

## Flood Risk Assessment Information

### **In support of Full Planning Application. HMP North Sea Camp – New Learning Building with associated exterior access ramp and Emergency generator compound with LPG tank and security fence**

The information below is a compilation of information from the Environment Agency for the site of the application. We expect that as with the previous planning application for the same development, the risk of flooding is not considered significant, and the application can also be approved.

- According to the Environment Agency's (EA) Flood Map for Planning Purposes, the Site is located within a tidal Flood Zone 3 (High probability).
- The Site benefits from the presence of formal flood defences:
  - The tidal defences protecting this site consist of earth embankments which are supplemented by saltmarsh to maintain foreshore levels. They are in good condition and reduce the risk of flooding (at the defence) to a 0.67% (1 in 150) chance of occurring in any year. The defences are routinely inspected to ensure potential defects are identified.
  - 25 m west in fair condition, designed to provide a 1 in 50 year event standard of protection;
  - 1 km south in good condition, designed to provide a 1 in 150 year event standard of protection.
- The Site is located approximately 30 m southeast and 150m northwest of a nearby watercourse (drain).
- According to the EA's Risk of Flooding from Rivers and Sea (RoFRS) map, which considers the type, condition and crest height of flood defences, the Site has a Medium risk of flooding from Rivers and the Sea.
- Modelled flood data obtained from the EA has been analysed in line with the most up to date guidance on climate change (EA, 2016), to confirm a maximum "design" flood level at the Site.

The Site would be protected from flooding by defences in all events up to and including the 1 in 1000 year overtopping scenario with a modelled flood level of 6.27 mAOD but a defence crest height of 6.86 mAOD.

During a 1 in 200 year 2115 breach scenario tidal flood event, flood depths on the Site could be greater than 1.6 m.

- According to the EA's Risk of Flooding from Surface Water (pluvial) flood mapping, the Site has a very low risk of pluvial flooding.

- Groundwater Flood Risk screening data indicates there is a Negligible risk of groundwater flooding above the ground surface in the vicinity of the Site, during a 1 in 100 year event.
- The risk of flooding from artificial (man-made) sources such as reservoirs, sewers and canals has been assessed:
  - The EA's Risk of Flooding from Reservoir map confirms the Site is not at risk of reservoir flooding.
  - Ordnance Survey (OS) data confirms there are no canals near to the Site.
  - A sewer flooding history search was undertaken using the most up to date available Strategic Flood Risk Assessment (AECOM 2010). This confirms no recorded incidences of sewer flooding at or within the vicinity of the Site.

The risk of flooding from artificial sources is therefore considered to be negligible.

- The risk to the development has been assessed over its expected 60 year lifetime, including appropriate allowances for the impacts of climate change. More extreme weather events could increase the risk to the site from sea level rise. Site specific assessment indicates risk to the site will increase significantly and appropriate mitigation measures are proposed.

