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SCOPE

3.1.1. This part of the Code of Practice sets out the engineering requirements for the construction of new roads and associated infrastructure associated with land development projects, including performance standards, methods for design and construction and material specifications.

3.2. PERFORMANCE STANDARDS

3.2.1. General

3.2.1.1. Adequate levels of access, safety and convenience are to be provided for all road users including pedestrians and cyclists in the District, while ensuring acceptable levels of amenity, and protection of the environment from the impact of traffic.

3.2.1.2. Streets, service lanes and access ways are to be laid out to fit in with the general roading requirements of the locality in which they are situated, and to conform to any provision of the District Plan. The roading layout must provide for access to adjoining land where deemed necessary by Council.

3.2.1.3. Efficient provision is to be made for utility services, that is, water supply and reticulation, sewage reticulation and disposal facilities, stormwater and land drainage, electricity, street lighting, telecommunications, as well as landscaping and street trees.

3.2.1.4. Roads within any residential neighbourhood are to be designed to avoid functioning as through-traffic roads for externally generated traffic.

3.2.1.5. Allowance is to be made for sufficient width of carriageway and berm to allow roads to perform their designated functions within the road network. Where roads are to develop in stages adequate turning areas are to be constructed at the end of each unfinished road section. These turning areas are to be removed on completion of the road.

3.2.1.6. Allowance is to be made for all users of the road, including: adequate provision for traffic moving lanes, passing facilities and parking areas for vehicles; safety of and convenient movement of pedestrians and cyclists; aesthetically pleasing and functional landscaping and tree planting.



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- 3.2.1.7. The incorporation of features to provide for increased safety and reduced vehicle speeds within residential streets is encouraged.
- 3.2.1.8. Road geometry provision is to be consistent with the needs of the road classification, physical land characteristics, road use and safety.
- 3.2.1.9. Provision is to be made on the carriageway for two on-street parking areas for each lot. This may be reduced where alternative off-street parking is provided as part of the development work.
- 3.2.1.10. Satisfactory provision shall be made at cul-de-sac heads for the on-carriageway turning of service and delivery vehicles, including rubbish collection vehicles.
- 3.2.1.11. Road pavement and edge treatment is to be suitable for ensuring satisfactory containment and drainage of the roadway pavement, and in particular, is to use pavement materials suitable for the function of the road.
- 3.2.1.12. Roads are to be constructed to an appropriate strength to enable the carriage of the vehicles proposed to use the road at a minimum total cost to the community, both in initial construction and long term maintenance.
- 3.2.1.13. Road pavements are to be designed and constructed with a minimum design life of 25 years; except for vehicle pavement wearing surfaces which may have a lesser design life.
- 3.2.1.14. A pavement edge is to be provided that: is appropriate for the control of vehicle movements, performs any required drainage function and is structurally adequate.
- 3.2.1.15. The necessary underground street lighting cable, standards and fittings for all new roads, in accordance with the relevant New Zealand Standard as listed in Appendix C, are to be installed.
- 3.2.1.16. Standard street nameplates shall be erected by the developer at all street intersections on both streets. Street nameplates and mountings are to be in accordance with the Standard Drawings and are to include the words "No Exit" where applicable.

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3.2.1.17. All regularly used vehicle crossings (e.g. urban, residential, rural entrances) shall be formed, surfaced and drained to allow safe and effective vehicle access from the carriageway to the property boundary and in locations complying with the District Plan section 473.5 Table 1A. All surface water associated with vehicle crossings, driveways and access ways shall be controlled so that no adverse affect is placed on the adjacent road or other properties.

3.3. MEANS OF COMPLIANCE

3.3.1.1. The following are the minimum requirements for compliance; however where specific development plans vary from the Code of Practice for Subdivision and Development, these variations may be approved by the Council.

3.3.2. General

3.3.2.1. The road hierarchical system provides a clear distinction between each type of road in the District based on function. This hierarchy is detailed in the District Plan, and any subsequent Plan changes.

3.3.2.2. The width of the road reserve shall comply with Tables 1 & 2 of section 473.7 (Roading Standards) of the TCDC District Plan unless one or more of the following situations apply:

- a. The road reserve includes the entire road formation, footpaths and berms.
- b. Retaining walls are necessary for road stability only.
- c. There is a minimum clearance of 1.5m from:
 - i. The toe of fill batters
 - ii. The top of cut batters
 - iii. All drainage channels.

3.3.2.3. Where extra width is required to include these features, approval of the Council is required.



3.3.2.4. Retaining walls shall not be built on the road reserve unless specifically approved by Council.

3.4. GEOMETRIC DESIGN

3.4.1. General

3.4.1.1. The design life/ period for all road pavements shall be not less than 25 years, for which projected traffic flows shall be calculated based on the traffic flows for the appropriate class of road.

3.4.1.2. The design speed value shall be generally determined in accordance with Austroads publications unless Council requests otherwise, except that the maximum design speed shall be in accordance with Table 3.1.

Table 3.1: Road Design Speed Values by Zone										
	Regional Arterial		District Arterial		Collector		Local		Short Cul-de-sac	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Km/hr	100	70	100	60	100	50	80	40	50	30

3.4.1.3. The publications referred to under Geometric Design in Appendix C shall be used for all items mentioned in this section.

3.4.2. Design Geometry

3.4.2.1. The road reserve/carrageway/sealed widths for Rural Roading in Tables 3.1A and 3.1B apply except where a specific design or development proposal has Council approval. The urban roading standards are shown in Table 3.1C.

3.4.2.2. Longitudinal gradients shall be generally determined in accordance with Austroads requirements but shall be no steeper than 12.5% (1V: 8H) and no flatter than 0.5% (1V:200H) unless approved by the Council.



