

SCHEDULE 4 TO THE EROSION MANAGEMENT OVERLAY

Shown on the planning scheme map as **EMO4**.

1.0**Permit Requirement**

A permit is not required to construct a building or construct or carry out works if there is no increase in building height, no ground disturbance and no change to stormwater runoff.

An application must be accompanied by:

- A site specific geotechnical hazard and risk assessment report prepared by a suitably qualified geotechnical engineer or engineering geologist with experience in landslide risk assessment. This report must contain:
 - A record of the plans for the proposed development that have been examined.
 - The results of a geotechnical investigation including:
 - A site history of land use and development, including any signs of movement, which is informed by consultation with land owners or residents.
 - Geological and topographic information including references to relevant maps.
 - Findings from a detailed inspection of the site in the context of its surrounds, including geomorphologic features, details of any development or earthworks and any signs of movement. The likelihood of any pre-existing slope failures on the site needs to be assessed, even if disguised by onsite developments and erosion.
 - Analysis of an historical sequence of aerial photographs.
 - An inventory of the location, nature and extent of individual landslides in the area sourced from the Shire's landslide inventory or other relevant historical documents.
 - An assessment of the likely groundwater levels including responses to rainfall events.
 - At least three boreholes to a minimum depth of five metres.
 - Appropriate undisturbed sampling, Standard Penetrometer testing or coring of rock, whichever is appropriate.
 - Appropriate geotechnical testing in an ISO/IEC 170125 accredited soil laboratory to confirm the geotechnical shear strength design parameters, or at least sufficient testing to determine the shear strength by established correlations.
 - A geotechnical model including identification of geomorphic processes, with associated cross – sections.
 - A computer slope stability assessment of the site including the proposed development and any cuts or filled areas.
 - A geotechnical hazard assessment including:
 - A description of any landslide hazard including the location, volume (or area), classification and velocity of any potential landslide, any resultant detached material and the probability of occurrence within a given period of time.
 - The elements that may be potentially affected by any landslide hazard including population, buildings, engineering works, economic activities, utilities, infrastructure or environmental features in the area.
 - If any of the land is also affected by EMO 5, a quantitative risk assessment of the site in accordance with the Australian Geomechanics Society, (2007c) Practice Note Guidelines for Landslide Risk Management, Vol. 42, No. 1, Australian Geomechanics, March 2007 procedures for loss of life and either quantitative or qualitative for property loss.

- A discussion and recommendation about whether the site is suitable for the proposed development; including whether or not conditions should be imposed about the following matters:
 - The design methodology for any buildings or works.
 - Site restrictions.
 - On-going site management, during and post construction, conducted by a suitably qualified geotechnical engineer or engineering geologist with experience in landslide risk assessment.
 - A monitoring, inspection and maintenance regime conducted by a suitably qualified geotechnical engineer or engineering geologist who is experienced in slope stability assessments; including whether any such regime should apply for the life of a development.
 - Other risk mitigation measures.

If conditions are recommended, specific details must be provided.

- A review of the above report by an independent and suitably qualified geotechnical engineer or engineering geologist with experience in landslide risk assessment.
- Details of the qualifications, professional recognition, level of professional indemnity and relevant experience of the authors of both the report and the peer review.
- If a site specific geotechnical hazard and risk assessment report or peer report is submitted; an accompanying Geotechnical Declaration and Verification Development Application that is generally consistent with Form A of Appendix D of the Australian Geomechanics Society, (2007c) Practice Note Guidelines for Landslide Risk Management, Vol. 42, No. 1, Australian Geomechanics, March 2007.

If any of these requirements are unnecessary given the circumstances of the application, they may be waived to the satisfaction of the responsible authority.

In deciding whether or not to waive any of the above requirements, the responsible authority will consider, as appropriate:

- Whether the proposed building or works generally presents a very low or low risk to life and property.
- Whether the proposed building or works are a minor extension or alteration of an existing development.
- Whether any earthworks have a depth of one metre or less from natural ground level.
- Whether a geotechnical practitioner has submitted a Declaration of Minor Impact that is generally consistent with Form D of Appendix D of the Australian Geomechanics Society, (2007c) Practice Note Guidelines for Landslide Risk Management, Vol. 42, No. 1, Australian Geomechanics, March 2007.
- Whether the lot is also affected by Erosion Management Overlay 5 (EMO5). (If so, it may be inappropriate to waive the risk assessment, peer review or Declaration requirement as these are generally necessary in the EMO5.
- The qualifications, depth and relevance of experience and professional recognition of any geotechnical practitioner who has made a declaration or report.