15.05.12. The driveway must be constructed to the following setbacks:
- 600mm clear of any stormwater pit
 - 500mm from street signs
 - 1m clear of power poles or light poles
 - 2.5m clear of public transport infrastructure
 - 1m clear of street trees or its canopy

- D15.05.13. Hydrants shall not be located within driveways.
- D15.05.14. Access restriction strips (encroachment), easements, reserve or "limited access" declarations must also be researched as these may prevent the placement of the driveway in the intended location.
- D15.05.15. All driveways must have sufficient sight distance for the vehicles entering and exiting the property. In some special cases such as busy roads or main roads, works may need to be undertaken within the property to allow a vehicle to turn within the property and leave the property in a forward direction.
- D15.05.16. For residential driveway design considerations, refer to *D15.08 DRIVEWAY DESIGN CONSIDERATIONS*. **Design Considerations**
- D15.05.17. Driveways for single dwelling units or duplex developments must be constructed in accordance with CMDG Standard Drawings. Rutting presents an unacceptable pedestrian risk and therefore is not allowed on the footpath. **Residential Driveway Design**
- D15.05.18. The minimum width for a straight driveway for a car is 2.7 metres, however, 3 metres is preferred.
- D15.05.19. Isolation joints must be provided where a pavement adjoins a building or other rigid structure such as drainage pit. Isolation joints must allow freedom of movement between the slab and the structure and resist the entrance of foreign matter. **Isolation Joints**
- D15.05.20. When constructing a driveway, the kerb and channel shall be cut down in accordance with CMDG Standard Drawings with a diamond saw.
- D15.05.21. The kerb can be cut down between 50mm and 100mm. The outline of the driveway shall be cut by a professional concrete cutter with a diamond saw.
- D15.05.22. The Local Government will reject an uncut kerb broken out by other means e.g. sledge hammer, and may replace the damaged kerb and channel at the expense of the property owner.
- D15.05.23. The level of the top of the kerb before removal must be achieved within one metre of the driveway to maintain flow of stormwater and avoid potential property flooding.
- D15.05.24. Kerbs, ropes, edging etc. must not be placed on the side of a driveway or footpath as they present a tripping hazard.
- D15.05.25. Existing services must be accurately located (potholed) within the footpath and, based on this, long sections and cross sections of the proposed driveway must be submitted to the Local Government with required offsets to services and the proposed pedestrian footpath. The submitted documentation must demonstrate compliance with relevant CMDG Standard Drawings as part of the application for the construction of the driveway. **Service Location**
- D15.05.26. If the CMDG Standard Drawings are not complied with, then the applicant must submit an alternate plan including a long section and cross section of the driveway showing distances and heights with respect to the top of the kerb and required offsets to services (where services exist in the footpath) to the Local Government for approval. The driveway design shall be submitted for approval prior to the issue of a building approval over the site. Where an alternate design differs from CMDG Standards, the alternate design will require signoff by a Registered Professional Engineer

Queensland (RPEQ) and all associated costs are to be borne by the applicant. The design must demonstrate unrestricted ingress and egress of a standard loaded passenger vehicle.

- D15.05.27. For new residential driveway accesses, the applicant may be required by the Local Government to apply for a permit for the access to be constructed on the road reserve as a part of their local laws. In such permit, the developer shall nominate the service vehicles expected to utilise the access. As such the access shall be approved for that type of vehicle only.

***Residential
Driveway
Approval***

D15.06. COMMERCIAL / INDUSTRIAL DRIVEWAYS

- D15.06.01. Refers to driveways for industrial and commercial properties from travel lane of the road to property boundary at the road frontage within the Local Government area.

Commercial / Industrial Driveways
- D15.06.02. Driveways must be wholly located on the frontage of the allotment serviced with a minimum side boundary clearance of two metres, where practical.
- D15.06.03. Driveways must not be located within 20 metres from the centre point of an intersection or roundabout unless otherwise approved by the Local Government.

