Bellingen Shire Council

Guideline - Compensatory Earthworks

1 Earthworks Within a Defined Flood Event

Compensatory earthworks seek to allow for limited cut and fill to occur, at the same incremental level, within the Defined Flood Event and achieving a nil impact on the hydraulic characteristics of the waterway or floodway.

For development purposes the Defined Flood Event (DFE) can be considered 1% Annual Exceedance Probability (1%AEP) flood level.

Where compensatory earthworks are proposed, the development application shall be accompanied by a certified flood study report (See Appendix 8.3 of DCP 2017) which demonstrates that there will be no measurable impact on flood behavior, over the range of floods, beyond the property. Furthermore, the flood study report shall demonstrate that there will be no measurable adverse effects to drainage or surface runoff of adjoining properties.

Where compensatory earthworks occur within the Defined Flood Event, such earthworks are only acceptable where they do not adversely impact upon the hydraulic characteristics of a waterway or floodway. Adverse impacts can be actual, potential or cumulative, and can result in adverse impacts downstream from where the earthworks occur. Earthworks which are not compensatory can result in:

a) a reduction in the flood-capacity of a waterway or floodway;
b) a reduction in flood storage;
c) altering of the hydraulic control (flow, velocity and direction) of a watercourse;
d) an increased or new scouring and sedimentation.

Works within the area of inundation for the DFE shall not involve any of the following:

a) any physical alteration to a watercourse or floodway affecting its flow capacity;
b) any native vegetation clearing without approval;
c) any increase in the rate of release of stormwater runoff from the premises to the area of inundation for the Defined Flood Event;
d) altering the existing surface levels to have a measurable impact on surrounding properties;
e) filling or excavation below the Defined Flood Event inundation level inclusive of any previous occurrences of filling or excavation on the site that reduces the flood storage volume or increases flow velocities resulting in erosion, except for compensatory earthworks which are permitted to occur within a Defined Flood Event area of inundation but only under limited circumstances

Note: The WM Act defines waterfront land as the bed of any river, lake or estuary and any land within 40 metres of the river banks, lake shore or estuary mean high water mark. Any works within waterfront land will require a Controlled Activity Approval. For a more detailed definition, see the Dictionary to the NSW Water Management Act 2000.

2 Typical compensatory earthworks

Figure 1 identifies an acceptable layout for compensatory earthworks where cut and fill within the Defined Flood Event are effectively undertaken at the same location and level. Figure 2 identifies an unacceptable layout for compensatory earthworks as cut and fill within the Defined Flood Event are not undertaken at the same level.

Figure 1 Acceptable compensatory earthworks

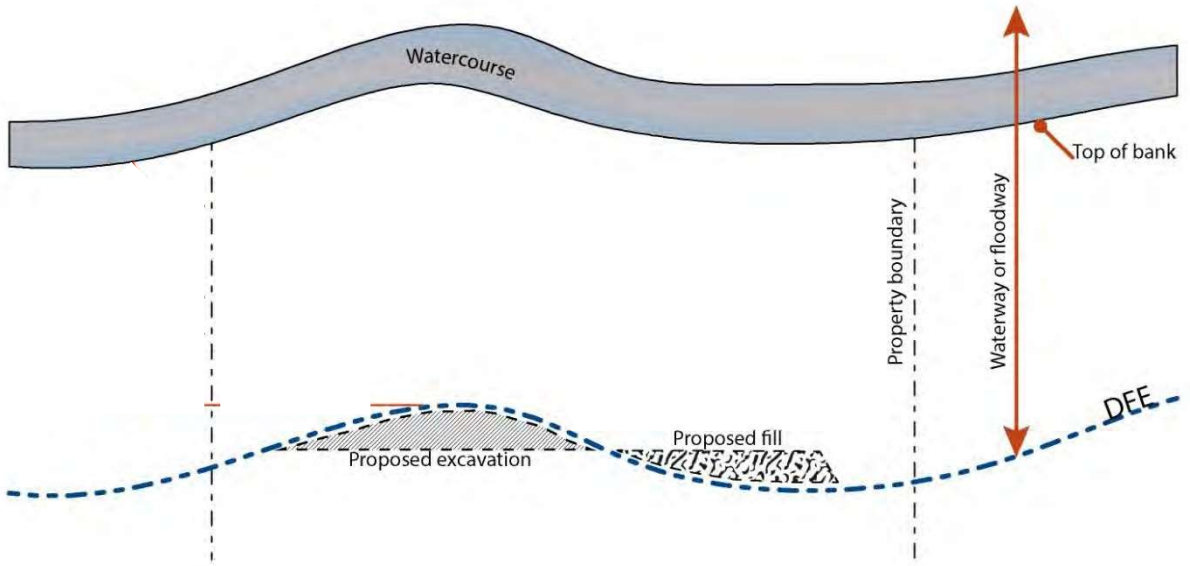

Figure 2 Unacceptable compensatory earthworks