

SECTION F

KERB AND CHANNEL CONSTRUCTION

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SECTION F

KERB AND CHANNEL CONSTRUCTION

F.1 GENERAL

The Contractor shall, before proceeding with the construction of road pavement, construct concrete kerbs and channels along sides of road pavement to alignment as directed and indicated on plans.

The work shall be carried out accurately to the alignments, gradients and cross-sectional profiles indicated on plans.

F.2 KERB MAKING MACHINE

The Contractor shall carry out all of the kerbing and channelling works of this contract with an approved kerb making machine, (except as under Clause. F.5).

This machine shall be capable of producing first quality kerbing and channelling true to line and level and complying with Clauses F.7, F.8 and F.9 of this specification.

F.3 BEDDING MATERIAL

Unless otherwise specified the following bedding depths will be provided beneath kerb and channel:-

| Pavement Depth | Bedding Depth |
|-----------------------|-----------------------|
| 100mm - 150mm | No Bedding |
| 200mm - 250mm | 50mm |
| Over 250mm | To match boxing depth |

The bedding material shall be 20mm class 3 fine crushed rock or material to match the sub-base material.

F.4 COMPACTION OF BED

The kerb and channel bed shall be compacted with a vibrating roller of equivalent weight equal to four (4) tonnes.

The bed shall be watered prior to compacting and placement of concrete. The bed shall be inspected before placing kerb and channel and any unstable bedding rectified prior to casting of concrete.

F.5 FORMWORK

Where radial returns of less than three metres radius are encountered, the Contractor shall use approved formwork consisting of 300 mm wide back forms and 190 mm wide front forms.

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F.5 FORMWORK (cont'd)

Steel templates of thickness 3 mm, cut true to the Mornington Peninsula Shire Council standard drawings, shall be inserted at no more than three metre intervals.

Formwork will not be permitted on any other phase of kerb and channel work unless written approval is obtained from the Superintendent.

Approval will only be given in special cases and then only for the use of steel formwork of approved manufacture.

Where formwork is used, all templates shall be boned true to grade or set true to level before any concrete is poured.

F.6 CONCRETE

Refer to Section H.

F.7 PLACING OF CONCRETE

Placing of concrete shall be carried out without separation of the aggregates.

Concrete shall be compacted as specified in Clause F.8 below.

The machine operator shall at all times maintain an accurate vertical and horizontal trace of the pre-set line and level profile.

F.8 COMPACTION OF CONCRETE

Machine extruded concrete shall be dense and free of any faulty or honeycomb patches.

Where Kerb and Channel is being placed on steep grades, sufficient means shall be employed for controlling the speed of the extruding machine to allow the specified density for the concrete to be achieved. (Refer Clause H9)

Where formwork is used the concrete shall be compacted by manual spading and rodding whilst it is being placed. Concrete density shall be verified by core testing as specified in Clause H.9.

The Contractor shall replace any faulty concrete.

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F.9 SURFACE FINISH

The surface finish of the kerbing and channelling shall be produced by the application of approved cement mortar as specified below applied by the machine to the newly formed kerb and channel surface as soon as the surface emerges from the machine. Kerb and channel that fails to comply with the following will be treated in accordance with H.14.

The rendering coat for plain concrete shall be: -

| | | |
|-------------------|---|---------|
| Sand | : | 2 Parts |
| Basalt Stone Dust | : | 1 Part |
| Cement | : | 1 Part |

The rendering coat for coloured concrete shall be: -

| | | |
|-------------------|---|---------------------|
| Sand | : | 2 Parts |
| Basalt Stone Dust | : | 1 Part |
| Cement | : | 1 Part |
| Code 420 - Yellow | : | $\frac{1}{25}$ Part |
| Code 686 - Brown | : | $\frac{1}{25}$ Part |

(All measurements by weight).

Note: There is a weight difference between Code 420 – Yellow and Code 686 – Brown.

The above ratio must be achieved for the correct and consistent colour of the rendering coat.

A pre-mixed colour is available as 'abilox® *Mornington Peninsula*' (or approved equivalent). Dose rate for pre-mixed colour is as prescribed by the manufacturer to achieve the correct colour. For 'abilox® *Mornington Peninsula*' the dose rate is 8.3% in grey cement (by weight).

For further information on pre-mixed colour - contact Ability Building Chemicals Co. Telephone (03) 9457 6488

F.10 COLOUR OF RENDERING COAT

HP Colour of the rendering coat is to be confirmed with the Superintendent.

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F.11 JOINTS

Distinct and complete transverse joints shall be made at intervals not exceeding 3.0 metres.

Joints shall be truly square and vertical and edges of joints will be neatly finished.

Joints shall correspond as to location on opposite sides of road pavement.

Where a kerb extrusion machine is used the Contractor must ensure that a complete transverse cut is made through the section at intervals not exceeding 3.0 metres.

F.12 TOLERANCES ON LINE, LEVEL AND SHAPE

All kerb and channel shall be finished in conformity with the lines, grades, thicknesses and cross sections shown on the drawings or as specified, within the following limits:

- (a) The departure of the finished work from line and level shall not exceed 10 mm in 10 m at any point, and the rate of change of deviation from line or level shall not exceed 10 mm in 10 m. Except on curves or shaped areas, the deviation of the finished work from a 3 m straightedge shall not exceed 5 mm at any point.
- (b) Section dimensions shall not differ from those shown on the drawings by more than 5 mm except that the overall width shall not exceed the specified width by 15 mm; and on dimensions less than 25 mm the tolerance shall be ± 3 mm.