Constraints
- D15.06.04. Constraints such as power poles and guard rails must be examined before siting the driveway.
- D15.06.05. In Commercial Areas, tactiles are to be installed on the footpath at the driveway line to assist vision-impaired pedestrians, and must comply with the Disability Discrimination Act (DDA).
- D15.06.06. For commercial or industrial driveways, the desirable maximum driveway grade after the footpath is 10% (1 Vertical in 10 Horizontal).
- D15.06.07. Access restriction strips (encroachment), easements, reserves, or "limited access" declarations must also be researched as these may prevent the placement of the driveway in the intended location.
- D15.06.08. The construction of the driveway must be completed and safe within 10 days of commencing excavation, including back fill to the side of the driveway.
- D15.06.09. For commercial and industrial driveway design considerations refer to *D15.08 DRIVEWAY DESIGN CONSIDERATIONS*.

Design Considerations
- D15.06.10. All driveways must have sufficient sight distance for the vehicles entering and exiting the property. In some special cases such as busy roads or main roads, works may need to be undertaken within the property to allow a vehicle to turn within the property and leave the property in a forward direction.
- D15.06.11. For the purpose of the determining the number, size and disposition of crossings, a number of adjoining lots in the one ownership (whether amalgamated or not) and used for a single purpose shall be regarded as being a single lot.
- D15.06.12. The configuration of the driveway is to satisfy the basic traffic design criteria for all intersections with regard to driver behaviour, safety of pedestrians and vehicle characteristics.

Commercial / Industrial Driveway Design
- D15.06.13. The number of driveways accessing a particular site is to be kept to the minimum necessary to allow satisfactory traffic operation for the site.
- D15.06.14. Generally, only a single access point (entrance/exit) will be approved for any particular development. However, this may be relaxed where it can be demonstrated that safety and traffic operation on the road are not compromised, or where pedestrian safety can be improved by such a design.

- D15.06.15. All developments are to provide internal traffic circulation to avoid use of the public road system for movements between car parking and / or servicing areas of a site.
- D15.06.16. Developments with driveway/s via signalised intersections or roundabouts may need to dedicate land as public roadway to ensure lawful priority of traffic movements under current Queensland traffic law.
- D15.06.17. Access to developments is preferred via minor roads rather than major roads, provided the traffic generated by the development will not compromise the amenity of that road. In some cases, improvement works may be required in the minor road/s to alleviate possible detrimental impacts to that road.
- D15.06.18. For new commercial or industrial accesses, the applicant is required by Local Government to apply for a permit for the access to be constructed on the road reserve as a part of their local laws. In such permit, the developer shall nominate the service vehicles expected to utilise the access. As such the access shall be approved for that type of vehicle only
- D15.06.19. The driveway must be wide enough to accommodate the swept path of the nominated vehicle so as to prevent rutting over the driveway edges. To check this, drive the largest vehicle expected to enter and exit the property over the area where the driveway is intended and allow 0.3 to 0.6 metres either side of the wheel path.
- D15.06.20. The type and width of driveway appropriate for a development depends on:
- volume of traffic generated at that driveway by the development
 - type of road to which access is sought
 - existing and predicted future traffic volumes of the road to which access is sought
 - number of car parking spaces served by the driveway
 - size and type of the largest vehicle likely to use the driveway on a regular basis (usually a service vehicle)
 - number of service bays served by the driveway.
- D15.06.21. Driveways are to be constructed in accordance CMDG Standard Drawings.
- D15.06.22. For roads under the control of the Department of Transport and Main Roads (DTMR), its separate design requirements will be determined by DTMR

**Commercial /
Industrial
Driveway
Types**

D15.07. DRIVEWAY SELECTION

D15.07.01. This section is applicable to the Local Governments as set out in the following table:

Table D15.07.1 Applicability Table for section D15.07 Driveway Selection

Local Government	Is D15.07 Driveway Selection Applicable?
Banana Shire	No
Central Highlands Regional	No
Gladstone Regional	Yes
Isaac Regional	No
Livingstone Shire	No
Maranoa Regional	No
Rockhampton Regional	No

D15.07.02. A driveway type should be selected according to its function with regard to car parking or service vehicle requirements, or both.