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Table 3.1A: Guide for Rural Roading - Geometric Standards										Key: S = Seal M = Metal
GROUP	1			2			3			
Traffic Volume (AADT)										
Annual Average Daily Vehicle	Under 30			30 - 100			100 - 250			
Annual Average Heavy Vehicle	Under 10			10 - 40			40 - 80			
Topography	Level	Rolling	Mountainous	Level	Rolling	Mountainous	Level	Rolling	Mountainous	
Number of Traffic Lanes	1	1	1	2	1 or 2	1	2	2	2	
Design Speed (km/h)	As practicable			As practicable			80	70	50 or as practicable	
Sight Distance Minimum (m)	Refer to Table 3.6									
Traffic Lane(s): Width (m)	3.5	3.5	3.5	6	3.5/6	3.5	6	6	6	
Carriageway: Width (m)	5	5	5	7.5	5/7.5	5	7.5	7.5	7.5	
Road Reserve: Width (m)	20	20	20	20	20	20	20	20	20	
Bridge Widths (m)										
Under 6m long	3.7	3.7	3.7	8	8	8	8	8	8	
6m - 30m long	3.7	3.7	3.7	3.7	3.7	3.7	8	8	8	
Over 30m long	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
Bridge Design Standards	Refer to NZTA Bridge Manual									
	M	M	M	S/M	S/M	S/M	S	S	S	



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Table 3.1B: Guide for Rural Roading - Geometric Standards							Key: S = Seal M = Metal
GROUP	4			5			
Traffic Volume (AADT)							
Annual Average Daily Traffic	250 - 500			500 - 2500			
Annual Average Heavy Traffic	80 - 150			Over 150			
Topography	Level	Rolling	Mountainous	Level	Rolling	Mountainous	
Number of Traffic Lanes	2	2	2	2	2	2	
Design Speed (km/h)	80	70	50 or as practicable	80/100	80	50 or as practicable	
Sight Distance Minimum (m)	Refer to Table 3.6						
Traffic Lane(s): Width (m)	6.8	6.8	6.8	7.5	7.5	7.5	
Carriageway: Width (m)	8.5	8.5	8.5	9.5	9.5	9.5	
Road Reserve: Width (m)	20	20	20	20	20	20	
Bridge Widths (m)							
Under 6m long	8	8	8	8	8	8	
6m - 30m long	8	8	8	8	8	8	
Over 30m long	8	8	8	8	8	8	
Bridge Design Standard	Refer to NZTA Bridge Manual						
Type of Surfacing	S	S	S	S	S	S	



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Table 3.1C: Urban Roading Standards								Key: h = houses m = metres NA = Not Applicable
Classification	Type of Street	Traffic Volume (VDP)	Area Served	Design Speed (Kph)	Min Street Width (m)	Recommended Carriageway Width		
						Parking	Traffic	Total
Secondary Streets:								
Local Streets	Residential							
	Short		<20		12	2.275m	2.275m	5.5
	Cul-de-sac		<100m	20				
	Long		>20h		15	2 x 3m	2 x 3m	6
	Cul-de-sac		>100m	20				
	Minor Access		<100h	20	15	2 x 3m	2 x 3m	6
	Industrial	<200	0	40	17	2 x 2.5m	1 x 3m	8
Sub-collector	Residential	200-1000	<150h	40	17	3 x 2.5m	2 x 3m	8
	Industrial	200-1000	0	40	17	3 x 2.5m	2 x 3m	8
Collector	Residential	800-3000	150-450h	50	20	2 x 2.5m	2 x 3m	11
Primary Streets	Principal	3000-7000	NA	50	22	2 x 3m	2 x 3.5m	13
	Arterial	Over 7000	NA	50		Specific Design		

Horizontal curves in urban areas shall generally be designed as simple circular curves in accordance with Austroads guidelines, but where the use of three centred compound curves are proposed approval must be gained from Council.

3.4.2.3. Vertical curves shall generally be parabolic with minimum lengths designed in accordance with Austroads guidelines where the change in grade is greater than 1%.

3.4.2.4. Super elevation on rural roads shall be applied in accordance with Austroads guidelines unless otherwise requested by the Council.

3.4.2.5. A crossfall between 2% and 3% from the crown is required on all sealed roads and a crossfall between 4% and 7% from the crown is required on all unsealed roads. Where a differential level between kerb lines is necessary, a lateral shift in the crown position of up to one quarter of the effective road width will be permitted.



- 3.4.2.6. Sight distances shall generally be in accordance with Table 3.5 and 3.6.
- 3.4.2.7. Vehicle Tracking Curves of critical vehicle movements shall be used to determine or verify the suitability of proposed layout geometry. The following design vehicle options shall be used, dependent upon the applicability of the vehicle type to other service requirements or land use of the adjoining properties:
 - a. single unit heavy commercial vehicle
 - b. semi trailer HCV
 - c. B-train HCV
 - d. Bus
- 3.4.2.8. A design vehicle shall be used of selected dimensions and turning characteristics representative of the 90 percentile vehicle (i.e. the vehicle for which only 10% of vehicles in its category have more critical dimensions).
- 3.4.2.9. For design, the minimum criteria are shown in Table 3.2.

Table 3.2: Vehicle Types for Class of Road

Class of road	Vehicle Type	Minimum Turning Radius (metre)
Local	Single unit HCV	10.0
Major Collector	Semi trailer HCV	12.5
Minor Collector	Semi trailer HCV	12.5
Arterial	B Train	12.5

- 3.4.2.10. Slip-lane Merge/Diverge Tapers are shown in Table 3.3 for use on roads with low AADTs, with design speeds of up to 65 km/h.



Table 3.3	
Movement	Horizontal Taper
Merge	1 in 30
Diverge	1 in 20

- 3.4.2.11. As traffic diverge movements can usually be undertaken more quickly than merge movements, provisions for slip lane geometry need to be adjusted to accommodate typical tracking for vehicles executing such manoeuvres.
- 3.4.2.12. For speeds above 65 km/hr specific design shall be undertaken based on Austroads Standards Part 5: Guide to Traffic Engineering Practice – Intersections at Grade: 2005.
- 3.4.2.13. For cut/ fill batters, batter slopes shall not be steeper than 1.5(V): 1(H) but generally should match any existing stable slope.
- 3.4.2.14. Flatter slopes integrated into the natural landscape are preferred. Where circumstances dictate a steeper slope is necessary a geotechnical assessment of the slope shall be provided together with specific designs.
- 3.4.2.15. The top edge of every fill shall extend at least 1.5m beyond the outside edge of the footpath. Where there is no footpath this dimension shall be measured from the back of the kerb or the edge of the surface water channel as applicable.
- 3.4.2.16. The toe of every cut shall extend at least 1.5m beyond the outside edge of the footpath. Where there is no footpath this dimension shall be measured from the back of the kerb or the edge of the surface water channel as applicable.
- 3.4.2.17. Threshold, speed control hump and Channelisation treatments shall be provided on the new urban streets in accordance with Table 3.4.

