

### **3.8 Process for Design of Culverts (State Design)**

The following applies to projects which are not assigned to Consultant Engineers:

- **Drainage areas less than or equal to 81 ha (200 ac)...**The State Design Section typically designs cross culverts conveying drainage areas less than or equal to 81 ha (200 acres). Culverts should be designed in accordance with the criteria discussed in Chapter 6 (Hydrology) and Chapter 8 (Culverts).
- **Drainage areas between 81 ha (200 ac) and 259 ha (1 sq. mi)...** Culverts conveying drainage areas between 81 ha to 259 ha (200 acres to 1 sq. mile) can be designed either in State Design or in Hydraulics and Drainage. The methodologies used to develop the design discharges are different from an 81 ha (200 acre) culvert crossing as discussed in Chapter 6 of this manual. If requested, the Hydraulics and Drainage Section can assist State Design with the analysis. The design includes an abbreviated analysis. Coordination is necessary between the Hydraulics and Drainage Section and State Design to determine the survey requirements for the site.
- **Drainage areas greater or equal to 259 ha (1 sq. mi)...** Culverts conveying drainage areas of this magnitude require detailed hydraulic designs. The analysis is performed by the Hydraulics and Drainage Section as requested. The advancement of hydraulic designs for projects assigned to the State Design Section is outlined in Section 3.9.