D15.07.03. Determine driveway function and select driveway type from relevant table:

- Cars only, Table D15.07.02
- Service vehicles only, Table D15.07.03
- i. Where a driveway provides access for both cars and service vehicles, the driveway shall be selected for the largest vehicle type.
- ii. For developments that generate large volumes of traffic, and where the use of a standard driveway would cause unacceptable delays or hazard to traffic, a fully channelised intersection may be required.
- iii. To ensure adequate visibility between vehicles on a driveway and pedestrians on the footpath, sight splays are to be provided at the property boundary, where the driveway leaves between two obstructions

D15.07.04. For a parking area that has multiple points of access, each driveway is to be designed on the basis of the number of spaces effectively served by that driveway. The driveway type should then be selected from Table D15.07.02

Table D15.07.02 – Driveway selection for cars only

Turnover rate of car parking area ¹	Type of frontage road	Type of driveway for the number of spaces in car parking area			
		1-25	26-250	251-500	Over 500 ²
Low/Med	Minor	A ³	B2	C1	C3
Low/Med	Major	B1 (6m)	C1	C2	C3
High	Minor	B1 (7m)	C1	C2	C3
High	Major	B2 (7m)	C2	C3	C3

Notes:

- 1) Low to medium parking turnover rates are likely to be generated by residential, industrial and commercial developments. High parking turnover rates are likely to be generated by entertainment, transport, retail and fast food developments.
- 2) Car parking areas containing over 500 spaces or generating more than 1,000vpd are to be assessed for the need of an appropriately designed channelised access intersection.
- 3) On minor roads, residential (Type A) driveways less than 6m wide are acceptable for streetscape enhancement, provide normal manoeuvring and queuing requirements are satisfied.

- D15.07.05. Driveway types for service vehicles are determined according to the turning path requirements of the relevant design vehicle. The appropriate driveway is selected from Table D15.04.02.
- D15.07.06. Where the volume of traffic generated by a development contains a substantial proportion of service vehicles and exceeds 500vpd, then a channelised access intersection may be required in place of a standard driveway.
- D15.07.07. Where traffic is required to be restricted to left in/out movements only, a Type 2 driveway with centre island is to be used. Refer to the CMDG Standard drawings for details.
- D15.07.08. For entry or exit only driveways, the relevant half of a Type C driveway is to be used.

Driveways for Service Vehicles

Table D15.07.03 – Driveway selection for service or other large vehicles

Frontage Road Type	Minor Road	Major Road <100vpd	Major Road
Nominated design vehicle ¹	Driveway Type		Driveway Type
Car and Trailer	A (6m)		C1
Service Vehicle (8.8m)	B2 (7m)		C2
Single unit truck (12.5m)	B2 (7m)		C2
Refuse Collection Vehicle	B2 (7m)		C2
Bus	B2 (9m)		C4
Prime Mover	B2 (9m)		C4
B - Double	B2 (9m)		C4

Notes:

- 1) *Where semi-trailers, B-doubles or coaches are to negotiate the driveway and internal roads, a plan showing the swept and wheel paths of the vehicle is required to be submitted to Local Government to demonstrate how the vehicle will practically access the property. Accesses for such vehicles require forward only manoeuvre for entry and exit of the property.*

- D15.07.09. For new commercial or industrial accesses, the applicant may be required by the Local Government to apply for a permit for the access to be constructed on the road reserve as a part of their local laws. In such permit, the developer shall nominate the service vehicles expected to utilise the access. As such the access shall be approved for that type of vehicle only

