

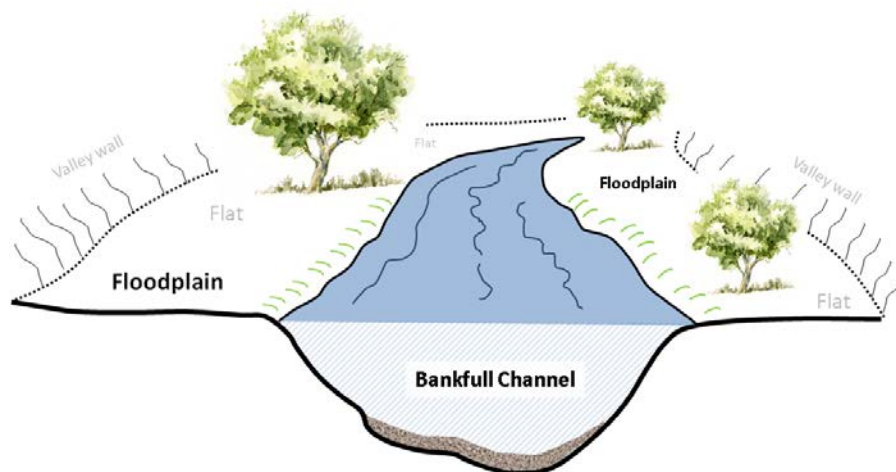
Channel Design Fact Sheet

Designing a channel opening at a river intersection using geomorphology can become complex. For this design approach, the primary design metric to apply for the channel is **bankfull channel width**. In addition to width this approach promotes using a bottomless culvert which spans the entire channel. When achieved, the design will provide many benefits to the natural system.

Two benefits to the natural channel are:

1. Freely adjust vertically, and
2. Flow continuity through the road (fill placed)

This is particularly beneficial when floodplain connectivity is included into the design. Ongoing research and project development continues and will be reported as discoveries are encountered.



Additional Guidance

These resources promote a series of site specific design considerations for channel openings, but the application of all may not be achievable. To the amount allowable, the channel design should conform to the bankfull channel dimension, slope, and bedload sediment depth as site constraints allow.

- [Minnesota Department of Transportation Design Manual – chapter 2](#)
- [Minnesota Department of Natural Resources – River Ecology](#)