

# Constructed Ditch FACTSHEET

## BRIDGE CONSTRUCTION

Constructed ditches often break up the integrity of a field requiring a crossing to access the entire property. The best type of crossing over any watercourse is a clear span structure. Where a ditch has excellent fish habitat a bridge should be used. The bridge deck and footings should be located above the highest water level. For very small ditches a culvert may serve as the best method of constructing a crossing.

When crossing a channelized stream or natural stream a bridge should always be the first choice for a crossing. Special circumstances may warrant a different type of crossing but bridges offer the least disturbance of vegetation and fish habitat to the channel.



### Conditions Specified for Bridge Construction

The following conditions should be followed when constructing or maintaining a bridge.

- The bridge must be designed to withstand maximum loads. For example a full manure tanker will require a bridge capable of large loads. The two designs given in this factsheet can be used.
- All construction and/ or repair work must be undertaken during favourable weather conditions
- For new installations, the bridge must be clear span. This means that the bridge deck and footings must be completely above the high water mark.

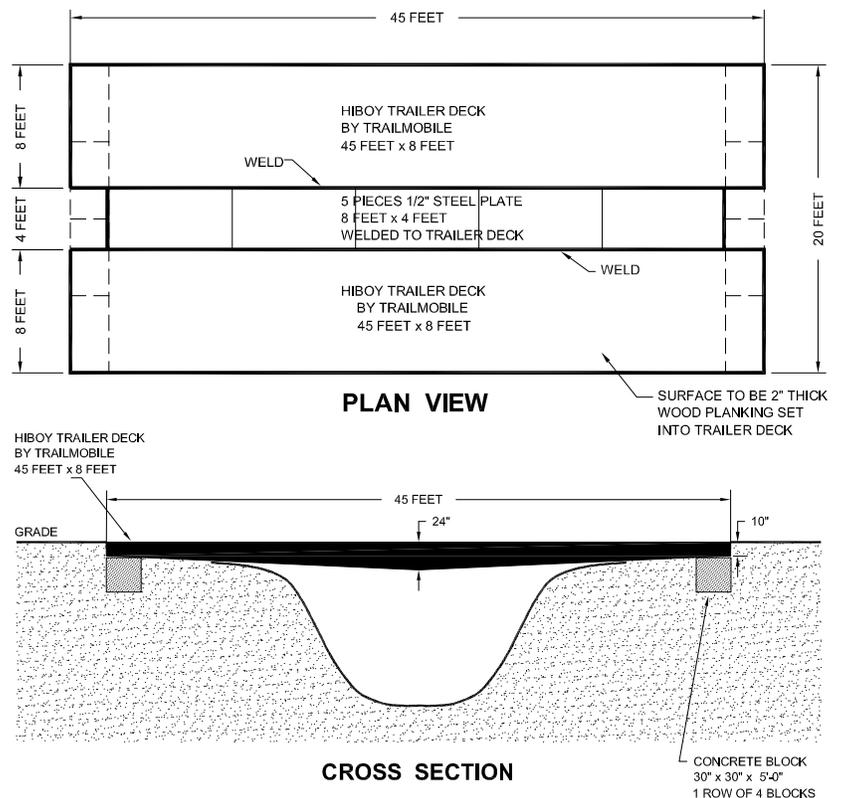
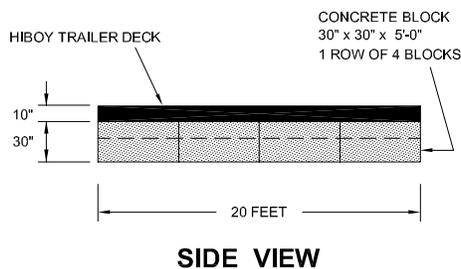


Figure 1 Hi-Boy Bridge Construction

- All work must be conducted and completed in such a manner as to prevent the release of silt, sediment or sediment-laden water, raw concrete or concrete leachate, construction wastes or any other deleterious substances into the ditch. For further details see *Sediment Control*, Factsheet No. 8 in this series.
- No concrete works may be undertaken within the wetted perimeter of the ditch. See concrete information below.
- All equipment and machinery must be free of leaks or excess oil and grease. Equipment re-fuelling or servicing or storage of fuel must be undertaken a minimum of 15 meters from the ditch.
- Any disturbed areas at the top of bank should be re-graded and stabilized by seeding or re-vegetating with *native* riparian vegetation upon completion of the work to prevent surface erosion and/or siltation of the constructed ditch.