Commercial / Industrial Driveway Approval

D15.08. DRIVEWAY DESIGN CONSIDERATIONS

- D15.08.01. Reference should be made to *D15.09 URBAN DRIVEWAYS – BATTLE-AXE LOTS AND SHARED DRIVEWAY ARRANGEMENTS* when considering the use of battle axe and / or shared driveway arrangements for property access.
- D15.08.02. The slopes and levels along the residential driveway shall be designed to allow a vehicle with full passenger load to enter the property without scraping the middle or ends of the passenger vehicle (car). Transitions must be provided between changes in vertical grades to ensure loaded vehicles clear the driveway.
- D15.08.03. The slopes and levels along the commercial or industrial driveway shall be designed to allow the largest vehicle likely to use the driveway with full load to enter the property without scraping the middle or ends of the vehicle. Transitions must be provided between changes in vertical grades to ensure loaded vehicles clear the driveway.
- D15.08.04. Although the owner of the property may own a high clearance vehicle, the driveway shall be designed to suit a standard passenger vehicle so that visitors are able to traverse the driveway.
- D15.08.05. The driveway grade within the footpath section will not exceed 2.5%.
- D15.08.06. For residential driveways, the grade across the road verge must match existing footpath levels. The desirable maximum driveway grade within private property is 16% (approx. 1 Vertical in 6 Horizontal). Driveways with grades steeper than 16% should be constructed suitable for the traction of the appropriate two-wheel drive to traverse the driveway in wet weather. The maximum grade for residential is 20% (1 Vertical in 5 Horizontal). A grade of 25% may be approved by Local Government in exceptional circumstances, however the Local Government is not responsible for the driveway and any access difficulties that may exist when desirable grades are exceeded.
- D15.08.07. Driveways and surrounding ground must be maintained such that any tripping hazards are minimised. The driveway must be built and maintained to the following tolerances:

Driveway Levels and Slopes

Table D15.08.01 – Urban Driveway Tolerances

Type of Adjacent Grounds	Maximum height difference between driveway and adjacent ground	Maximum grade adjacent to driveway
Hard surfaces (concrete, pavers, gravels)	10mm for new installation	1V in 8H (12.5%)
Soft natural surfaces (grass, loose soil)	25mm for new installation	1V in 8H (12.5%)

- D15.08.08. The driveway must meet the relevant AUSTRROADS' Guidelines in terms of skid resistance. Accordingly, broom finished concrete or segmental pavers provide a good textured finish is accepted for residential driveways. Sealed or asphalt surface for residential driveways in urban areas will not be accepted.
- D15.08.09. Loose surfaces will not be permitted in urban areas due to the fact that the material can be washed onto footpath and gutters or stormwater drains and tracked onto the road causing a hazard and polluting water ways.

Surface Treatments

- D15.08.10. Uneven surfaces such as stamped concrete must be avoided as they can create a tripping hazard.
- D15.08.11. Slick coatings or finishes with low skid resistance in wet weather must be avoided. This may include; rounded pebbles in exposed aggregate driveways, silicon sealant paint and glossy or ceramic tiles.
- D15.08.12. If an existing footpath location and height conflicts with the driveway design standards, additional footpath may need to be removed and then reconstructed to enable an acceptable transition to the newly built driveway.
- D15.08.13. If the existing footpath within the road verge is required to be removed, cutting of the footpath is to be undertaken using a Diamond Blade saw and the footpath removed to enable the proposed driveway to be constructed. **Existing Footpaths**
- D15.08.14. The rebuilt footpath transition is to be constructed with the Specification for *CYCLEWAY AND PATHWAY DESIGN D9*.
- D15.08.15. Expansion joints are to be provided at the intersecting points where the driveway adjoins the footpath.
- D15.08.16. Council and other utility providers are likely to have service pipes and cables under the footpath where the driveway will be placed. Accordingly, the driveway constructor must undertake 'Dial Before You Dig' and locate the existing services in the road reserve well in advance of driveway construction. **Services and Markers**
- D15.08.17. Any alteration deemed necessary to services including but not limited to water, sewer, gas, electricity, telecommunication, stormwater system and other services to facilitate the driveway construction is to be coordinated by the applicant/contractor with the relevant authority for their requirement and approval. All associated costs will be borne by the applicant/property owner.
- D15.08.18. Utility providers may have constructed access points such as surface or subsurface pits, valves or connections which, if covered by concrete or other material during construction of a driveway, may prevent future access for maintenance work. Accordingly, the driveway must be located to avoid construction over these points.
- D15.08.19. Whilst the kerb is cut during the construction of a driveway, the contractor must be aware of the possibility of service indicator (brass disk) markers on the kerb. These markers may designate a conduit or location of a fire hydrant (painted). If these markers are to be removed Council must be contacted to relocate the markers before they are removed.
- D15.08.20. During the construction of a driveway, the constructor must be aware of the possibility of service indicators (posts/star pickets) including survey markers. These markers may designate a service location, conduit, pit or survey reference. If these markers are to be removed the relevant service provider/authority must be contacted to relocate the markers before they are removed. All associated costs will be borne by the applicant/property owner.
- D15.08.21. All traffic/parking control signs and pavement markings are to conform to the requirements of the current Manual of Uniform Traffic Control Devices (MUTCD).
- D15.08.22. Direction, regulatory, warning and information signs and pavement markings are to be erected on site to control traffic movements and driver behaviour and to warn of any potential safety hazards. Signage also includes pavement markings.

