

2.3 RESILIENT DESIGN AND HAZARD MITIGATION

The Texas General Land Office (GLO) is leading the development and implementation of the Coastal Resiliency Master Plan (Plan) to protect communities and natural resources along the Texas Coast. The Plan will provide a framework for community, socio-economic, ecologic and infrastructure protection from coastal hazards, including short-term direct impact (e.g., flooding, storm surge) and long-term gradual impacts (e.g., erosion, habitat loss). The GLO is committed to protecting coastal resources and infrastructure by reducing vulnerability and protecting assets and the environment.

The Plan also provides a list of projects and strategies to address those problems – ensuring that the Texas coast is more resilient for generations to come. The initial screening process resulted in approximately 500 projects, programs, and land acquisitions warranting further evaluation. The Plan will continuously evolve along with the concerns and needs of the coast and its residents to ensure that recurrent and up-to-date coastal management is provided to coastal communities.

Key project types pertinent to stormwater management include:

- Restoration of beaches and dunes
- Bay shoreline stabilization and estuarine wetland restoration
- Freshwater wetlands and coastal uplands conservation
- Delta and lagoon restoration
- Water quality and restoration projects

While the Plan primarily focuses on existing development, this guidance manual also lends insight into creating new developments and communities that are resilient, strong and flexible. This can be accomplished by designing lifeline systems of roads, utilities, stormwater management, and water supply facilities that can continue functioning in the face of rising water, high winds, and subsiding ground. New development should be guided away from known hazard areas such as high tides, hurricane surges, and flood waters. Additionally, natural environmental protective systems should be conserved to maintain valuable hazard mitigation functions. The resiliency of an area is important to consider during the planning process for both new and existing developments. It is critical for community planners and engineers to attempt to mitigate future unknown hazards early on in the design process. This way, when disasters strike destruction to both people and property can be minimized. This sort of comprehensive approach to stormwater planning can protect every level of the community – from infrastructure and businesses to the lives and homes of citizens – during floods.

Hazard mitigation activities include planning to identify hazards and vulnerability, implementing smart growth and hazard mitigation plans before disasters occur, avoiding disaster areas (floodplains), and directing new development away from hazardous locations. Hazard mitigation also seeks to control identified hazards, using structural approaches such as flood works, slope stabilization, and shoreline hardening to attempt to reduce risks from potentially dangerous natural systems and to limit unwise public expenditures. Education is key in promoting development in this direction.

This guidance manual includes stormwater practices and development approaches that will function better when struck by disasters and enhance public safety. The guidance manual encourages low impact approaches for projects to obtain permit compliance while protecting water quality, managing runoff, minimizing long-term maintenance, and promoting public safety. Several of these development approaches are listed below with design guidance found in Chapter 4. In other words, this guidance manual connects low impact development practices to resilient design.