SECTION 9 : KERB & CHANNEL, CATCHPITS AND SUBGRADE DRAINAGE

9.1 KERB & CHANNEL WITHIN EXISTING PAVEMENT

9.1.1 Attention is drawn to the Standard Cross Section details and to Section 8 - Concrete Works.

9.1.2 Kerb And Channel Removal

Prior to the work commencing, the lengths of kerb and channel that are to be removed shall be marked on site and agreed with the Engineer.

9.1.3 Saw Cutting

Prior to removal, the kerb & channel shall be sawcut vertically to ensure a clean break. The existing sealed surface shall be saw cut parallel to and at a distance of 500mm, or greater if required, from the existing channel lip. The seal shall also be cut perpendicular to the kerb from the point of kerb removal to the parallel seal cut line.

If the kerb & channel to be removed abuts against any berm seal (e.g. sealed footpath) the sealed surface shall be saw cut at a distance behind the kerb face suitable for reinstatement.

9.1.4 Excavation To Pavement Depth

Refer to Standard Details for excavation dimensions.

After saw cutting, the kerb and channel and pavement shall be excavated to the proposed pavement depth or deeper if required. The sides of the excavated area shall be trimmed to be as near as possible to vertical.

Care shall be taken to ensure that undermining and/or overbreak does not occur during excavation.

All waste material including the old kerb and channel shall be removed from the site and disposed of.

9.1.5 Subgrade Preparation

The exposed subgrade (at the required depth), shall be tested using a standard scala penetrometer. The prepared subgrade shall be compacted to the CBR specified.

If the material fails this initial test it shall either be:

i) further compacted, if the material is suitable, to improve the CBR value, or

ii) excavated and removed from site, then backfilled with pitsand and compacted to the subgrade level.

All pitsand backfill shall be compacted in lifts of not more than 100mm.

The subgrade area either insitu or imported shall be trimmed and shaped to accommodate the specified lines and levels given and compacted to provide uniform support for the pavement course.

All tree roots found in the subgrade or pavement area during excavation shall be removed. They will be severed 0.5m behind the back or front of the kerb and be removed off site. Any root greater than 50mm in diameter shall be cleanly saw cut. No such roots shall be cut without the prior approval of the Engineer if they are within the dripline of the tree.

9.1.6 Kerb & Channel Foundation

After the subgrade has been satisfactorily completed to line and level a compacted layer of GAP 40 75mm deep shall be placed. Compaction shall be to refusal.

The surface of the GAP 40 shall be smooth and uniform, suitable for the placing of the kerb and channel concrete.

9.1.7 Kerb And Channel Placing

Refer to Section 8 - Concrete Works for the placement of kerb and channel.

9.1.8 Carriageway Reinstatement

After the kerb & channel concrete has hardened the carriageway shall be reinstated to marry into the existing carriageway and new kerb & channel lip.

If not already achieved during the kerb base construction, the carriageway shall be excavated to a minimum depth of 225mm at the channel face. The excavation base shall be flat and level up to the edge of the saw cut seal. All excavated faces shall be vertical.

The subgrade shall be compacted to a CBR of at least 10.

The specified basecourse metal (either GAP40 or NZTA M4 AP40) shall be placed on the prepared subgrade in layers not exceeding 150mm and compacted to refusal. The depth of basecourse is dependent on the surfacing, either asphalt or chip seal, but in no circumstances will it be less than 175mm (i.e. 50mm of asphalt surfacing).

9.2 KERB AND CHANNEL IN NEW PAVEMENT

9.2.1 As per 9.1 except all references to carriageway protection and reinstatement (i.e. sawcutting of carriageway, vertical face of excavation in carriageway, etc) shall not be required for this activity.

9.3 CATCHPITS

9.3.1 General

Refer Drawings No. TS 347, 348, 349, 350 and 351.

The precast components shall comprise either:

	Manufacturer
675 x 450 x 1650 Catchpit Flat Top	Hynds/Humes
675 x 450 x 1650 Catchpit Top (Back Entry)	Hynds/Humes
600 dia x 1800mm Circular Sump Barrel	Humes
750 dia x 1800mm Circular Catchpit Barrel	Humes
225 dia x 1200mm Socketed Culvert Pipe Class X	Hynds/Humes
675 x 450 x 1650mm Rectangular Catchpit Barrel	Humes
675 x 450 Cast Iron Grate and Frame	Humes/Surecast
300 dia Cast Iron Grate to suit socket of 225 dia culvert pipe	
610 x 310 Galvanised Web Grate and Frame	Hygrade/Humes
Fish Symbol	Surecast/Castech

The construction specification as described in Part 4 — Stormwater and Wastewater Sewers, Section B shall apply.

Catchpits shall be accurately positioned so that the grate and kerb block fit neatly into the kerb and channel. Rectangular pits shall be oriented with the longer side parallel to the kerb.

Catchpit leads shall be of the size and material detailed on the plans or specification and shall discharge where detailed.

The connection of the lead into the catchpit shall be constructed as detailed in Part 4.

Alternative oil trap details may be permitted providing they achieve a similar result. Details must be submitted for approval prior to construction.

9.4 SUBGRADE DRAINAGE

9.4.1 General

Refer Drawing No. TS 321.

Where subsoil drains are required as shown on the Drawings or directed by the Engineer, they shall be placed behind the kerb unless shown or directed to be in front of the kerb. The subsoil drains shall consist of an approved filter drainpipe 100mm to 150mm diameter or equivalent in a trench backfilled with an approved filter material around the conduit. The conduit shall have a grade not less than 1 in 200 to discharge into the catchpit.

Related Standard : Pipe Subsoil Drain Construction NZTA F/2 : 2000.

9.4.2 Additional Subsoil Drainage

Where directed, any permanent wet spot in the subgrade shall be drained to the below the kerb drainage system. Where the wet area is below the level of the subsoil drain, it shall be drained using approved filter drainpipes connected to the nearest stormwater system.

9.4.3 Other Requirements

NZTA F/2 filter material shall not be used as a filter material in close proximity to HDPE slotted pipe. Unless directed elsewhere in these documents, peametal shall be for backfilling around HDPE slotted pipe. Where backfilling a subsoil drain with filter material to all sides of the pipe, the minimum cover shall be 100mm. Where strip drain is approved backfill with permeable sand.

The invert of subsoil conduits at the catchpit shall not be less than 100mm above invert of catchpit outlet (catchpit outlet invert is 1.0m below top of kerb).