D15.08.23. Signs are to be provided on site to clearly indicate the existence and location of access points to car parking areas; where parking areas are located at the rear of a development, where access to the car parking area is not from the main frontage road, where visitor parking is provided for multi-unit residential developments and is not visible from the frontage road or access driveway and where ingress/egress is via one-way driveways.

***Signs and
Pavement
Markings***

- Where developments are expected to generate vehicular traffic movements during hours of darkness, self - illuminated and/or reflectorised signs and pavement marking complying with current state or national standards are to be provided.
- All signs and pavement markings are to be maintained and replaced such that they retain their function and remain in accordance with state or national standards and rules.

D15.09. BATTLE-AXE LOTS AND SHARED DRIVEWAY ARRANGEMENTS

D15.09.01. Table D15.09.01 indicates specific requirements for battle-axe lots

Table D15.09.1 - Vehicle Access for Battle-axe Lots – Urban

Local Government	1 Lot Access	Double Lot Access	Multiple Dwelling
Banana Shire	5m Lane Width 2.5m Sealed Carriageway	6m Lane Width 4m Sealed Carriageway	5.5m wide access 100mm thick reinforced concrete driveway
Central Highlands Regional	5m Lane Width 3m Sealed Carriageway	5m Lane Width 4m Sealed Carriageway	8m lane Width 6m Sealed Carriageway
Gladstone Regional	5m Access Handle Width, 3m Sealed Carriageway	Prohibited Refer note e)	5.5m Sealed Carriageway OR Applicable Commercial Driveway for Nominated Design Vehicle (Whichever is larger)
Isaac Regional	5m Lane Width 3m Sealed Carriageway	6m Lane Width 4m Sealed Carriageway	5.5m wide access 100mm thick reinforced concrete driveway
Livingstone Shire	5m Lane Width 3m Sealed Carriageway	6m Lane Width 4m Sealed Carriageway	5.5m wide access 100mm thick reinforced concrete driveway
Maranoa Regional	5m Lane Width 3m Sealed Carriageway	6m Lane Width 4m Sealed Carriageway	N/A
Rockhampton Regional	5m Lane Width 3m Sealed Carriageway	Prohibited Refer note e)	7.5m lane width, 5.5 wide access, and 125mm thick reinforced concrete driveway

Note:

- a) *Planning scheme requirements will override these requirements where such policies exist.*
- b) *All dimensions are desirable minimum requirements.*
- c) *Multiple dwelling access requirements to be considered on application.*
- d) *All lots are provided with a frontage that can wholly accommodate the relevant driveway without extending in front of another lot*
- e) *Prohibited Double Lot Access - The Local Government does not allow multiple lots (2 or more) to utilise a single driveway, whether the shared driveway is proposed to be located within a battle-axe handle or not. Whilst Council acknowledges that there are existing arrangements where multiple lots share a single driveway, no additional lots will be permitted to gain access to these existing shared driveway arrangements. Reconfiguration of existing lots will encourage alternate access arrangements to be explored that do not include the use of an existing or proposed shared access*

D15.10. URBAN DRIVEWAYS – RACING LINE ASSESSMENT

D15.10.01. Table D15.10.01 indicates the applicability of the racing line assessments to various Local Governments.

Table D15.10.01 Racing Line Assessment Applicability

Local Government	Is section 15.10 Racing Line assessment applicable?
Banana Shire	TBA
Central Highlands Regional	TBA
Gladstone Regional	Yes
Isaac Regional	TBA
Livingstone Shire	No
Maranoa Regional	TBA
Rockhampton Regional	No

D15.10.02. The purpose of a Racing Line Assessment is to determine a safe driveway location based the Stopping Sight Distance (SSD) for a vehicle that takes the racing line when manoeuvring around a bend

Definitions:

Definitions

Small Radius Bends means any bend in Council's road network that has a design speed less than that identified for the road classification as per Council's road Hierarchy Policy.