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3.4.2.18. **NOTES:**

- a. The Council has not established any standard designs for thresholds; rather the specific needs and requirements of each development should be the basis of each design and submitted to the Council for consideration accordingly.
- b. Thresholds shall only be placed on the lower precedence road except where a specific design requires otherwise.
- c. Speed control humps are to be designed in accordance with the standard drawings.
- d. Thresholds are not to incorporate vertical structures/ walls or raised planting boxes greater than kerb height within 1m of the carriageway. Beyond this distance planting boxes may be up to 500mm above the road edge (this includes the maximum final height of any plant unless Council grants otherwise) provided they comply with the Councils sight distance requirements.

Table 3.4: Threshold/Speed Control Hump/Channelisation Requirements				
Classification	Arterial	Collectors Residential	Local	Cul-de-sac
Arterial	S	T	R	R
Collector	T	S	R	R
Local Road	R	R	R	O
KEY:				
S	Specific Design required in accordance with Guide to Traffic Engineering Practice, Part 5 - Intersections at Grade			
T	Traffic Islands with Intersection Controls required			
R	Thresholds Speed Control required			
O	Thresholds Speed Control optional. Refer to RLTS Traffic Engineering Information Bulletin No. 2: Guidelines for the use and construction of speed control humps			
X	Thresholds Speed Control NOT appropriate			

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3.4.3. Intersections

- 3.4.3.1. Intersections are to be designed at right angles to the major road using Austroads publications (within a tolerance of $\pm 5\%$), with a minimum design radius of 15m for a semi-trailer.
- 3.4.3.2. Additional approach treatments shall be provided on local rural road developments in accordance with the standard drawings.
- 3.4.3.3. Mountable quadrant kerbs shall be provided at the intersections of all new roading with either existing or new roading. These kerbs shall extend around the corners between the tangent-points of the two roads. Lead-ins shall be provided to these sections of kerb - refer to the standard drawings.
- 3.4.3.4. The edge of seal radius at an intersection shall not be less than that specified in section 3.3.7 NZS 4404:2010, being all residential road intersections of collector class and below shall have a minimum kerb radius of 9m, and roads above collector class as well as in commercial and industrial zones shall have a minimum kerb radius of 13.5m.
- 3.4.3.5. Wherever practicable, the gradient within 30m of intersections should be less than 5%, and preferably less than 2%.
- 3.4.3.6. Where traffic islands are deemed necessary at intersections, these shall be specifically designed and shall be lit during the hours of darkness. Appropriate lighting shall also be specifically designed.
- 3.4.3.7. Intersections on curves, particularly on the inside of the curve, should be avoided.

3.4.4. Traffic Control

- 3.4.4.1. All intersections shall be designed in accordance with Table 3.4
- 3.4.4.2. Where median islands are used the kerbing shall be either mountable or mountable with a flat channel.

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3.4.4.3. Flush medians are primarily intended for urban (50km/hr) and semi-urban (70km/hr) roads. Uses include right turning traffic interface with through traffic, and where pedestrians have difficulty crossing a busy road.

3.4.4.4. Roundabouts generally fall into one of the following 3 different types: Local, Collector or Arterial. Design standards are to comply with Austroads guidelines. Deflection criteria for entry and exit needs to be achieved, as well as the appropriate use of splitter islands.

3.4.5. Signage

3.4.5.1. All road signs shall comply with AS/NZS 1906:2007, MOTSAM (Manual of Traffic Signs and Markings), and the Council Policy on Street Name Blades.

3.4.5.2. In addition to regulatory signs the following shall be indicated by appropriate signage:

- a. Bridge ends not behind a kerb, to be indicated with Bridge End Markers.
- b. Culvert ends within the road reserve and not behind kerbs, to be indicated by the use of Hazard Markers. These shall be located at the ends of the culvert or no further than 2m from the edge of the road.
- c. Curves with design speed 15km/hr or more below the operating speed.
- d. Street name blades shall be supplied at all intersections on both the newly formed and existing roads.

3.4.5.3. Name blades shall conform to the Council's Guidelines for Street/Road Name Blades (Section 3.9.2 of this Code of Practice).

3.4.5.4. All roads shall have signage appropriate to the facility on that section of road.

3.4.6. Road Markings

3.4.6.1. All road markings must comply with MOTSAM and Council Standards as listed in Appendix C – Schedule of Standards.

3.4.6.2. In addition to these markings the following shall be marked:



- a. All fire hydrants, which shall have a blue Raised Pavement Marker located in the centre of the road and be marked in accordance with MOTSAM.
- b. Centrelines, that shall be marked as per the MOTSAM manual.
- c. Limit lines for give way and stop controls, which shall be marked as per the MOTSAM manual.

3.4.7. Property Access, Entranceways and Vehicle Crossings

- 3.4.7.1. Each property access is required to be formed in accordance with the design details in the standard drawings. Accesses are to be located in accordance with Tables 3.5 and 3.6.
- 3.4.7.2. Consent from Council is required for all vehicle crossings in the form of a vehicle crossing approval.
- 3.4.7.3. Where crossings may be expected to carry heavy traffic, these shall be specifically designed and the depth increased or reinforcing provided, or both, to the Council's satisfaction.

	Signposted Speed or Operating Speed Where Less ¹	Sight Distance ²	Location of Property Access Relative to Intersection ³	Distance Between Property Accesses ⁶
1.	100 km/hr	250 m	200 m	200 m
2.	80 km/hr	170 m	120 m	100 m
3.	70 km/hr	140 m	100 m	n/a
4.	60 km/hr	115 m	50 m	n/a
5.	≤ 50	85 m	30 m	n/a



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Table 3.6 - Minimum Sight and Separation Distances for Vehicle Crossings to All Roads (Excluding State Highways)

	Sign Posted or Operating Speed where less ¹	Sight Distance ²		Location of Vehicle Crossing Relative to Intersection		Distance Between Vehicle Crossings ⁶
				Distance on side road intersecting with Highway ⁴	Distance All Other Roads ^{5,3}	
1.	100 kph	250 m		60 m	60 m	200 m
2.	80 kph	170 m		60 m	60 m	100 m
3.	70 kph	140 m	85 m*	45 m	10 m	-
4.	60 kph	115 m	55 m*	30 m	10 m	-
5.	50 kph	85 m	40 m*	20 m	10 m	-
6.	40 or below	65 m	30 m*	20 m	10 m	-

3.4.7.4. The number of vehicle crossings allowed per property is shown in Table 3.7 below.

	Zone	Site Frontage	Number of Vehicle Crossings
1.	All	Less than 20 m	1
2.	All excluding Rural Production Zone and Coastal Zone	More than 20 m	2
3.	Rural Production and Coastal Zone	More than 20 m	No limit



