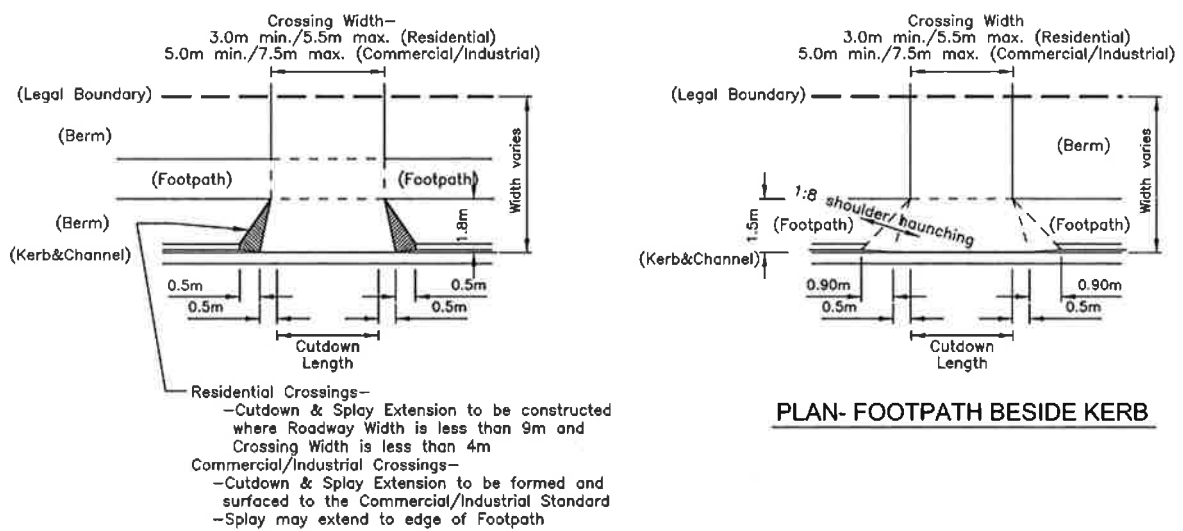
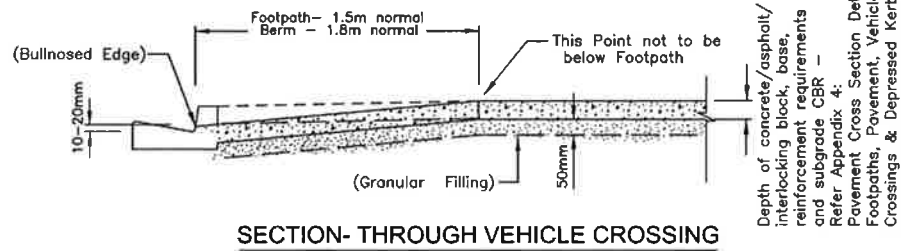
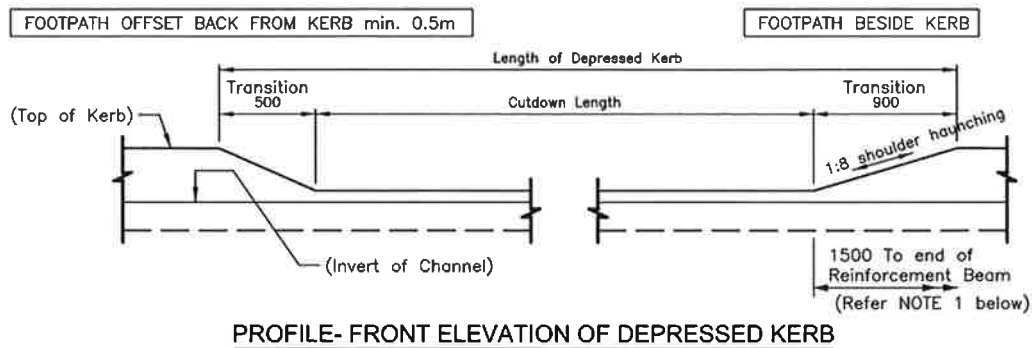


## Appendix 4: Vehicle Entraceways - Urban



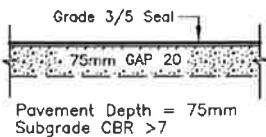
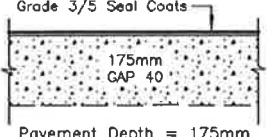
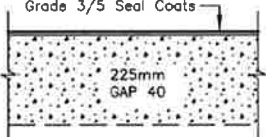