Council's road network means any existing or future proposed road that is controlled by Council.

Racing Line means the path a vehicle takes when manoeuvring around a bend; it starts in the outside lane, crosses to the inside lane at the apex of the bend, and then back to the outside lane when exiting the bend.

Racing Line Assessment means assessment of the Safe Stopping Distance (SSD) as per AUSTRROADS based on the Racing Line speed.

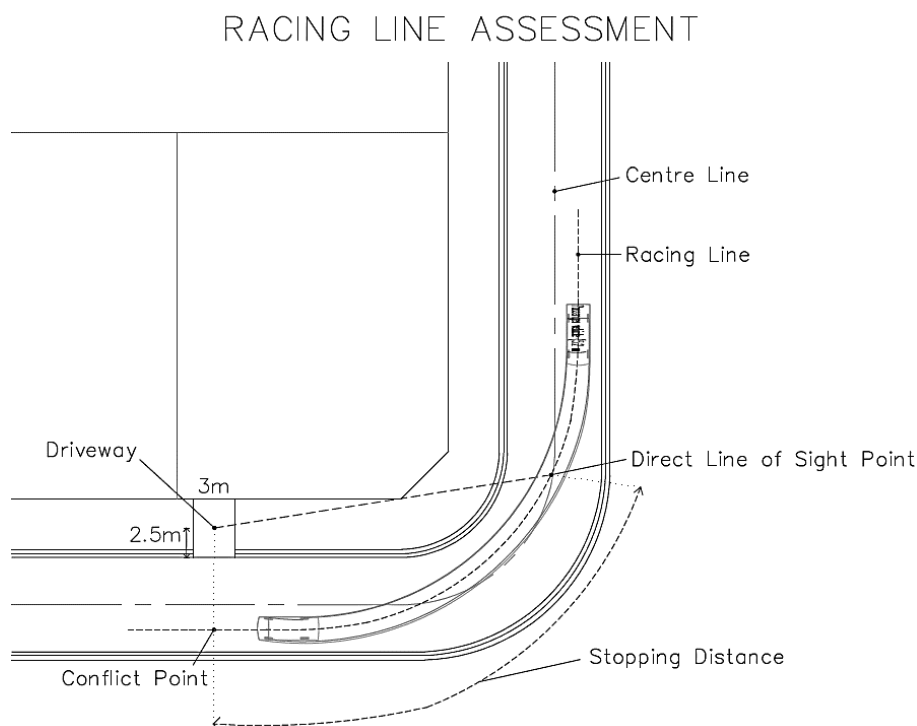
D15.10.03. For each small radius bend, the following is to be determined and shown on a drawing:

Racing Line Assessment

- a) The alignment of the Racing Line. The racing line is based on the middle point of a B99 vehicle and any required widening of the bend in accordance with Queensland Streets Section 2.10;
- b) Radius of the racing line;
- c) Design Speed based on the radius of the racing line as per Austroads, Guide to Road Design, Part 3, Section 7.4.1, Horizontal Curve Equation, where $E+F = 0.35$;
- d) Safe Stopping Distance for design speed as per Austroads, Guide to Road Design, Part 3, Section 5.3, SSD equation where $V = \text{Design Speed}$, 1.5s reaction time, and $d = 0.36$;
- e) 'Direct Line of Sight Point' on the racing line where the driver has a direct line of sight to the middle of the driveway (2.5m from the curb at 1.15m height);
- f) 'Conflict Point' of vehicle exiting the driveway and the vehicle on the racing line; and,
- g) Distance along the racing line between the 'Direct Line of Sight Point' and the 'Conflict Point'

- D15.10.04. Driveway has adequate sight distance if the distance along the racing line between the 'Direct Line of Sight Point' and the 'Conflict Point' is less than the Stopping Sight Distance (SSD) required for the Design Speed of the Racing Line. See Figure D15.10.01 for an example of a Racing Line Assessment.