3.4.8. Berms

- 3.4.8.1. On the completion of all other works, the berms shall be spread with a minimum lightly compacted base of 100mm depth top quality topsoil. The topsoil shall be graded to the kerb top and footpath edges and may be finished 15mm high to allow for settlement except on the low side of the footpath where the topsoil shall be finished flush to prevent water ponding.
- 3.4.8.2. After top soiling the berms shall be sown with amenity type rye grass seed and fertilized.
- 3.4.8.3. Mowing of berms shall be the responsibility of the developer until the developed berm is vested in Council at the end of any maintenance period imposed by Council. After this period, the mowing of the berms is the responsibility of the property owner.
- 3.4.8.4. Crossfall on berms: The shape, slope and vegetation of berms shall be such as to provide for satisfactory stormwater runoff, maintenance, location of services and vehicle crossings to properties (unless acceptable alternative parking is provided). To achieve satisfactory drainage, the crossfall should be at least 2%.
- 3.4.8.5. The minimum width of berm shall be 4.5m measured from the kerb face. Alternative design may provide for lesser width provided that adequate surface is allowed for location of services within the road reserve.
- 3.4.8.6. Grassed areas for tree planting which are additional to the minimum berm width shall be specifically designed. In these areas, steeper gradients may be permitted to a maximum of 20% (1V:5H), provided the area can be mown and maintained.
- 3.4.8.7. All planting within the berm area must be approved by the Council prior to its installation. Trees of a similar type shall be planted to give uniform street appearance, and shall conform to the Tree Master Plan for the particular area.

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3.4.9. Cul-de-sac / No Exits

- 3.4.9.1. Designs for urban and rural cul-de-sacs shall comply with the typical cross sections shown in the standard drawings.
- 3.4.9.2. Every cul-de-sac or no exit road, whether the end of the road is in its final position or otherwise, shall be provided with a turning area at the end of the useable road. The turning area shall have minimum useable roadway radius as shown on the standard drawings.
- 3.4.9.3. Parking places may be provided off the traffic way as shown in the standard drawings.
- 3.4.9.4. Where no exit roads or cul-de-sacs are provided connectivity for pedestrians and cyclist must be ensured.

3.4.10. Right of Way/ Service Lanes

- 3.4.10.1. Right of Ways/ Service Lanes shall be constructed to comply with the standard drawings.
- 3.4.10.2. Where property access is by way of a right of way (ROW) the full length of the right of way shall be formed and sealed from the edge of the carriageway to the main body of each lot served.
- 3.4.10.3. Where a ROW is from an unsealed Council road, the ROW may be constructed as an unsealed ROW. However, if the vertical gradient is equal to or greater than 16.6% (1V:6H), then the ROW shall be sealed.
- 3.4.10.4. Adequate provision shall be made for the collection and disposal of stormwater from the ROW to a piped system, or other form of stormwater disposal as approved by the Council. The method selected on the particular site must be demonstrated to contain the 10% AEP storm event utilising Hirds V3 plus 20% global warming factor, runoff from the contributory catchment. This may mean the use of a kerb rather than a dish channel, particularly on steeper gradients.
- 3.4.10.5. Adequate turning area shall be provided on all ROW and service lanes, unless otherwise approved by the Council.



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3.4.10.6. The maximum gradient for a ROW shall be 20% (1V:5H) as measured on the inside of any curve, and Transverse slopes shall be 2 - 3% where sealed and 4 - 7% where unsealed. The minimum inside radius of curves shall be 9m.

Table 3.8A - Internal Access, Private Way Design Standards for Residential, Commercial and Industrial Areas

Area Served		Max/Min Grade	Min Legal Width	Traffic Lane	TOTAL	Passing Bays
1.	1 - 4 lots or dwellings	20% max 0.5% min	3.3 m	2.7 m	2.7 m	Passing bays must be provided at maximum 100 m intervals or on bends, whichever is the lesser distance
2.	5 - 8 lots or dwellings	16.7% max 0.5% min	6 m	2.7 m with passing bays	2.7 - 5.0 m	Passing bays must be provided at maximum 100 m intervals or on bends, whichever is the lesser distance.

Table 3.8B - Internal Access, Private Way Design Standards for Coastal and Rural Areas

Area Served		Max/Min grade	Min legal width	Traffic lane	TOTAL	Passing Bays
1.	1 - 4 lots	20% max with seal, 16.7% max without seal, 0.5% min	6 m	3.5 m	3.5 m	Passing bays must be provided at maximum 100 m intervals or on bends, whichever is the lesser distance
2.	5 - 8 lots	16.7% max 0.5% min	6 m	3.5 m with passing bays, seal required	3.5 - 5.0 m	Passing bays must be provided at maximum 100 m intervals or on bends, whichever is the lesser distance

3.4.11. Parking

3.4.11.1. Parking bays shall be constructed to the same standard as the adjacent road pavement. It is recommended that the surface of the parking bay be treated differently from that of the street to differentiate its use. A vee channel constructed in accordance with the standard drawings shall be used where the parking bay falls to the carriageway.

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3.4.11.2. Public car parks shall be designed in accordance with the TCDC Drawing 3000/28 and 3000/29, or AS/NZS 2890.1:2004 Parking Facilities – Off-street car parking.

3.4.11.3. Turning movements need to be checked not just for cars but for the various types of vehicles likely to use the parking bay.

3.4.12. Passing Bay

3.4.12.1. Passing Bays shall be constructed to comply with the standard drawings.

3.4.13. Pedestrian Accessways, and Walkways and Cycleways

3.4.13.1. Pedestrian accessways shall be as short and as wide as possible, with a clear line of sight through their length. Provision shall be made for disposal of stormwater flowing down the length of the accessway and across the road footpath. The minimum width shall be 3.5m. Alternative specific designs for both the path and fencing are encouraged to enhance the surrounding properties.

3.4.13.2. Pedestrian accessways and walkways shall be provided with traffic barriers/bollards at each end to prevent access by motorcycles and cars, but to allow access for prams and pushchairs.

3.4.13.3. Walkways shall be to the same standard as accessways except that they require the following items:

- a. Street trees shall only be required on wide walkways (those with a reserve width greater than 6m).
- b. Access for maintenance vehicles shall be provided at each end of all walkways by way of an approved lockable gate (or approved alternative arrangement).

