Drainage for Liveability

Spoil Banks and Flood Levees

Purpose

This guidance note outlines the Water Corporation and the Department of Water and Environmental Regulation's position with respect to development within drainage districts in the vicinity of open drains with spoil banks, and proposals for flood protection works comprising levees on or near Water Corporation assets. It presents advice to existing landowners and proponents of development that may be in the vicinity of these assets.

Rural drainage network and spoil banks

There is a long history of drainage for agriculture in the southwest of Western Australia. Flat landscapes with groundwater at or near the surface are abundant in the southwest and provide valuable land and water for agricultural activities. Frequent inundation by surface water or groundwater can cause damage to homes and rural property.

A rural drainage network was constructed in the southwest to manage and convey inundation and discharge water from agricultural land. The network was constructed in the early to mid-1900s to prevent extended periods of inundation and was not intended to manage flood risk to protect property or life.

Along the banks of the drains throughout much of the rural drainage network are spoil banks. Spoil banks are stockpiles of excess excavation material from construction and maintenance activities. These banks have been constructed without any control in material selection, placement, or compaction. The spoil banks may be isolated or continuous stockpiles of material along the rural drains. These banks will influence the flood behaviour around the drains and failure may result in inundation of adjacent property.

Flood levees

Flood levees alter the flood waters in drainage and river systems to reduce the frequency of surrounding land being inundated. Failure of flood levees may result in rapid inundation of surrounding land, damage to infrastructure and the environment, and potential loss of life.

Flood levees are complex, engineered structures designed to contain or redirect flood waters. Flood levees require advanced flood modelling, engineering design, controlled construction, ongoing maintenance, and emergency management to ensure they provide the intended protection to the community.

Australian floodplain management industry practice considers levees as a tool of last resort to manage flood risk for existing communities where the impact of relocating people and infrastructure is unpalatable. The Department of Water and Environmental Regulation and Water Corporation do not support the use of flood levee structures to enable development of a floodplain and knowingly put people into a flood risk area.

Assessment of flooding and associated consequences

Development proposals in rural areas should be discussed with the Water Corporation and the Department of Water and Environmental Regulation early in the land planning process to determine if local or regional drainage, or potential spoil bank failures pose flood consequences. Where potential flooding is identified, Water Corporation and Department of Water and