Figure D15.10.01 Example of Direct Line of Sight Assessment



- D15.10.05. Other alternatives, where the layout of allotment prohibits the driveway being located appropriately a number of options exist:

D15.10.06. Apr Raised concrete medians need to be designed to:

- i. Not provide an obstacle to waste collection vehicles (widened road and swept paths required),
- ii. Address the articulated vehicles that will need to access the area as part of house construction (to deliver house frames, etcetera), and,
- iii. To ensure the driveways on the outside of the curve will have appropriate access.

- D15.10.07. Council is not in favour of creating allotments that require driveways located opposite intersections (i.e. on kerb section Y-Y on Figure 3.1 AS2890.1) in greenfield sites.

D15.11. RURAL AND RURAL RESIDENTIAL PROPERTY ACCESS

- D15.11.01. This applies to a driveway access to rural or other land uses where there is no kerb and channel along the frontage of the property. This excludes industrial or commercial uses unless referenced from another standard. It does not override development conditions imposed for a particular development. **Rural Residential Driveways**
- D15.11.02. If a developer chooses to use kerb and channel along the frontage of the properties within rural residential developments, driveways are required to comply with *15.05 RESIDENTIAL DRIVEWAYS*.
- D15.11.03. All driveways must be wholly located on the frontage of the allotment serviced with a minimum side boundary clearance of two (2) metres, where practical. **Driveway Constraints**
- D15.11.04. Rural residential area accesses will have one access per lot other than in the case of corner lots where an access on the second frontage may be permitted. Any additional accesses on any one lot will be at the discretion of the Local Government.
- D15.11.05. Driveways must not be located within 20 metres from the centre point of an intersection or roundabout unless otherwise approved by the Local Government.
- D15.11.06. Constraints such as power poles and guard rails must be examined before siting the driveway. Access restriction strips, easements, reserves or "limited access" declarations must also be researched as these may prevent the placement of the driveway in the intended location.
- D15.11.07. All driveways must have sufficient sight distance for the vehicles entering and exiting the property. In some special cases such as busy roads or main roads, works may need to be undertaken within the property to allow a vehicle to turn within the property and leave the property in a forward direction.
- D15.11.08. Accesses to rural allotments must be constructed in accordance with CMDG Standard Drawings. The driveway must be located such that the sight distance requirements from the CMDG Standard Drawings are satisfied using the visibility triangle (Sight Line). **Driveway Design**
- D15.11.09. If CMDG Standard Drawings are not being used, then the applicant must submit an alternate plan including a long section and cross section showing distances and heights with respect to the required offsets to services (where services exist in the footpath) to the Local Government for approval. The driveway design shall be submitted for approval prior to the issue of a building approval over the site. Where the alternate design differs significantly from CMDG Standard Drawings, the alternate design will require signoff by a Registered Professional Engineer of Queensland (RPEQ) and all associated costs are to be borne by the applicant. The design must demonstrate unrestricted ingress and egress of a standard loaded passenger vehicle.
- D15.11.10. The driveway must be constructed wide enough to accommodate the swept path of the largest vehicle to likely use the driveway, so as to prevent rutting over the driveway edges or drop off over pipe.
- D15.11.11. Where access is required across a road side drain, in most instances, a pre-cast reinforced concrete pipe must be installed including sloping pre-cast **Drainage Considerations**

headwalls at each end. This work must be carried out by a civil contractor with the relevant experience and equipment.