3.5. PAVEMENT INVESTIGATION, DESIGN AND TESTING

3.5.1. Design Standards

3.5.1.1. Austroads guidelines shall be used as the basis for pavement design.



3.5.2. Geotechnical Investigations

3.5.2.1. Field-testing shall be undertaken to determine the existing site conditions, carriageway and pavement characteristics, ground stability and any other prospective foundation conditions, which may be anticipated at the proposed site.

3.5.2.2. Field testing shall include, where appropriate, the following:

- a. Subgrade Scala Penetrometer tests on the alignment, starting at the top of the subgrade and carried to a depth of at least 1m.
- b. Pavement test pits to log existing pavement material depths (where applicable), to the top of subgrade (as a minimum).
- c. Pavement samples from each test pit for use in future laboratory tests.
- d. Subgrade samples from each test pit for use in future laboratory tests.
- e. Hand auger below the surface.
- f. Benkelman beam tests to determine the deflection of the existing pavement (if requested by Council).

3.5.2.3. Additional tests may be required where the site conditions show that there may be problems with berms, embankment stability, and groundwater conditions associated with the roadway.

3.5.2.4. A full geotechnical appraisal report produced by a suitably experienced and qualified engineer shall be submitted to Council for approval with the final design, and shall include:

3.5.2.5. A detailed description of any pavement deficiencies and their relative position.

- a. Field test results including any photographs.
- b. Any problems with associated services, berms, embankments, batter slopes or any other associated obstacles.

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3.5.3. Structural Design of Pavement

3.5.3.1. Pavement categories down to and including Collector Routes shall be designed as "premium unbound flexible pavements", while Local Roads shall be designed as "*lower* grade unbound flexible pavements" in accordance with TNZ guidelines.

3.5.3.2. In some locations pavement with certain suitable soil types may be stabilised with lime or cement.

3.5.3.3. Low strength subgrades may need additional excavation. The use of a specifically designed geotextile fabric of the appropriate specification, placed between the upgrade and the sub-base, may be approved by the Council.

3.5.4. Roading Pavement Materials

3.5.4.1. Material used in design for construction of Council roads shall generally comprise the following as appropriate and meet the standards identified:

- a. Earthworks construction to TNZ F/1.
- b. Sub-base material shall be constructed to TNZ B2 and TNZ M3.
- c. Basecourse shall comply in all aspects with the NZTA Specification TNZ M/4 and: TNZ B2 Specification for Construction of Unbound Granular Layers.
- d. If aggregate complying with TNZ M/4 is not available in an area, an alternative aggregate may be approved by Council subject to meeting TNZ B2 pavement strength requirements.

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Table 3.9: Minimum Surfacing Systems for New Roads	
Location	Surfacing System
Urban streets (except Pauanui, and any cul-de-sac heads)	Two coat seal of Grade 5 over Grade 3
All industrial roads and cul-de-sac heads	Specific design depth asphaltic concrete over grade 4 chip seal
Urban cul-de-sac heads	25mm Mix 10 asphaltic concrete over Grade 4 chip seal
Arterial and Collector Roads and Streets	Two coat seal of Grade 5 over Grade 3
Urban streets (Pauanui)	Two coat seal of grade 5 over grade 3 McCullums red chip
Rural roads	Two coat seal of Grade 5 over Grade 3
Urban/Rural high stress areas	Specific design depth Asphaltic concrete over Grade 4.

The minimum surfacing treatment for new roads is detailed in Table 3.9 above.

iv. Other surfacing treatment.

Where other sealing systems are proposed they must meet the same or greater service life and impact of wheel noise as approved by the Council.

v. Chipseal

The selection of chip and binders shall generally comply with TNZ M/6 and Q/1, with reference to TNZ's Chipsealing in NZ Manual, for all new seal and reseals. Sealing shall be carried out generally in accordance with TNZ P/3: Specification for First Coat Sealing or TNZ P/17: Specification for Resealing, P/4, or as appropriate.

The penetration grade bitumen shall be 130/150 for 1st coat sealing, as per TNZ's Chipsealing in NZ Manual.

Particular attention to the approved quality plan and inspection requirements shall be able to be demonstrated. All chip sealed areas shall be swept of surplus chip, and the chip removed off site, twice before completion of the work. These sweepings shall occur at intervals of at least 1 month. This shall be included in the maintenance period.



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vi. Asphaltic Concrete

Where required, Asphaltic Concrete shall be used to meet TNZ M/10 and laid in accordance with TNZ P/9.

vii. Slurry Seals (Micro emulsion mix)

Slurry Seals shall consist of bituminous emulsion, graded aggregate, water and additives, to be proportioned, mixed and uniformly spread to produce a homogenous layer which adheres securely to the entire surface, free of oversized stones.

Aggregates shall be supplied from a source known to be suitable for use with the bituminous emulsion binders used in slurry seal application. Where a proposed applicator has not had experience with the laying of slurry using the particular aggregate proposed, the engineer will require trial applications to be laid to prove the suitability of the material and mix proposed.

Mineral fillers and additives may be added as part of the mix design, to adjust the workability of the slurry and/ or setting and curing characteristics of the mix. The design mix shall be prepared and certified by an IANZ (International Accreditation New Zealand) accredited laboratory that has suitable experience in the design of emulsified bitumen slurry seal.

Prior to commencing, detail of the design mix shall be submitted to the engineer for information, complete with a schedule outlining:

- Locations where the same slurry mixes have been used
- Date when the applications were laid
- Name of client contact within organisations for whom slurry has been laid (for use by the Engineer in obtaining service and suitability references).



3.5.5. Quality Assurance Testing

- 3.5.5.1. All contractors undertaking road works shall have the minimum quality Transit standard TQS2. A quality plan shall be supplied to the Council for approval before construction can start (See Section 1 Conditions Auditing). Failure to comply with the approved quality plan may result in Council not issuing a 224 certificate for a subdivision.
- 3.5.5.2. Generally subgrade and pavement testing shall include as a minimum the tests and sample rates from NZS: 4402 or approved standard as instructed by Council.
- 3.5.5.3. All testing shall be undertaken prior to the placement of the materials on the road. Testing shall be undertaken of the exclusively supplied materials for the project. No production testing will be accepted.
- 3.5.5.4. If the section of road fails to achieved the specified strength, the applicant shall remedy the failure. As a guideline to the testing of the subgrade formation, the quality plan shall include at least one of the methods in Table 3.10 below:

Table 3.10			
Test	Result	Minimum Frequency	
Density voids (nuclear densometer) test NZS 4402	Total voids shall be a maximum of 18% and a minimum of 12%	General rate of 1 test per 2000 m ²	
CBR (Scala Penetrometer) test Victoria County Roads test	CBR > 7	General rate of 1 test per 2000m ²	
Clegg Hammer test I	Value shall be greater than 10	General rate of 1 test per 1000 m ²	
Undrained shear strength test as measured by hand held field vane	Not less than 150 kPa and no single test less than 80 kPa	General rate of 1 test per 2000 m ²	

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3.5.5.5. As a guideline to the testing of the finished pavement prior to sealing, the quality plan shall include at least one of the methods in Table 3.11.

