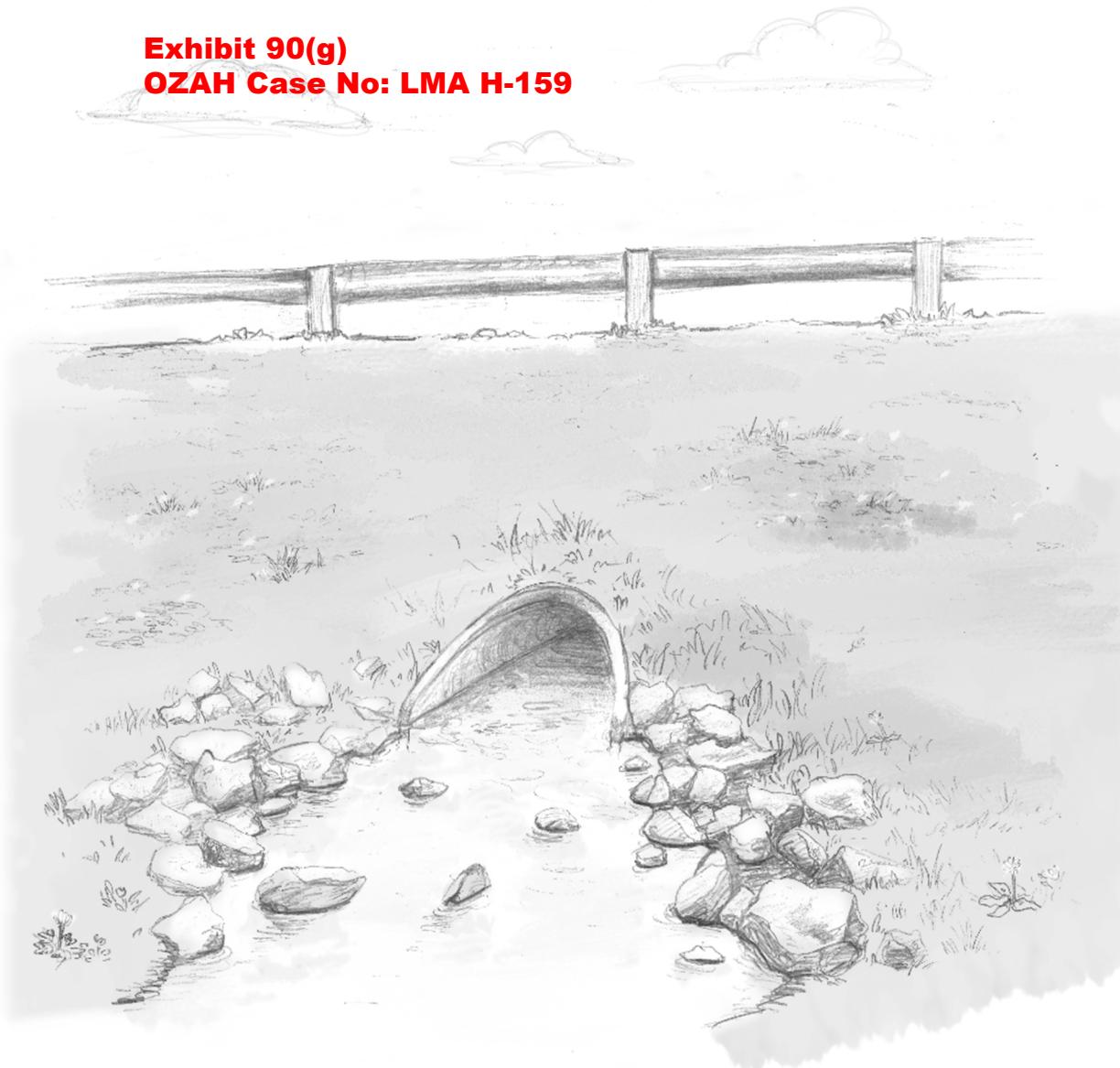


# HIGHWAY DRAINAGE MANUAL

**Exhibit 90(g)**  
**OZAH Case No: LMA H-159**



September 2023

## **1.3 DESIGNER RESPONSIBILITY**

The standards in this Manual provide a basis for uniform design practices for typical drainage design situations. Realizing that drainage design is primarily a matter of sound application of good engineering judgment, it is impossible to provide precise rules that may apply to all possible situations and scenarios that may arise. For appropriate design, engineers must preserve a reasonable and practical level of flexibility to account for safety, varying site conditions, regulations, and sustainability. Situations will exist in which the standards and requirements presented herein are inappropriate and do not apply. There will also be situations in which these standards and requirements are only adequate when exceeded. **The inappropriate use of and/or adherence to these standards does not exempt nor absolve the engineer from the professional responsibility of developing an appropriate and safe design.** The engineer is responsible for identifying standards that do not apply to a particular situation and for obtaining approval to deviate from the standards. Authority for project-specific changes from this Manual rests with the Highway Hydraulics Division Chief, and all variations from the standards in this Manual must be approved by the Division Chief or assigned designee prior to implementation or inclusion on a project. Design exception requests must include proper justification and documentation.

## **1.4 PHILOSOPHY**

Drainage system design is more than the application of the technical principles of hydrology and hydraulics. Sound drainage design is a matter of properly balancing technical principles and data with the environment, giving due consideration to other important factors such as safety and economics. A balanced design may only be accomplished by using sound engineering judgment and reason.

Design practicable drainage systems to remove water from transportation infrastructure and to convey surface water without causing adverse impacts to safety, adjacent properties, and environmental resources while perpetuating natural drainage patterns and complying with stormwater management (SWM) and other environmental regulations.

## **1.5 STATE DRAINAGE LAW**

Maryland applies a Civil Law doctrine to the flow of surface water. Owners of higher land are entitled to have surface water flow naturally onto the land of an adjoining lower property owner. If the runoff from a highway has historically been flowing to a particular location, the State has a continuing right to have the water flow to that location and the adjoining property owner has no right to interfere with that drainage of surface water. Likewise, if runoff from an adjoining property has been historically flowing onto lower MDOT SHA property as part of a natural drainage system, the adjoining property owner has a continuing right to have the water flow to that location and the State has no right to interfere with that drainage of surface water. No property owner, including MDOT SHA, has the autonomous right to substantially change the volume or direction of the natural flow of surface water.

Courts have adopted a “reasonableness of use” rule that’s intended to balance the benefits and harms caused by modifications to surface water flow. Essentially this rule implies that a landowner acting in good faith may modify surface water flow if it’s for a legitimate and necessary purpose and does not cause injury or hardship to the downstream property. If an injured party seeks injunctive relief, the court system would ultimately decide the reasonableness and resultant monetary damages, if applicable.