- D15.11.12. The size of the pipe to be installed depends on the shape of the drain and the size of the catchment and stormwater flow in the drain. In some instances, multiple pipes or box culverts may be required to take the stormwater flow in the table drain. An RPEQ approved pipe design is to be submitted to the Local Government for consideration.
- D15.11.13. The minimum size pipe shall be a 375mm diameter reinforced concrete "Class 3" pipe with a minimum cover of 300mm. However, a Class 2 pipe may be approved should 450mm cover be achieved. Pipe joins are to be externally wrapped prior to backfill with an approved product.
- D15.11.14. The pipe may be placed towards the property if suitable to shorten the length of the pipe required; provided that the road side drain is relocated properly with all associated costs to be borne by the applicant and utility services are not interfered with.
- D15.11.15. Stormwater pipes must not be located over water mains, sewers, or any other services, and should avoid alignments for such services in areas capable of being serviced by these services. The provision of sloping headwalls is preferred to avoid affecting other services.
- D15.11.16. When the table drain has inadequate depth and it is impractical to fit a pipe even after re-grading works, "Flat Terrain Crossing" (a concrete floodway) is to be provided through the table drain. The floodway must be constructed in accordance with CMDG Standard Drawings.
- D15.11.17. The shape of the floodway must be such that a Council grader is able to traverse it during maintenance operations. Advice must be sought from the Local Government regarding the level of the slab with respect to the table drain before construction.
- D15.11.18. Guide posts shall be placed at either end of the pipe or slab to denote the location of the driveway and warn traffic of a possible hazard.
- D15.11.19. Consideration must be given to avoid flooding of adjoining lands by the construction of the driveway, either by diverting or backing up the water in the road reserve.
- D15.11.20. The driveway must not force water out on to the travel lane of the road. Thus, the surface of the driveway must not be higher than the shoulder of the road.
- D15.11.21. Topsoil, including any vegetation matter, must be removed from the ground where the driveway is to be formed, and where applicable, replaced with suitable gravel materials mentioned in the drawing.
- D15.11.22. The quality and compaction of the gravel driveway must be such that the surface is compacted tight with adequate strength for heavy vehicle use. Without undertaking laboratory testing, the following are basic indications of adequate gravel driveway construction;
- The gravel cannot be kicked out with the heel of a shoe
 - A car or truck must not indent the surface of the gravel
 - The ground under the gravel is not spongy or showing sign of movement when a vehicle drives over it

- D15.11.23. The slopes and levels along the driveway shall be designed to allow a vehicle with full passenger load to enter the property without scraping the middle or ends of the vehicle. Transitions must be provided between changes in vertical grades to ensure loaded vehicles clear the driveway. **Driveway Levels and Slopes**
- D15.11.24. Although the owner of the property may own a high clearance vehicle, the driveway shall be designed to suit a standard passenger vehicle so that visitors are able to traverse the driveway.
- D15.11.25. The driveway surface is to be non-slip and suitable for the type of traffic that will use the facility. A gravel driveway surface will not be permitted if the adjoining road is bitumen or asphalt surface. The driveway surface is to be constructed to be similar to the existing road surface unless otherwise approved. **Surface Treatments**
- D15.11.26. If an existing footpath location and height conflicts with the driveway design standards, the additional footpath may need to be removed and then reconstructed to enable an acceptable transition to the newly built driveway. **Existing Footpaths**
- D15.11.27. If the existing footpath within the road verge is required to be removed, cutting of the footpath is to be undertaken using a Diamond Blade saw and the footpath removed to enable the proposed driveway to be constructed.
- D15.11.28. The rebuilt footpath transition is to be constructed with the Specification for *CYCLEWAY AND PATHWAY DESIGN D9*.
- D15.11.29. If a concrete footpath exists, expansion joints are to be provided at the intersecting points where the driveway adjoins the footpath.
- D15.11.30. Local Governments and/or other utility providers are likely to have services pipes and cables under the footpath where the driveway will be placed. Accordingly, the driveway constructor must undertake 'Dial Before You Dig' and locate the existing services in the road reserve well in advance of driveway construction. **Service and Markers**
- D15.11.31. Any alteration deemed necessary to services including but not limited to water, sewer, gas, electricity, telecommunication, stormwater system and other services to facilitate the driveway construction is to be coordinated by the applicant/contractor with the relevant authority for their requirement and approval. All associated costs will be borne by the applicant/property owner.
- D15.11.32. Utility providers may have constructed access points such as surface or subsurface pits, valves or connections which, if covered by concrete or other material during construction of a driveway, may prevent future access for maintenance work. Accordingly, the driveway must be located to avoid construction over these points.
- D15.11.33. During the construction of a driveway, the contractor must be aware of the possibility of service indicators (posts/star pickets) including survey markers. These markers may designate a service location, conduit, pit or survey reference. If these markers are to be removed the relevant service provider/authority must be contacted to relocate the markers before they are removed.