F.13 VEHICULAR AND PRAM CROSSINGS

HP Crossings to make provision for vehicular access to properties, pram crossing, and opposite lanes, right-of-ways, etc., shall be provided where directed. Where such access is not detailed on the plans the Contractor shall seek direction from the Superintendent.

At residential premises they shall be provided at existing vehicle entrances or at the lower side of each vacant allotment, unless otherwise directed.

Vehicular crossings shall generally have a trafficable width of three metres but the width shall be greater where conditions dictate it.

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F.13 VEHICULAR AND PRAM CROSSINGS (cont'd)

Where double crossings between allotments are provided they shall be of a width to suit the existing drives or where no drives exist the trafficable width shall be not less than 3.800 metres to each allotment.

The crossings shall be formed by the removal of the fresh concrete kerb to the invert height between the exact limits of the crossing.

The new crossing section shall immediately be shaped and trowelled to the exact shape detailed on plan.

All of the necessary trowelling and finishing works on crossings shall be completed within thirty (30) minutes of placing of concrete and rendering coat.

F.14 KERBS AND CHANNELS AT INTERSECTIONS

Kerbs and channels shall be constructed at street intersections to alignment and levels as indicated on plans or as directed.

Provision for pedestrian traffic shall be made by the construction of invert sections with kerbs returned or terminated as detailed on plans.

F.15 KERBS AND EDGE STRIPS

The respective clauses in this specification shall also be taken to apply to the construction of the concrete kerbs and edge strips as shown on plans.

F.16 HOUSE DRAIN CONNECTIONS

Kerb outlets shall be made by placing a supporting frame over the kerb and channel and cutting a 95 mm diameter hole in the freshly formed kerb, the bottom of the opening being flush with the invert of the channel.

The finished hole shall be neat and surrounded by sound dense concrete presenting a perfectly true shape of the kerb and channel section.

Existing houses draining to the street shall each be provided with 100 mm diameter stormwater U.P.V.C. (sewer grade) pipes laid from 150 mm behind the building line and extended into the kerb outlet. The connection into the kerb outlet shall be through a 100 mm to 90 mm adaptor piece. The joint at the kerb outlet shall be carefully sealed with cement mortar.

All existing house drains shall be relaid where necessary to conform to altered levels and be reconnected to the 100 mm diameter U.P.V.C. pipe.

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F.16 HOUSE DRAIN CONNECTIONS (cont'd)

All damaged or broken pipes shall be replaced by the Contractor.

Where house drain outlets connect to the underground drain system behind rollover kerb and channel, they shall be marked with "H/D". "H/D" shall be at a point of 90 degrees to the outlet at the building line and cut into the face of the kerb as described in Clause F16.

“H/D” shall have a vertical dimension of 40 mm and a horizontal dimension of 25 mm.

“H/D” shall be a groove 6 mm wide and 6 mm deep.

The invert at the beginning of each pipe run shall be located above the top of the pit outlet and the invert at the end of each pipe run, when not shown on the drawings, shall be located not less than 100 mm above the invert of the pit outlet.

Where longitudinal drainage is not provided -

Kerb Outlets shall be provided for all existing house drains and at the lower side of vacant allotments or where directed by Superintendent.

F.17 SERVICE CONDUIT INDICATORS

The position of all water service and Telephone, Electricity and Gas conduits shall be inspected and approved before concrete kerbing and channelling is placed.

As soon as the kerb and channel has been placed, and before the rendering has attained its set, the Contractor shall, for water service conduits, cut a neat circle or ring of internal diameter 50 mm in the face of the kerb. For conduits used by particular authorities the Contractor shall cut a neat "T" having 40 mm upright and bar dimensions on the face of the kerb. The markings shall consist of a groove 6 mm wide and 6 mm deep and shall be located within the circle and strictly in accordance with the indicator pegs.

“E” for underground electricity and "G" for gas.

Where no kerb and channel is used their location will be marked by concrete indicator posts located at the property boundary. Refer Standard Drawing MP017.

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F.18 CURING

Immediately following the finishing of the surface, the Contractor shall evenly spray or paint on to the new surfaces, an approved coloured membrane curing compound at not less than the manufacturer's recommended rates.

At the end of the curing period, the kerbing and channelling shall provide a dense, hard wearing surface.

F.19 PROTECTION OF CONCRETE

All concrete shall be adequately protected from damage by pedestrians, animals, vehicles, rain or any other cause.

The Contractor shall give 24 hours notice to the owner concerned in any private crossing that no motor vehicle will be permitted to cross over the concrete until at least four (4) days after the completion of the laying of the concrete and, if such vehicle is over 1.5 tonnes in weight, until at least seven (7) days after laying.

The Contractor shall be held responsible for any damage to concrete during the period of this contract.

F.20 MATCHING EXISTING SECTIONS

Where it is necessary to match a kerb, channel, etc., to an existing section it shall be done so as to appear identical with the existing section.

F.21 BACKFILLING

After the concrete has set sufficiently and not sooner than three days after placing, the spaces on both sides of the kerb and channel shall be refilled with sound material, which shall be compacted in layers not exceeding 150 mm in thickness, the whole being left in a neat and workmanlike manner.