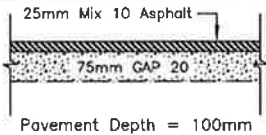
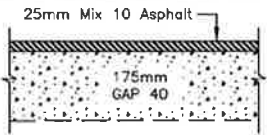
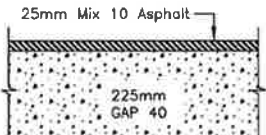
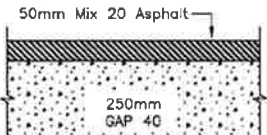
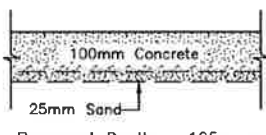
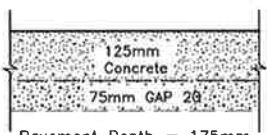
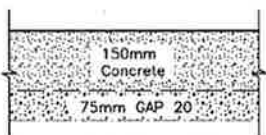

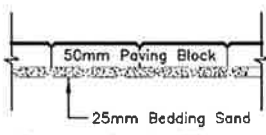
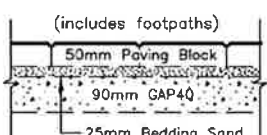
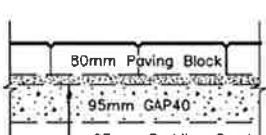
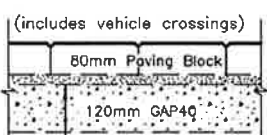
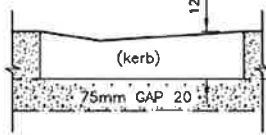
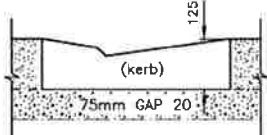
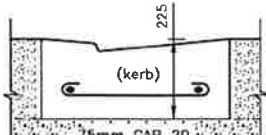
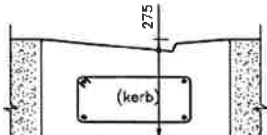
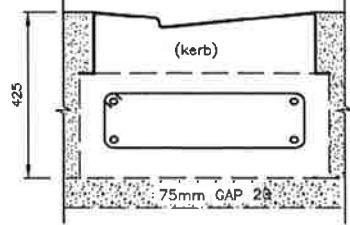
PLAN- FOOTPATH OFFSET BACK FROM KERB MIN. 0.5m



NOTES:

1. When commercial and industrial crossings are constructed, the reinforcement beam is to extend 1500 either side of cutdown.
2. Cutdown and splay extension to be constructed where the carriageway width is less than 9000 and the crossing width is less than 4000.
3. This area is to be formed and surfaced to the Commercial/Industrial standard for all Commercial/Industrial vehicle crossings. This may be extended to where footpath commences.
4. The footpath within the crossing area shall be surfaced with the same material as the footpath either side.