Table 3.11		
Test	Result	Minimum Frequency
Benkleman beam test TNZ T/1	No more than 5% of the tests may exceed the maximum design deflection for that category. No single result shall exceed the maximum by more than 50% for that category.	General rate of 1/20m on all wheel tracks as directed by the Council.
Clegg hammer test	Value shall be greater than 35.	General rate of 1 test/200m ³ basecourse
Density and voids (nuclear densometer) test NZS 4402	Average air voids not more than 8% with no single result 10% or more. Moisture content test as per NZS 4402 within 2% of Optimum Moisture Content.	General rate of 1 test/100 m ³
CBR (Scala penetrometer) test Victoria County Roads method	CBR≥50	General rate of 1 test/200 m ³

3.5.5.6. Benkleman beam tests to be conducted in accordance with TNZ T/1, with deflections in accordance with Table 3.12.

Table 3.12	
Benkleman Beam Deflection Standards	Max. Design Deflection (mm)
Arterial	1.0
Collector Routes	1.0
Local Roads	1.5
Local Roads - Cul-de-sac	1.5

* Check deflection for suitability for asphalt surfacing

3.5.5.7. The contractor shall supply solutions to remedy any material that has been shown not to meet the minimum standards.



3.6. BRIDGES AND CULVERTS

3.6.1. Standards

3.6.1.1. All bridges and culverts on the roadway or right of way shall be designed in accordance with the TNZ Bridge Design Manual.

3.6.1.2. All bridges and culverts in urban areas shall carry the roadway and footpath/s at full width.

3.6.1.3. All bridges and culverts with waterway cross-sectional areas greater than 3m² or 1m deep (measured from the roadway to the invert) shall be fitted with handrails between the outside of the road or road/ footpath formation and the watercourse.

3.6.1.4. All bridges and culverts in urban areas shall be provided with footpaths.

3.6.1.5. On strategic, arterial and collector roads, bridges or culverts in urban areas, footpaths shall be provided on both sides of the bridge or culvert. On all other urban road bridges or culverts, one footpath shall be provided.

3.6.1.6. Footpaths shall be vertically separated from the roadway by a standard kerb in urban areas or a minimum distance of 1m or a guardrail in rural areas.

3.6.1.7. All culverts shall have inlet and outlet control structures to protect the culvert from scouring where necessary and suitably designed for fish passage where required.

3.6.2. Building and Resource Consents

3.6.2.1. Resource Consents must be obtained from Waikato Regional Council for culverts and bridges over existing watercourses and/or drains as required.

3.6.2.2. Building Consents shall be obtained for all Bridges, and for culverts as required by the NZ Building Code.

3.6.2.3. Applicant to consult with Development Engineer regarding consents to be transferred to TCDC on completion

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3.6.3. Safety Barriers

3.6.3.1. Safety barriers shall comply with all requirements of NZTA specification M23 and M23 notes.

3.6.3.2. In general safety barriers should be used on all structures including bridges and culverts and in positions on bends and embankments having a height of >1.5m below the carriageway.

3.7. ROAD DRAINAGE

3.7.1. Design and Disposal

3.7.1.1. Stormwater shall generally be reticulated to an existing public drain or natural watercourse approved by Council in advance.

3.7.1.2. Where the discharge is into a natural watercourse, a Resource Consent to discharge the stormwater shall be obtained from Waikato Regional Council as required.

- a. This Resource Consent shall be obtained by the developer prior to the commencement of any work. In order that TCDC or their agents are aware of the conditions, TCDC shall be nominated as a dual applicant.

3.7.1.3. This Resource Consent shall be transferred to TCDC when the Council issues the 224 Certificate.

3.7.2. Standards

3.7.2.1. The design storm return period for a primary piped system shall be as required by the specific ward requirements for a primary piped system (refer to Section 6.4.20.1 Table 6.11).

3.7.2.2. The road carriageway may be used as a secondary flow path.

3.7.2.3. The maximum flow in any section of channel during a 10% design storm (plus 20% global warming factor) shall be contained within the cross section of the formed channel.

- a. The minimum catch-pit lead size is 225mm nominal internal diameter.

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b. All stormwater drainage pipes shall be located as shown in the standard drawings.

3.7.2.4. Stormwater pipe materials shall comply with Section 6 - Stormwater & Land Drainage. Stormwater pipes are to be a minimum 300mm nominal internal diameter for roads to be vested.

3.7.2.5. Where there is evidence of high ground water levels (to within 300mm of the lowest part of the surface of the new road/s) sub-soil cut-off drains shall be provided.

3.7.2.6. The road reserve shall not be used for the ponding or retention of stormwater.

3.7.3. Surface Water Channels

3.7.3.1. In urban areas, where kerb and channel is defined as being required (see Specific Ward Requirements section 3.9.4.1, Table 3.10), kerbs and channels, hillside channels, vee and dish channels shall conform to the standard drawings.

3.7.3.2. Where ground conditions dictate or where Council requests it, effective sub-pavement drainage may be required in the form of an under channel subsoil drain placed under the kerb or channel.

3.7.3.3. Where scour is likely to the kerb and channel or bank, more frequent culvert discharge points or anti-scour devices may be required.

3.7.3.4. On gradients of 1:12 or steeper, concrete Hillside channels shall be used.

3.7.3.5. Where the contributory road is not kerbed the kerb and channel shall extend around the corner to the tangent point on the contributory road.

3.7.3.6. The kerb line shall be continuous over all bridges.

3.7.3.7. Kerb and channel shall be continuous over all culverts.

3.7.3.8. The concrete used shall have a 28 day compressive strength of at least 20 MPa.

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3.7.4. Culverts and Flumes

3.7.4.1. Culvert location and sizing needs to minimise scour and any effects on the surrounding ground.

3.7.4.2. Flumes will need to be designed so as to be securely fixed and not contribute to any bank instability. Discharge may only be into an existing stable watercourse. A dissipater (e.g. rip-rap rock protection) may be used.

