Our ref: DOC20/880093
Senders ref: SSI-9364

Lauren Rose
Planning and Assessment Group
Department of Planning, Industry and Environment
4 Parramatta Square, 12 Darcy Street
PARRAMATTA NSW 2150

Dear Ms Rose

Subject: EES comments on Amended application and Response to Submissions for M12 Motorway Project – SSI-9364 between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham

Thank you for your email of 20 October 2020 requesting advice on the amended application and Response to Submissions (RtS) for this critical State significant infrastructure project.

The Environment, Energy and Science Group (EES) appreciates the Planning and Assessment Group giving it an extension in which to provide its comments. EES has reviewed the amended application and RtS and provides its recommendations and comments at Attachment A.

Please note that from 1 July 2020, Aboriginal cultural heritage (ACH) regulation, including advice on major projects, is now managed by the Heritage NSW. The new contact for the ACH regulation team is heritagemailbox@environment.nsw.gov.au

If you have any queries regarding this matter, please do not hesitate to contact Janne Grose, Senior Conservation Planning Officer on 02 8837 6017 or at janne.grose@environment.nsw.gov.au

Yours sincerely

S. Harrison

06/11/20

Susan Harrison

Senior Team Leader Planning
Greater Sydney Branch
Environment, Energy and Science

Attachment A

Subject: **EES comments on Amended application and Response to Submissions for M12 Motorway Project – SSI-9364 between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham**

The Environment, Energy and Science Group (EES) has reviewed the following documents:

- Submissions Report – October 2020
- Amendment Application Report (AAR) – October 2020
- Appendix A - Biodiversity supplementary technical report (October 2020)
- Appendix H – Flooding supplementary technical report (October 2020)

and provides its comments below.

Flood

Infrastructure NSW South Creek Sector Review has undertaken South Creek Sector catchment wide cumulative impact assessment. EES is aware that Transport for NSW (TfNSW) has recently received the Base Case – Existing Flood Risk of INSW assessment. EES highlights that TfNSW needs to validate its model against INSW Base Case scenario.

The flood assessment needs to consider any flood emergency management issues for rarer flood events for the full range of flooding. A flood emergency management response may be prepared in consultation with the State Emergency Service.

Biodiversity

EES has not been provided with revised shapefiles or access to an updated calculator file, so the following comments are based on reviewing the report.

The previous assessment was in accordance with the FBA. No new species or vegetation zones have been added, etc, so EES is assuming this amendment generally is also in accordance with the FBA, with the exceptions noted below.

The previous assessment was in accordance with the bilateral and there have been no new MNES reported in the current assessment. EES has not prepared a revised bilateral assessment document and the figures for required EPBC offsets will have changed so Tables 1, 2 and 3 will now be inaccurate.

Surveys for *Pimelea spicata* in January 2020 almost certainly would have been unable to detect the presence of this species which is highly cryptic in good conditions. The prevailing drought would have made this the worst time to detect this species. It is recommended that there be further surveys in *Pimelea spicata* habitat in areas added to the construction footprint by the amendment prior to the final credit requirements for this species being determined.

It is difficult to understand why all the vegetation on Lot 2 DP 2954 is not in a Cumberland Plain Land Snail polygon. The vegetation within the property mapped in a higher condition (Moderate/Good – Medium) has been excluded from the polygon, but the vegetation mapped as Moderate/Good – Poor has been included. In the absence of other data, that isn't rational. The drought conditions would have also made CPLS detection difficult at the time of surveys in the areas added to the construction footprint.

Clarity is required in regard to the statement in Table 5-1 that "The location of the design change has been determined to minimise impact on existing residential properties and land that is currently the subject of a proposed State Significant Development", as the amendment specifically clears vegetation that is on the land subject to SSD 8859. The M12 previously did not impact directly on this property at all. The realigned Wallgrove Road is now also much closer to residences off Cecil Road and has increased the fragmentation of the biodiversity corridor identified in this location in the WSPT Plan of Management 2020.

EES is not is a position to determine whether these amendments are appropriate responses to the submissions but notes that this part of the amendment has contributed the most to the increased impacts of the proposal. It is recommended that Planning and Assessment Group examine the rationale behind this amendment in detail prior to recommending conditions of approval to the delegate.

Figure 4-3 of the 'Amendment Report - Appendix A Biodiversity supplementary technical report October 2020' shows Southern Myotis breeding habitat. Clarification is required as to whether these points represent tree hollows. If they do, two of the three plots (plots 1 and 2) done for SSD 8859 recorded hollow bearing trees in the amended M12 construction footprint (see Figure 2-1 of the BDAR (August 2020) for SSD 8859 for the location of these plots). EES notes that the amended report for the M12 states "No additional hollow-bearing trees were recorded during surveys for the amended project, and the impacts of the amended project on hollow-bearing trees are the same as described in the EIS" (page 61) but given the plot data for SSD 8859, this is not the case.

Removal of Native Vegetation

The AAR states seven hectares (ha) of additional native vegetation has been added to the construction footprint as a result of the amended project (page 97) and that 6.80 ha of this is TEC. The total amount of native vegetation that would be located within the amended construction footprint is about 81 hectares of which 80 hectares is TEC.