## Appendix 4: Pavement Cross Section Details – Footpaths, Vehicle Crossings & Depressed Kerb and Channel

Pedestrian Footpath	Less than Six Property Units	Six or More Property Units	Industrial/ Commercial
<b>CHIPSEAL SURFACING</b>			
 <p>Pavement Depth = 75mm Subgrade CBR &gt; 7</p>	 <p>Pavement Depth = 175mm CBR &gt; 10</p>	 <p>Pavement Depth = 250mm CBR &gt; 10</p>	 <p>Pavement Depth = 300mm CBR &gt; 10</p>
<b>ASPHALT SURFACING</b>			
 <p>Pavement Depth = 100mm CBR &gt; 7</p>	 <p>Pavement Depth = 200mm CBR &gt; 10</p>	 <p>Pavement Depth = 250mm CBR &gt; 10</p>	 <p>Pavement Depth = 300mm CBR &gt; 10</p>
<b>CONCRETE SURFACING</b>			
 <p>Pavement Depth = 125mm CBR &gt; 7</p>	 <p>Pavement Depth = 175mm CBR &gt; 10</p> <p><small>NOTE: GAP Layer may be omitted if a Layer of 665 Mesh is used in Concrete</small></p>	 <p>Pavement Depth = 200mm CBR &gt; 10</p> <p><small>NOTE: GAP Layer may be omitted if a Layer of 665 Mesh is used in Concrete</small></p>	 <p>Pavement Depth = 200mm CBR &gt; 10</p>
<b>INTERLOCKING PAVERS</b>			
 <p>Pavement Depth = 75mm CBR &gt; 7</p>	 <p>(includes footpaths) Pavement Depth = 165mm CBR &gt; 10</p>	 <p>Pavement Depth = 200mm CBR &gt; 10</p>	 <p>(includes vehicle crossings) Pavement Depth = 225mm CBR &gt; 10</p>
<b>DEPRESSED KERB &amp; CHANNEL CROSSINGS</b>			
 <p>Pavement Depth = 75mm CBR &gt; 10</p>	 <p>Pavement Depth = 165mm CBR &gt; 10</p>	 <p>Pavement Depth = 200mm CBR &gt; 10</p>	 <p>Pavement Depth = 225mm CBR &gt; 10</p>
<p><b>KERB &amp; CHANNEL CROSSINGS NOTES:</b></p> <ol style="list-style-type: none"> <li>Concrete – 28 Days in place minimum strength of 20 MPa</li> <li>Reinforcing – D12 bars with R6 stirrups @ 600 crs.</li> <li>Side &amp; Top Cover – 50mm minimum</li> <li>Bottom Cover – 75mm minimum</li> <li>Refer 'Appendix 4: Vehicle Entranceways – Urban Channel Crossing Details' for Machine Extruded Crossings</li> </ol>		<p style="text-align: center;"><b>MACHINE EXTRUDED CROSSINGS</b></p> <p>Refer Appendix 4: 'Vehicle Entranceways – Urban Channel Crossing Details' for Kerb Dimensions</p> <p>Pavement Depth = 75mm CBR &gt; 10</p>	

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## Appendix 4: Vehicle Entranceway Notes

### 1.0 GENERAL

- 1.1 ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING NOTES AND TO THE SATISFACTION OF THE ENGINEERING MANAGER.  
Additional requirements to those shown in Appendix 4 may be necessary for a particular location and will be determined on site by the Engineering Manager.
- 1.2 The Contractor shall be responsible for traffic control while undertaking work within the road reserve. All signage to be in accordance with Transit New Zealand's COPTTM for vehicle counts over 500vpd; and COPTTM Local Road Supplement (LRS) for vehicle counts up to 500vpd.
- 1.3 The Contractor shall be responsible for the cost of repairs to any underground utility services damaged during construction. Any damage shall be rectified to the satisfaction of the Utility Owner.
- 1.4 A Residential Vehicle Entrance is considered adequate to accommodate a 5m long car turning into a property at a radius of 7.5m.
- 1.5 The centreline of the entrance formation meeting the carriageway shall not exceed angles over 30 degrees from the perpendicular to the road centreline.

### 2.0 LOCATION

- 2.1 Each entrance shall be located to provide clear sight distance in both directions in accordance with Appendix 5: Entranceway Sight Visibility and Separation Distances).

### 3.0 CULVERT

- 3.1 If an entrance crosses a public drain the Contractor shall notify Otorohanga District Council who will advise of the correct culvert diameter.
- 3.2 Where an entrance crosses a watertable or small drain (less than 2m wider by 1m deep), a 300mm diameter minimum Reinforced Concrete Rubber Ring Joint (R.C.R.R.J) class X pipe shall be installed.
- 3.3 Any unsuitable bedding material including vegetation, topsoil and peat shall be removed and replaced in accordance with pipe manufacturers specifications.
- 3.4 All culverts shall be laid straight at a constant grade, a minimum of 1.5m from the edge of carriageway. The socket end shall always be uphill.

### 4.0 SUB-BASE

- 4.1 A minimum CBR of 5% is required before placement of sub-base material. If this CBR cannot be achieved, Councils roading staff can advise how to proceed. This may involve an additional depth of pavement construction, or the installation of geosynthetics.
- 4.2 Pit sand, brown rock or similar material shall be placed, trimmed and compacted to provide 150mm depth of sub-base if required. The sub-base shall be placed from the edge of the carriageway to the gate or cattlestop.

