

**ENGINEERING DIRECTIVE**David Anderson (signature on original)**ACTING CHIEF ENGINEER****Superseded by E-16-003****Drainage Structures**

The purpose of this Directive is to reinforce MassHighway guidance and policies regarding the design, construction and maintenance of drainage structures and roadway drainage systems.

All drainage structures and drainage systems shall be designed and constructed in accordance with the latest editions of MassHighway's *Project Development & Design Guide*, *Bridge Manual*, *Construction and Traffic Standard Details*, *Standard Specifications for Highways and Bridges*, all relevant addenda, and all relevant directives and memoranda. In addition, design and construction personnel shall adhere to all manufacturers' recommendations, when available and applicable.

Catch basins and manholes should be located outside of travel lanes whenever possible. Personnel should pay special attention to temporary traffic patterns used during phased construction operations to ensure that catch basins and manholes are located outside of travel lanes or away from the normal wheel paths of motor vehicles.

Effective immediately, the installation of drainage structure risers is prohibited on all MassHighway roadways and facilities. All drainage structures that require adjustment shall be adjusted with bricks and mortar in accordance with MassHighway's construction standards and specifications. Only MassHighway approved materials and methods shall be allowed.

MassHighway personnel shall ensure that all drainage structures are set to the appropriate grades during all construction operations and for completed conditions. All covers and grates shall be supplied by the same manufacturer that supplied each applicable frame, and all components shall be in accordance with MassHighway material standards and specifications.

MassHighway personnel shall ensure through inspections, routine maintenance and other field activities that drainage structures are in good functional condition, provide reasonable ridability and do not pose any known threat to human health and safety due to disrepair. The following conditions shall be corrected as soon as practical.

- Risers found on existing structures shall be removed and the structures adjusted to the appropriate height using bricks and mortar.
- Frames, grates and covers found to be broken, cracked or compromised shall be replaced.
- Structures found to be collapsed, weakened or compromised in any way shall be rebuilt in accordance with all relevant standards.

If corrective actions can not be performed immediately due to material supplies, contractor availability, traffic conditions, etc., MassHighway personnel shall take all reasonable actions to protect the public from any potentially hazardous conditions until such corrective actions can be performed.