

## **Depoldering of Groot Broek**

### ***What***

This action involves the realization of a depoldering (also known as 'managed retreat') of an area called 'Groot Broek'. This area has a surface of approximately 58 hectares.

A new inland ring dyke to protect the urban area nearby will be constructed but is not part of this LIFE application.

### ***Where***

'Groot Broek' is located along the river Durme on its left bank, on the territories of Waasmunster and Temse, in the province of East-Flanders. Groot Broek lies West from Klein Broek. Groot Broek and Klein Broek are separated by a main road (N41).

### ***How***

After the removal of the asphalt road on the original river dyke this dyke will be lowered with 1,2 meters over a distance of approximately 1200 meters. In determining the amount of soil to be removed from the dyke the environmental quality of the soil in the historical river dyke had to be taken into account.

Additionally two breaches will be created; one of 30m and one of 100m, combined with an onset of a creek. The location of the breaches is selected so they connect to the presence of existing brooks, ditches or historical breaches. The onset of the creeks will enhance the exchange of water between the Durme and the rivulets in the polder.

Quarry stones are placed for the protection of the dykes that have to stay in place.

### ***Why***

The river The Durme has a very distinct 'asymmetrical tidal profile'. That means that the tide from the main Scheldt does not flow in and out of the Durme equally, but that the tide is pushed with exceptional force from the Scheldt in the Durme valley twice a day. That causes the water level in the Durme to increase faster than the water can flow back to the Scheldt. With the water a lot of sediments are carried into the stream bed, causing the level of the river to rise even more.

This 'Groot Broek' (and Klein Broek) plays an important role in giving more space to the river and reducing the problems caused by high water levels in the river (combination of rain and storm surges). These areas will decrease the force of the river. Simultaneously the Durme is dredged. These measures together will give the river new dynamics which will pull sediment particles loose from the river bottom and bring them into the current.

With this depoldering an ecosystem of mudflats and marshes will be created. Especially in the freshwater part of an estuary this habitat type is very rare. Groot Broek (and Klein Broek) are situated for a large part on high mudflat and primary marsh level. Therefore the development of marsh will happen swiftly.