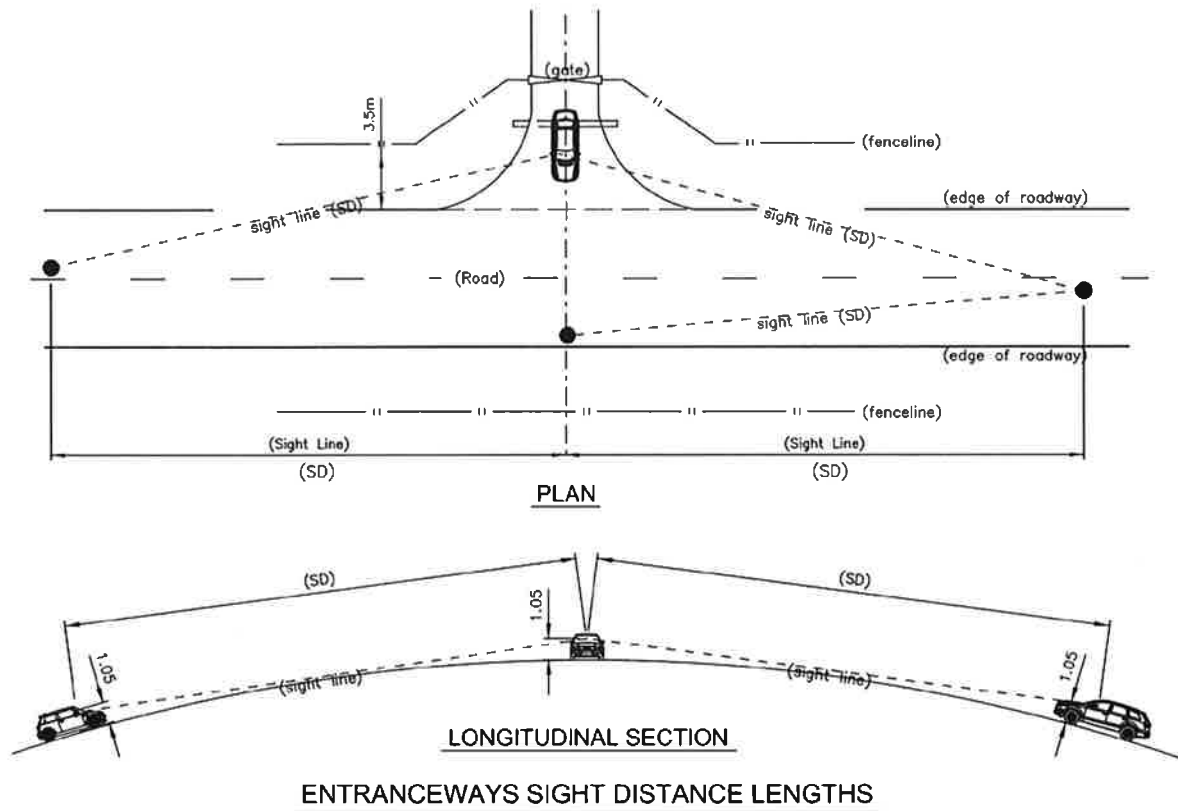
### 5.0 BASECOURSE

- 5.1 GAP40 basecourse metal complying with TNZ: M4 & M3 notes, shall be placed, trimmed and compacted to the depth of basecourse as specified in 'Appendix 4: Pavement Cross Section Details – Footpaths, Pavement Vehicle Crossings & Depressed Kerb & Channel' – from the carriageway to the gate or cattlestop.
- 5.2 Basecourse material shall be trimmed to provide a crown in the centre of the entrance to ensure adequate surface drainage. The crossfall shall be between -3% to -5% from the crown.

### 6.0 SURFACING

- 6.1 Each entrance off a sealed road shall be surfaced with a two coat bitumen / chip seal as a minimum surfacing standard. The surfacing shall be constructed with 180/200 grade bitumen and Grade 3 and 5 chip. Area of seal is to comply with Appendix 4: Vehicle Entranceways – Rural, or for urban entrances Appendix 4: Vehicle Entranceways – Urban.
- 6.2 If the entrance is off a metal surface road. No additional surfacing over the basecourse material will be required. (sealing is not required).

## Appendix 5: Entranceway Sight Visibility and Separation Distances



### ENTRANCEWAY DIMENSIONS

Operating Speed	Minimum Sight Distance in any direction (SD)	Distance between Entrances (DE)	Distance between Entrances & approach to an Intersection (DEI)	Distance between Entrances & Departing an Intersection (DEI D)	Distance between Intersections (DI)
50	44	15	20	30	150
60	63	20	50	50	200
70	86	40	100	100	400
80	115	100	120	120	800
90	140	150	160	150	800
100	170	200	200	200	800

Also Refer to ODC Policy document 'Evaluation and Approval of New Vehicle Entrance Guidelines'

NOTE: Column 'Minimum Sight Distance in any direction (SD)' applies on Sealed Roads to vertical grades below 4%

