

## **Recommended Best Management Practices for Bridges**

1. Develop an effective site-specific erosion control plan for the construction and operation periods, considering inclusion of a wide range of erosion controls to protect shoulders, adjacent wetlands, ephemeral drainages, and slopes of the river or stream banks (e.g., silt fences on the edge and throughout the construction zone, hay bales, permeable concrete, drainage diversions, settling basins, seed cover or hydroseeding, mulches, straw, and sodding).
2. Install fences or other barriers to prevent parking in sensitive areas and educate all construction workers participating in the project on the need to protect sensitive sites.
3. Prior to, or at the beginning of, the construction period, create a grass filter strip between areas where erosion is likely to occur and the water body and route road runoff through the filter strip. Maintain at least 60% of the trees in the riparian zone. Avoid topsoil disturbance to the maximum extent possible.
4. Keep grades below 5%. Avoid sharp bends and build approaches along contours when feasible. Cross streams at right angles, on firm ground, with the road level on both sides. Span the entire stream, if possible, avoiding direct stream impacts.
5. Develop adequate incentives/disincentives for the selected contractor to accomplish construction in a timely manner with adherence to BMPs. Develop mechanisms to consider other contractor obligations as a result of existing contracts when awarding new contracts, if these obligations are likely to protract construction.
6. Include monitoring and routine maintenance requirements in the erosion control plan, including required inspections during and/or immediately after moderate to heavy rainfalls.
7. Require recordkeeping, including completion of an inspection checklist on the effectiveness of site-specific erosion controls and adherence to all BMPs specified in the site plan. Include requirements to inspect all previously identified sensitive areas in the inspection plan. Photodocumentation on compliance with BMPs is also recommended.
8. Conduct daily inspections of all construction and related equipment to assure there are no leaks of antifreeze, hydraulic fluid, or other substances. Develop a contract stipulation to disallow use of any leaking equipment or vehicles.
9. Prohibit use of hazardous materials such as lead paint, creosote, pentachlorophenol, and other wood preservatives during construction in, over, or adjacent to, sensitive sites during construction and routine maintenance. Require a spill prevention and response plan.

10. Between sites, routinely wash vehicles and other equipment to avoid spreading invasive species from location to location. Inspect sites periodically to identify and control new colonies/individuals of an invasive species not previously observed prior to construction.
11. Stabilize and revegetate portions of the construction site, including any roadside ditches as soon as possible, rather than waiting until project completion. Seed with fast growing, competitive, native species or non-native annuals that will allow succession to native vegetation yet provide erosion control. Consider grass strips in addition to riparian trees and shrubs to intercept sediments, nutrients, and herbicides. Minimize removal of natural vegetation during site preparation, construction and maintenance.
12. Include a bonding requirement or other financial or contract penalties sufficiently severe as to guarantee contractor compliance with restoration plans.
13. Avoid cumulative impacts from ancillary cables, utility, or transmission lines, and other expected infrastructure by providing for their attachment to bridge structures so as to avoid future, new construction.
14. Avoid use of temporary new roads as detours. Select existing routes, utilize single lanes or other alternatives.
15. Conduct post-project monitoring to assess the status and effects of the project on any known listed species in the project area or affected adjacent sites.