

302-HIGHER WATER LEVELS

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302.01 Purpose

Abu Dhabi Emirate is preparing for increased sea level rise and storm surge caused by climate change. To achieve this objective, the Higher Water Levels (HWL) Overlay District is intended help reduce the impacts on coastal developments and infrastructure investments within the Emirate. In line with international practice, the 1 in 100 year flood event in 2100 is used to establish the flood elevation baseline used in the HWL. This is equivalent to 3.0 meter above Mean Sea Level (MSL) as the result of a combination of both sea level rise (1.0m) and storm surge (2.0m).

Higher water levels may also result in increased shoreline erosion causing loss of land, damage to structures and potential flooding in some areas. Outside developed areas, the strategy is to allow the shoreline to retreat naturally as sea level rises and associated coastal processes take effect. Therefore, the HWL also establishes the Interim Coastal Buffer outside developed areas which is 250m inland from the Highest Astronomical Tide (HAT) level. The distance of 250 m was selected to respond to a number of factors, including the time scale, the generally shallow gradient of the shore and the impacts of a 1 in 100 year flood event. Inside developed areas, the Interim Coastal Buffer is not required.

302.02 Applicability

The regulations of this section apply to all lands and waters within the (HWL) overlay district mapped on the Rural Code Map.

302.03 Regulations

Land use and development regulations in the applicable base district or plan district apply within the (HWL) overlay district. Developers must follow the planning process using the following approaches:

A. Retreat

Reduce vulnerability by removing structures and human activities from the shoreline and flood prone areas as shown in figure 1.

B. Accommodate

Design developments to operate despite flooding. For example, a structure within the flood risk area could be elevated on pilings as shown in figure 2.

C. Protect (permitted inside developed areas)

Minimise risks by using flood defence measures that could include either soft or hard engineering approaches. For example by constructing a sea wall to prevent flooding as shown in figure 3.

302.04 Development Review

The completion of the planning review in line with the procedures and criteria of the Code shall be required prior to development of any structure or plot in a (HWL) overlay district.

A. Sea Level Rise Baseline

1. Use the 1 in 100 year flood event in 2100 as the standard for planning and design approaches to climate change adaption for all plans and developmets.
2. Ensure developments are constructed with a finished ground level of not less than 3.6 above mean sea level.

B. Developed Areas Approach: Protect

1. Flood defences will be permitted, prioritising soft defence techniques over hard, based on a stratigic and integrated approach for an entire area rather than individual plot-based solutions.

C. Outside Developed Areas Approach: Retreat or Accommodate

1. Any development will show that there are no alternative sites outside the flood risk areas and will accommodate rising waters to allow natural migration of habitats.
2. Do not permit the siting of urban development in areas of flood or erosion risk and establish criteria for any developments that may be allowed in such area.
3. Ensure existing and future primary transport and utility corridors/facilities that must cross the flood risk areas are designed to include for climate change resilience and adaptation measures.

D. Interim Coastal Buffer

1. Outside developed areas, the Interim Coastal Buffer will be established to protect against the effects of shoreline erosion.
2. The Interim Coastal Buffer is 250 meter inland from the Highest Astronomical Tide (HAT) Level.