



This document provides guidance to designers for typical language to use for the Sequence of Construction for typical small bridge replacement projects incorporating the use of either Temporary Diversion Pipe or Pump for maintaining stream flow. The recommended Sequence of Construction notes on this document are merely guidance; it is still the designer's responsibility to ensure all necessary and relevant notes are shown on the plan set and are project specific.

**Sequence of Construction Notes for Bridge Projects utilizing Temporary Diversion Pipe(s).**

1. Install MOT devices in accordance with the Detour Plan.
2. Install Silt Fence (Item 905xxx) except at connections to *Sandbag Dikes or Sheetpiles* (Item 909005 or 207500).
3. Stabilize the proposed discharge area of each pipe with a 5' x 5' area of R-5 Riprap (Item 909005). Install X' - XX" Temporary Diversion Pipe(s) (Item 909005) at location(s) shown. Place the upstream end of the pipe *to match or 6-inches to 12-inches above* existing stream bottom using pipe with water-tight joints. Secure the pipe to minimize movement under use to prevent leakage into the work area. Construct the *Sandbag Dikes or Sheetpiles*, at the locations shown, with top EL. of XXX.XX or 6 inches below top of stream bank (whichever is lower) with a X' x X' weir opening upstream. Upstream *Sandbag Dikes or Sheetpiles* shall be constructed before the Downstream *Sandbag Dikes or Sheetpiles*. Elevation of the downstream *Sandbag Dikes or Sheetpiles* shall not be higher than the lowest elevation of the Upstream *Sandbag Dikes or Sheetpiles*. Connect Silt Fence to *Sandbag Dikes or Sheetpiles* to completely enclose the work area. The base flow through the temporary pipe(s) shall be XXX.XX c.f.s. (NOTE TO DESIGNER: THE WEIR SHOULD BE DESIGNED TO ACCOMMODATE A 1-YR STORM. ALSO, THE SANDBAG DIKE/SHEETPILE TOP ELEVATION SHOULD BE DESIGNED FOR OVERTOPPING OF A 2-YR STORM OR GREATER, HOWEVER, IN NO CASES SHOULD THE SANDBAG DIKE/SHEETPILE TOP ELEVATION BE HIGHER THAN 6 INCHES BELOW THE TOP OF STREAM BANK.)
4. Install Sump Pit (Item 906003) and *Portable Sediment Tank (Item 906001) or Dewatering Bag (Item 906002)* as a sediment trapping device. Dewater the work area in accordance with Section 902 of the Standard Specifications. Discharge clean effluent from the approved sediment trapping device at the stabilized outlet of the Temporary Drainage Pipe(s) or on other stable outlet as approved by the Engineer. (NOTE TO DESIGNER: ADDITIONAL NOTES WILL BE NECESSARY TO ADDRESS ANY RELOCATION OF TEMPORARY DIVERSION PIPES.)
5. *Add other steps needed to construct bridge or culvert.*
6. Remove temporary erosion and sediment control devices after vegetation has stabilized all disturbed areas in accordance with these Plans and as directed by the Engineer.
7. Remove all MOT devices and reopen the roadway. Removal of MOT devices may occur prior to removal of temporary erosion and sediment control devices.

**Sequence of Construction Notes for Bridge Projects utilizing Pump(s).**

1. Install MOT devices in accordance with the Detour Plan.
2. Install Silt Fence (Item 905xxx) except connection to *Sandbag Dikes or Sheetpiles* (Item 909005 or 207500).
3. Install Stilling Well (Item 909005) just upstream of the proposed upstream Sandbag Dike. Place R-5 riprap (Item 909005) 5 feet in direction of flow by 5 feet wide at the proposed discharge area.
4. Construct the *Sandbag Dikes or Sheetpiles*, at the locations shown, with top EL. of XXX.XX or 6 inches below top of stream bank (whichever is lower) with a  $X' \times X'$  weir opening upstream. Elevation of the downstream *Sandbag Dikes or Sheetpiles* shall not be higher than the lowest elevation of the Upstream *Sandbag Dikes or Sheetpiles*. Connect Silt Fence to *Sandbag Dikes or Sheetpiles* to completely enclose the work area. Use Pump (Item 909005) to divert the stream base flow around the enclosed work area. When the flow is higher than pump capacity during rainfall events, the stream flow is allowed to flow over the *Sandbag Dike or Sheetpile*. Therefore, the enclosed area shall be kept clear of debris and obstructions at the end of each workday. The base flow through the pump(s) shall be XXX.XX c.f.s. (NOTE TO DESIGNER: THE WEIR SHOULD BE DESIGNED TO ACCOMMODATE A 1-YR STORM. ALSO, THE SANDBAG DIKE/SHEETPILE TOP ELEVATION SHOULD BE DESIGNED FOR OVERTOPPING OF A 2-YR STORM OR GREATER, HOWEVER, IN NO CASES SHOULD THE SANDBAG DIKE/SHEETPILE TOP ELEVATION BE HIGHER THAN 6 INCHES BELOW THE TOP OF STREAM BANK. PLEASE REFER TO EI BR-14-001 FOR FURTHER GUIDANCE ON SIZING OF THE PUMPS.)
5. Install Sump Pit (Item 906003) and *Portable Sediment Tank (Item 906001) or Dewatering Bag (Item 906002)* as a sediment trapping device. Dewater the work area in accordance with Section 902 of the Standard Specifications. Discharge clean effluent from the approved sediment trapping device at the stabilized outlet of the Pumping Operation or on other stable outlet as approved by the Engineer.
6. *Add other steps needed to construct bridge or culvert.*
7. Remove temporary erosion and sediment control devices after vegetation has stabilized all disturbed areas in accordance with these Plans and as directed by the Engineer.
8. Remove all MOT devices and reopen the roadway. Removal of MOT devices may occur prior to removal of temporary erosion and sediment control devices.