Culverts
Where practicable, the bed of the culvert should reproduce the natural bed conditions of the watercourse. This may include artificial pool-riffle systems (Figure B3); however, consideration needs to be given to potential mosquito problems and debris blockage within the culvert.

Daytime lighting conditions
Light should be encouraged in the culvert, or in the case of a multi-cell culvert, into the migration cell(s). In multi-lane roads, stormwater drop inlets can be installed into the median strip to allow the entry of light as well as stormwater.

As a general rule, if the road is wide enough to need a raised or painted median, then it is wide enough to need the introduction of a skylight into the dedicated migration cells.

Low flow channel
Low flow channels are necessary in culverts for both aquatic and terrestrial movement (Figures B1 and B2). They are an important aspect of terrestrial movement because they assist in the development of a dry bed condition that is necessary for the migration of many species.

The formation of an elevated fauna path will achieve the terrestrial movement requirements of a low flow channel, but may not achieve the requirements necessary for fish movement.

The low flow channel should satisfy the following conditions:
(i) maximum flow velocity 1 m/s;
(ii) maximum flow velocity of 0.3 m/s at a depth of 0.2 - 0.5 m;
(iii) where practicable, a minimum flow depth of 0.2 - 0.5 m;
(iv) low levels of large-scale turbulence (relative to flow depth), ie whirlpools.

Figure B1 Single cell culvert (cross-section) showing possible treatment options