3.7.5. Rights of Way / Existing Buildings / Pedestrian Accessways

3.7.5.1. Stormwater run-off from private rights of way shall not discharge across the footpath or berm or onto adjacent property.

3.7.5.2. Stormwater discharges from existing buildings that already discharge to the road reserve shall be connected to the new road drainage system.

3.7.5.3. Stormwater discharge from Pedestrian Accessways shall be provided so that the maximum “run of water” does not exceed 90m.

3.7.6. Kerb and Channel

3.7.6.1. All new roading shall be fully serviced in accordance with Ward Specific requirements (refer section 3.9.4.1, table 3.10). Standard Channel details are shown in the standard drawings. All disabled crossings must comply with any appropriate standard - refer Appendix C for Schedule of Standards.

3.7.7. Sumps

3.7.7.1. Standard designs for sumps are covered in Section 6 Stormwater & Land Drainage.

3.7.7.2. Catchpit sumps shall be located as per Section 6.

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3.8. FOOTPATHS AND BERMS

3.8.1. Footpaths

- 3.8.1.1. Footpaths on each side of the road shall be provided on every road in residential or rural residential areas where required by the Specific Ward Requirements in section 3.9.4.1 Table 3.10.
- 3.8.1.2. Footpaths shall extend around the circumference of the turning area of cul-de-sacs. Normally, footpaths shall be 1.5m wide except outside schools, hospitals, shopping centres and other commercial or public facilities where a greater width will be required, dependent upon pedestrian volumes.
- 3.8.1.3. The surface shall be broom finished or similar, across the width of the footpath, to provide a non-slip surface.
- 3.8.1.4. Curves on meandering footpaths shall have inside radii no less than 10m and should be spaced at least 10m apart. Meandering footpath details and set out details are shown on the standard drawings.

3.8.2. Pedestrian Planning & Design

- 3.8.2.1. It is the Council's intention to continually upgrade and improve pedestrian facilities. To achieve this purpose planners and designers should refer to the standards in the NZ Transport Agency's current 'Pedestrian Planning and Design Guide'.

3.8.3. Crossings

- 3.8.3.1. Disabled crossings shall be provided in areas where footpaths and kerb and channel exist, and any other positions required so as to provide a logical and safe crossing position, or where otherwise advised by Council. Pram crossings shall be in accordance with the standard drawings. All disabled crossings shall comply with any appropriate standards (refer listing Appendix C Schedule of Standards).
- 3.8.3.2. Guidelines and policies pertaining to general road crossings from Council's roads to property boundaries are available in Appendix I7

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3.8.4. Services

- 3.8.4.1. The location of services within the road reserve shall be as shown in the standard drawings.
- 3.8.4.2. All reticulated services shall be laid underground except for power reticulation in rural areas unless otherwise approved by Council.
- 3.8.4.3. Where power and telecommunication cables are installed in ducts, power cable ducts shall be coloured orange and telecommunication ducts coloured green.
- 3.8.4.4. Service-lines/ ducts shall be placed and tested after construction of kerb and/ or channel and before formation of road-base.
- 3.8.4.5. Service-boxes and access-covers shall be flush with and parallel to the finished surface of the roadway berm or footpath as appropriate

3.8.5. Landscaping

- 3.8.5.1. A Landscaping Plan pertaining to streets and berms must be produced for approval by Council's Area Manager and Roading Manager.
- 3.8.5.2. The Landscaping Plan must be produced to comply with Council's Tree Policy and associated Tree Master Plans for each community.
- 3.8.5.3. Landscaping must not compromise the safe use of the legal road reserve or affect structural integrity of the road.

3.9. STREET LIGHTING

3.9.1. General

- 3.9.1.1. The streetlighting system shall provide ongoing lighting in accordance with the resource consent and Appendix I3 and G6 of this Code of Practice.
- 3.9.1.2. A streetlighting plan is required as part of the engineering plan approval.
- 3.9.1.3. The developer's representative is required to certify that the streetlights have been installed in accordance with the approved plans.

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3.9.2. Signs

3.9.2.1. All street signs shall comply with the following requirements:

a. Urban Street Signs

Minor Streets:

- i. Lettering Type: 'D' Series – 112mm lettering height (All Capitals).
- ii. Sign Size & Type: 215mm wide x 500mm min. to 1200mm max. in length (50mm min. border width).
- iii. Class 1 Reflectorisred Colour Letters and Background as per Ward Specific requirements - refer table 3.10

Arterial Streets & Within 50-70 km/hr Speed Zones:

- i. Lettering Type: 'D' Series – 150mm lettering height (All Capitals)
- ii. Sign Size & Type: 250mm wide x 500mm min. to 1200mm max. length (50mm min. border width).
- iii. Class 1 Reflectorisred Colour Letters and Background as per Ward Specific requirements refer table 3.10.

b. Rural Street Signs

- i. Lettering Type: 'D' Series – 150mm lettering height (All Capitals).
- ii. Sign Size & Type: 250mm wide x 500mm min. to 1200mm max. length (50mm min. border width).
- iii. Class 2 Reflectorisred Colour Letters and Background as per Ward Specific requirements refer table 3.12.

c. Sign Mounting

- i. Sign mounting shall comply with the Transit NZTA Manual of Traffic signs and Markings and LTSA Guidelines for Street Name Signs.



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3.9.3. Road and Street Naming

3.9.3.1. Road and street naming shall be in accordance with the policy and procedures in Appendix I2.

3.9.4. Specific Ward Requirements

3.9.4.1. Each Ward of the TCDC has its own particular requirements as consulted with the relevant Community Board as follows:

Table 3.13		
WARD	MERCURY BAY	
COMMUNITY	FACILITY	REQUIREMENT
Hahei, Hot Water Beach, Ferry Landing, Kuaotunu/Grays /Rings Beach, Opito Bay and Otama	Street Lighting	Flag Lighting only
	Footpaths	Not required except where safety is an issue or required by a Traffic Management Plan.
	Kerb & Channel	Only on grades where stormwater would be an issue.
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.

