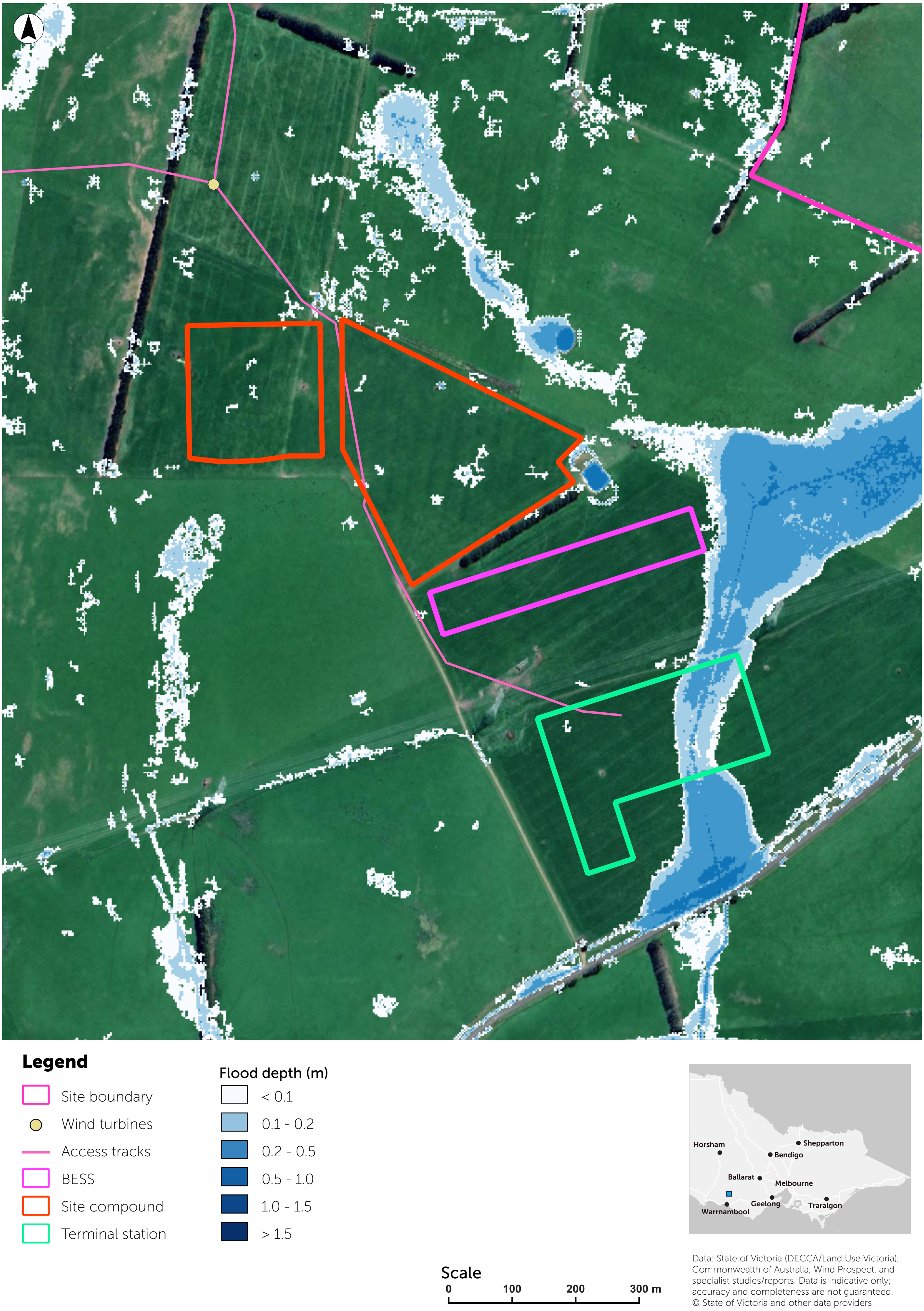

Figure 12.15 Modelled flood inundation for proposed site facilities (compound, office and car park) and terminal station for a 1% AEP event

Waterway crossings

The project would require 56 waterway crossings for access tracks and electrical cables. This includes crossings over Mustons Creek (two crossings), Tea Tree Creek (one crossing), Lyall Creek (one crossing) and Drysdale Creek (three crossings) (see Figure 12.16 and Figure 12.17). Flood behaviour within the project catchments was used to inform the siting of infrastructure to avoid areas of potential flooding and design considerations. Site-specific designs would be prepared for each crossing prior to construction

Depending on the size of the flow path, a bridge or culvert may be used to maintain natural flow path beneath the access tracks. To ensure structures are not damaged during a flood event, peak water velocity and depth estimates predicted by hydrological modelling would be used to develop designs. All waterway crossings and culvert and bridge designs would conform to local Council and Glenelg Hopkins CMA guidelines. If works are to occur on a Designated Waterway, a Works on Waterways Licence from Glenelg Hopkins CMA would be required.

Cable crossings are required to be designed to limit the potential for erosion. While the chosen construction method will be site-specific, options for waterway crossings are:

1. **Open cut trenching** – which is not generally used within ephemeral overland flow paths as creates a greater disturbance, and should be avoided in areas with high flow velocities
2. **Directional drilling** – which is less intrusive than trenching and typically used for major waterways that are flowing. However, this option may not be possible due to the presence of rock at many of the waterway crossings
3. **Above ground conduits** (e.g., co-locating cables within above ground crossings) if a waterway crossing is large enough – which removes the need for additional crossing construction.

Further detail on watercourse crossing methods is provided in Chapter 6 – ***Project description***.

Development of the detailed drainage design would occur in consultation with the Glenelg Hopkins CMA, considering best practice design guidelines.