

APA Technical Note - Western Outer Ring Main - Environment Effects Statement

TECHNICAL NOTE NUMBER: TN34

DATE: 30 September 2021

SUBJECT: Response to RFI 62 and 63

SUMMARY

This Technical Note provides responses to the request for information queries raised in relation to RFI 62 and 63 for the Western Outer Ring Main (WORM) Environment Effects Statement (EES). This Technical Note should be read in conjunction with Technical Note 12.

REQUEST: RFI 62 - Explain the measures that will be applied to mitigate risks associated with sodic and dispersive soils, including erosion, runoff from soil stockpiles, and pollution of waterways.

RFI 63 - Explain the expected effectiveness of those measures in relation to potential local and downstream impacts associated with sodic and dispersive soils.

Note

RFI Item 62 - Proposed mitigation measures for risks associated with sodic and dispersive soils

- 1 The potential impacts associated with sodic and dispersive soils including erosion and runoff entering waterways would be managed through existing mitigation measures, as discussed in EES Technical Report B *Surface water*, Section 8.1.1 and Section 8.1.4 and, EES Technical Report D *Land stability and ground movement*, Section 8.5. including but not limited to:

Environmental mitigation measure	Relevance to sodic soils
EMM SW1 - management measures for managing runoff from adjacent construction areas, stripped areas, discharge from dewatering activities and spills and leaks.	Measures to prevent the mobilisation and dispersal of soils by surface water.
EMM GM2 - Design and construction to be informed by geotechnical and hydrogeological conditions.	Requires the design and construction of the pipeline to consider geological conditions, including soil type, and include design features to mitigate risks identified. For example “Trench breakers” are routinely used in pipeline construction to prevent tunnel erosion in the pipe trench backfill, which may be associated with sodic soils.
EMM SW4 - Control measures for open cut trenching construction and watercourse management.	Measures to minimise the mobilisation and dispersal of soils during works in and around watercourses.

Environmental mitigation measure	Relevance to sodic soils
EMM SW5 – Monitoring Program (water quality)	Provides feedback on the effectiveness of measures to prevent soil dispersal in watercourses to inform further management where necessary.
EMM GM4 - Management of trench erosion, consolidation and swelling.	Implements measures to manage soil dispersion and erosion, including use of trench breakers compaction to ensure consolidation of backfill in the trench.
EMM GM7 - Preparation and implementation of sodic soil management measures.	See discussion below.
EMM B7 - Site rehabilitation after construction.	Requires re-establishment of vegetation over area disturbed by the construction activity.
EMM S22 - Monitor the condition of the construction corridor and other disturbed areas post construction.	Ensures all disturbed areas are successfully reinstated and stable, with remedial measures to be undertaken were required.

- 2 EMM GM7 requires the development and implementation of a Sodic Soils Management Plan (SSMP). The SSMP will be prepared by a suitably qualified professional prior to the commencement of construction and will include:
- A description of the existing site conditions, including:
 - details of completed soil investigations
 - extent of sodic and dispersive soils based on topsoil and subsoil samples in the works area.
 - land gradient.
 - erosion risk mapping.
 - the extent of any existing erosion, landslip or other land degradation.
 - Requirements for soil management practices (including fill) in areas identified as medium to high dispersion risk (refer to **Technical Note 12** - Annexure 1, Appendix A – Dispersion Risk Mapping), with consideration of anticipated sodic and dispersive soil exposure, including:
 - Any treatment necessary to manage soil while works are undertaken;
 - The management, volume and location of any stockpiles (additional to requirements of existing EMMs);
 - Vehicle access and movement within the site area (additional to requirements of existing EMMs);
 - The management of drainage during all stages of construction;
 - Monitoring and reporting processes, consistent with the CEMP;
 - Rehabilitation of disturbed areas, including any treatment to manage the soil post-construction (additional to requirements of existing EMMs);

- Post-construction monitoring and/or management requirements;
 - Any awareness and supervisions processes for construction contractors to ensure compliance with the SSMP.
- 3 The Day One CEMP has amended EMM GM7 to require additional detail as set out above.
- 4 The measures required by the SSMP, including the extent of any testing, will be proportional to the level of risk identified by the Sodic Soils Risk Assessment (**Technical Note 12 – GHD 2021**) and any additional site investigations and in general accordance with the guidelines contained within Best Practice Erosion and Sediment Control, Appendix P (IECA, 2008) where applicable.
- 5 The SSMP will apply to the whole of the Project Area, but will not require additional measures for parts of the Project Area identified as low risk areas.
- 6 Where the Sodic Soils Risk Assessment (**Technical Note 12 – GHD 2021**) identifies areas as high dispersion risk (as presented in **Technical Note 12 – Annexure 1, Appendix A – Dispersion Risk Mapping**), it is expected that the SSMP will specify, as a minimum, the following additional management measures:
- Pre-construction: the Contractor shall engage a suitably qualified geologist/soil scientist to undertake a site walkover along the identified high risk areas to check for changes in site conditions such as disturbance of ground cover and evidence of active erosion since the previous investigations, which could impact design and construction (e.g. man-made disturbance, change in land use).
 - Construction: trench open time to be limited to no more than 1 month.
 - Construction: increased frequency of inspection of erosion and sediment control measures.
 - Reinstatement: Upon levelling of the ROW and prior to topsoil replacement the contractor shall spread 5T/Ha (minimum) of gypsum.
 - Post-construction: increased frequency of monitoring of rehabilitation works during the monitoring and defects period.

RFI Item 63 – Expected effectiveness of the proposed mitigation measures

- 7 APA has approximately 15,000 kilometres of natural gas pipelines across mainland Australia and has extensive experience managing the potential environmental impact of pipeline construction and operation. APA will engage a similarly experienced pipeline construction contractor for the works.
- 8 APA expects that the development and implementation of a SSMP prepared by a suitably qualified professional, as described above, in addition to standard management measures for soils, surface water, erosion and rehabilitation, will be effective in minimising impacts from sodic soils.
- 9 In addition, the monitoring and assurance procedures described in the CEMP ensure that further management measures or corrective actions will be identified and implemented during construction.
- 10 During operation of the pipeline, Right of Way patrols of the easement will be conducted regularly, as required by the VTS OEMP. The patrols assess the condition of the easement, identify erosion, subsidence or stability issues and where necessary additional work orders are raised for corrective action to be completed.