

7.3 Design Criteria

7.3.1 General

Design criteria establish the standards by which practices are placed into action. They form the basis for the selection of the final design configuration. Listed below are examples of design criteria which shall be considered for channel design.

7.3.2 Roadside Channels (Type A)

The following criteria apply to roadside channels:

- Channel side slopes shall not exceed the angle of repose of the soil and/or lining and shall be 1V:2H or flatter in the case of rock-riprap lining and 1V:3H in the case of vegetative lining.
- Flexible linings shall be designed according to the method of allowable tractive force.
- The design discharge for permanent roadside ditch linings shall have a 10-year frequency while temporary linings shall be designed for the 2-year frequency flow.
- Channel freeboard shall be 0.3 m (1 ft) or two velocity heads, whichever is larger.
- ConnDEP requirements for Type A channels shall be included in the design (see Section 7.2.2).

7.3.3 Natural Channels (Type B)

The following criteria applies to watercourse channels.

- If relocation of a natural channel is unavoidable, the cross-sectional shape, meander, pattern, roughness, sediment transport, capacity, channel slope, and side slope shall conform to the existing conditions insofar as practicable. Some means of energy dissipation may be necessary when existing conditions cannot be duplicated.
- Streambank stabilization shall be provided, when appropriate, as a result of any stream disturbance or encroachment and shall include both upstream and downstream banks when required, as well as the local site.
- ConnDEP requirements for Type B channels shall be included in the design (see Section 7.2.2).