



## Demountable Flood Protection Systems CZ, Usti nad Labem (Elbe), Strekover Kai



*View from Water Side*

The ground level elevation of the 990 m long defence line increases continuously from the centre of the defence line to both ends. Therefore the defence wall height varies from 2.40 m in the centre to 0.30 m at both ends. IBS determined in agreement with the municipality Usti nad Labem a centre post height raster of 300 mm. The resulting 8 different post heights were designed with different hole pattern to avoid an incorrect assembly of the posts.

The summer floods at the river Elbe in 2002 caused large damages in Usti nad Labem. As a consequence the Povodi Labem and the municipality Usti nad Labem decided to increase the flood protection at the right side of the river Elbe in the district Strekov. After evaluation of different options both parties decided to build a dike with cut-off-wall and a demountable flood defence system for flood events with higher annuality. The demountable flood defence system was awarded by the municipality Usti nad Labem in a separate tender. IBS received the official order at the end of 2007.



*View from Land Side*



*Distribution of the Demountable System*

Due to the low weight of the 2.40 m high freestanding aluminium posts (78 kg) all posts can be installed manually by 2 workers. Therefore the 990 m long defence line can be assembled without hoisting devices or fork lifts which are only required for transport and distribution of the pallets with the demountable elements on site.



*Insertion of Dam Beams*

**Investor:** Magistrat Usti nad Labem  
**Authorising Body:** Povodi Labe, statni podnik  
**Operator:** Magistrat Usti nad Labem  
**Protection Level:** HQ 20 + 0,20 m Freeboard  
**Load Criteria:** hydrostatic water pressure + 10 kN point load  
**Flood height:** 0,30 – 2,40 m  
**Total Length/Area:** 990 m/1850 m<sup>2</sup>