- Vegetation in and/or adjacent to the ditch is to be disturbed as little as possible.
- If sand blasting or other maintenance activity that may cause material to enter the channel contact Fisheries and Oceans Canada (DFO).

## Concrete

If any concrete, cast-in-place concrete, or grouting works are to be undertaken, a high potential exists for concrete and/or concrete leachate to enter a watercourse. Concrete, concrete leachate, grout and other uncured concrete substances (e.g. concrete bags for headwall construction) are deleterious and highly toxic to fish and other aquatic organisms. To perform any concrete-related works all water must be completely isolated prior to the commencement of any instream works. In addition, measures must be taken to prevent the incidence of concrete from entering a watercourse, ravine or storm sewer system for a minimum of 72 hours after the works have been completed to ensure that the concrete has fully cured. Where concrete works are proposed, the Ditch Maintenance Form (DMF) should be completed and sent to DFO. The DMF is attached to Factsheet 3, *Agency Contact Requirements for Constructed Ditch Maintenance*.

## Approval Requirements

A clear span bridge constructed on a channelized or natural stream will only require notification from Ministry of Water, Land and Air Protection if the footings are above the high water mark. For bridges that require work in the stream approval from LWBC and authorization from DFO may be required. See Factsheet 20, *Agency Contact Requirements for Channelized and Natural Streams*.

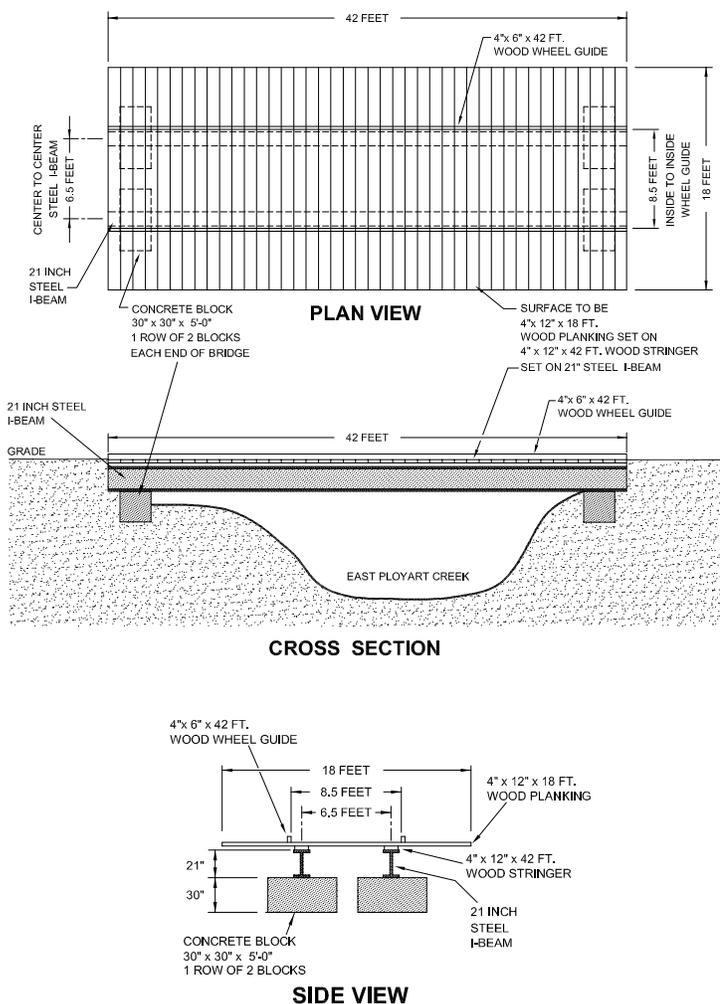
Considerations for approval will include:

- Justification for the bridge. Describe why the crossing is necessary.
- Amount of vegetation disturbance.
- Amount of disturbance in the active floodplain.

For constructed ditches agency contact is not required providing that the bridge is clear span, there is no loss of riparian vegetation and no work will be done below the top of bank.

## Contact Information

*Agency Contacts*, Factsheet No. 19 in this series contains contact information for various agencies.



**Figure 2 I-Beam Bridge Structure**