Whangapoua	Coloured Road Pavement	Not permitted
	Street Name Theme	No theme adopted
	Street Name Blade colouring	Blue background, white lettering
	Street Tree Type	Recommended species only
	Commercial	Specific requirements applying

Cooks Beach	Street Lighting	Flag Lighting only. Corio blue colour.
	Footpaths	Required on one side only.
	Kerb & Channel	Only on grades where stormwater would be an issue.
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent



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Table 3.13		
WARD	MERCURY BAY	
COMMUNITY	FACILITY	REQUIREMENT
		stage and covered by consent notice.
	Coloured Road Pavement	Not permitted
	Street Name Theme	Captain Cook
	Street Name blade Colouring	Blue background, white lettering
	Street Tree Type	Recommended species only
	Commercial	Specific requirements applying

Whitianga	Street Lighting	Required. Corio blue colour.
	Footpaths	Required on both sides.
	Kerb & Channel	Required.
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.
	Coloured Road Pavement	Not permitted
	Street Name Theme	Historical / Nautical
	Street Name Blade Colouring	Blue background, white lettering
	Street Tree Type	Recommended species only
	Commercial	Specific requirements applying

Matarangi	Street Lighting	Required. Hawthorn green colour.
	Footpaths	Required on both sides.
	Kerb & Channel	Only on grades where stormwater would be an issue, otherwise concrete edging strip.
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.
	Coloured Road Pavement	Permitted.
	Street Name Theme	Native trees
	Street Name Blade Colouring	Blue background, white lettering
	Street Tree Type	Recommended species only
	Commercial	Specific requirements applying

Coromandel	Street Lighting	Required. Option of Hawthorn green colour.
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Table 3.13		
WARD	MERCURY BAY	
COMMUNITY	FACILITY	REQUIREMENT
	Footpaths	Required on both sides.
	Kerb & Channel	Required
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.
	Coloured Road Pavement	Not permitted
	Street Name Theme	Historical.
	Street Name Blade Colouring	Blue background, white lettering
	Street Tree Type	Refer to the Tree Master Plan.
	Commercial	Specific requirements applying
All communities Within the Ward except Coromandel and Te Kouma	Street Lighting	Flag Lighting only
	Footpaths	Required both sides.
	Kerb & Channel	Only on grades where stormwater would be an issue
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice. Stormwater not to be directed to road without specific approval.
	Coloured Road Pavement	Not permitted
	Street Name Theme	Historical.
	Street Name Blade Colouring	Blue background, white lettering
	Street Tree Type	NZ Native or as otherwise approved.
	Commercial	Specific requirements applying
Te Kouma	Street Lighting	Flag Lighting only
	Footpaths	Required both sides.
	Kerb & Channel	Required
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice. Stormwater not to be directed to road without specific approval.
	Coloured Road Pavement	Not permitted
	Street Name Theme	Historical
	Street Name Blade Colouring	Blue background, white lettering
	Street Tree Type	New Zealand Native or as otherwise



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Table 3.13		
WARD	MERCURY BAY	
COMMUNITY	FACILITY	REQUIREMENT
		approved
	Commercial	Specific requirements applying

Thames Coast Puriri and other Urban Areas Outside of Thames Township and Kopu Thames Township and Kopu	Street Lighting	Required.
	Footpaths	One side only.
	Kerb & Channel	Required
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.
	Coloured Road Pavement	Not permitted
	Street Name Theme	No theme adopted
	Street Name Blade Colouring	Blue background, white lettering
	Street Tree Type	Approval Required
	Commercial	Specific requirements applying
	Street Lighting	Required
	Footpaths	Required both sides.
	Kerb & Channel	Required
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.
	Coloured Road Pavement	Not permitted
	Street Name Theme	No theme adopted except heritage zone.
	Street Name Blade Colouring	Blue background, white lettering
Street Tree Type	Approval Required	
Commercial	Specific requirements applying including hot mix seal in CBD – refer to Thames Streetscape Plan.	

Tairua	Street Lighting	Flag lighting only.
	Footpaths	Required both sides.
	Kerb & Channel	Required.
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.
	Coloured Road Pavement	No permitted
	Street Name Theme	No theme adopted
	Street Name Blade Colouring	Green background, white lettering



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Table 3.13		
WARD	MERCURY BAY	
COMMUNITY	FACILITY	REQUIREMENT
	Street Tree Type	Approval required – consult the Tree Master Plan.
	Commercial	Specific requirements applying

Pauanui	Street Lighting	Flag lighting only.
	Footpaths	Required both sides.
	Kerb & Channel	Required or edge strip required
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.
	Coloured Road Pavement	Required
	Street Name Theme	No theme adopted
	Street Name Blade Colouring	Green background, white lettering
	Street Tree Type	Approval required – consult the Tree Master Plan.
	Commercial	Specific requirements applying

Whangamata	STREET LIGHTING	Required
	Footpaths	Required.
	Kerb & Channel	Required both sides.
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.
	Coloured Road Pavement	Not permitted.
	Street Name Theme	No theme adopted
	Street Name Blade Colouring	Blue background, white lettering
	Street Tree Type	As per the Tree Master Plan.
	Commercial	Specific requirements applying

Onemana & Opoutere	Street Lighting	Flag Lighting only
	Footpaths	Required both sides.
	Kerb & Channel	Required.
	Vehicle Crossing	Required for ROWs & pan-handled lots. Otherwise required at building consent stage and covered by consent notice.
	Coloured Road Pavement	Not permitted.
	Street Name Theme	No theme adopted
	Street Name Blade Colouring	Blue background, white lettering

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Table 3.13		
WARD	MERCURY BAY	
COMMUNITY	FACILITY	REQUIREMENT
	Street Tree Type	As per the Tree Master Plan.
	Commercial	Specific requirements applying

TCDC Council Policies - Road and Street Naming

1. The Council has the task of naming of new streets and/ or altering existing street names within the District.
2. New Street naming is to comply with the Council's procedure as shown in Appendix I2 of this Code of Practice.
3. The Community Board or appropriate advisory groups will recommend the alteration of existing street names or new street names to the Council. The Council will invoke special order procedures for the purpose of altering existing street names.
4. Where a street is named for the first time, or a street name is altered, the District Land Registrar, the Chief Surveyor, NZ Fire Service, Telecom, Power NZ, United Networks, Land Information New Zealand, Land Information New Zealand, NZ Police, Civil Defence, Waikato Regional Council and Council's service provider are to be informed of the new name or change by the applicant.
5. Where an existing street is extended, the street extension will be the same name as that of the existing street.
6. Basic guidelines are set out in the NZ Geographic Board Road Naming Criteria; however the Council reserves the right to choose whichever name it wishes. See table 3.10 for Ward Specific Street Naming Themes.

3.10. CONNECTIONS TO SERVICES UNDER ROADS.

- 3.10.1. Work to connect a development to services located on or under an existing Council maintained road must be carried out in accordance with: The National Code of Practice for Utility Operators Access to Transport Corridors.