All attempts should be made for the project alignment and design to avoid/minimise impacts on native vegetation and where possible the project should be amended to avoid/minimise vegetation clearing.

Tree removal

The RtS states the TfNSW is committed to new tree planting that would result in a net increase of trees and canopy cover and it indicates the exact number of plantings is currently unknown but would be developed during detailed design (section 4.20.4.2, page 149). EES supports the SSI replacing any trees removed by this project to mitigate the local urban heat island effect and also improve local biodiversity over time.

In order to achieve a net increase, details need to be provided on the number of trees to be removed. EES suggests details are also provided on the tree species, and whether the trees to be removed are exotic, non-local natives or local native species.

Seed collection from native plants to be removed

The RtS states revegetation across the project would be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) (Guide 3: Re-establishment of native vegetation) and the urban design landscape plan for the project. It indicates that where possible, seed would be sourced from within the project footprint and the local area and that TfNSW has commenced a seed collection programme (section 4.14.4.2, page 100).

EES agrees with collecting seed from the native plants to be removed and using it for revegetation across the project, including planting along the M12 route, the rehabilitation of riparian corridors, the Western Sydney Parklands etc.

It is important seed collection commences early in the project and EES agrees with TfNSW already commencing its seed collection programme so that local native provenance plant species are available to be planted, and the trees are advanced and established in size to improve the urban tree canopy and local biodiversity.

Reuse of removed trees
EES recommends the SSI reuse native trees that are removed including hollows and tree trunks (greater than approximately 25-30cm in diameter and 3m in length) and root balls and these are used by the project in the rehabilitation of riparian corridors, landscape/rehabilitated areas to enhance habitat. As it may not be possible for the project to reuse all removed native trees, EES recommends a condition of consent is included that the proponent consults with the local community restoration/rehabilitation groups, Landcare groups, Western Sydney Parklands Trust (WSPT) and surrounding reserve managers including the National Parks and Wildlife Service (NPWS) and councils etc prior to any clearing commencing to determine if the removed trees can be re-used by others in habitat enhancement and rehabilitation work. This detail including consultation with the community groups and their responses should be documented in the CEMP.

EES has previously suggested the inclusion of a similar condition for other infrastructure projects, including the Sydney Gateway project - see condition E85 in the consent for SSI-9737 (dated 27 August 2020).

It is suggested the project includes following condition:

- ***The Proponent must identify where it is practicable to reuse any of the native trees that are to be removed as part of this project, including tree hollows and tree trunks (greater than 25-30 centimetres in diameter and three metres in length), and root balls to enhance habitat. If the removed native trees are not able to be entirely re-used by the project, the proponent must consult with local community restoration/rehabilitation groups, Landcare groups, Western Sydney Parklands Trust (WSPT) and surrounding reserve managers including the National Parks and Wildlife Service (NPWS) and Councils prior to removing any native trees to determine if the removed trees can be reused in habitat enhancement and rehabilitation work. This detail including consultation with the community groups and their responses must be documented in the CEMP***

Revegetation
The RtS states 'bush regeneration would be carried out by a suitably qualified bush regeneration company' (section 4.20.4.2, page 149) and 'the project landscaping plan would be prepared for the entire length of the project. The plan would draw upon existing vegetation patterns and characteristics of vegetation communities to implement new tree planting along the project footprint, where space permits" (section 4.21.5.2, page 160).

EES supports TfNSW engaging a bush regenerator to provide advice on using local native provenance species. As advised in the OEH SEARs submission, EES recommends any landscaping/planting uses a diversity of local provenance native species from the relevant native vegetation community (or communities) that occurs, or once occurred along the M12 route, rather than use exotic species or non-local native species.

Section 4.14.6 indicates "The Parklands may be a place to assist with replacement tree planting to assist with Government meeting the 40 per cent tree canopy target within the area" (page 101). Details need to be provided on where the replacement trees are proposed to be planted and the number of replacement trees and the species. Trees should be of an advanced size to assist in improving the urban tree canopy and local biodiversity.

As noted above, EES supports the SSI replacing any trees removed by this project at a ratio greater than 1:1 for trees that are not covered by a biodiversity offset strategy. EES has provided similar advice for other infrastructure projects, including the Botany Rail Duplication project (SSI-9714) and the Sydney Gateway project (SSI-9737). Condition E6 of the consent for SSI-9714 (dated 28 July 2020) and condition E82 of the consent for SSI-9737 (dated 27 August 2020) require these projects to deliver a net increase in trees.

It is suggested the following conditions of consent are included:

- ***Any planting for the project shall use a diversity of local provenance native trees, shrubs and groundcover species (rather than exotic species or non-local native species) from the relevant***

native vegetation community (or communities) that occurs or once occurred along the motor route

- ***Trees removed by the project must be replaced at a ratio greater than 1:1 for trees that are not covered by a biodiversity offset strategy***
- ***Tree planting shall use advanced and established trees with a minimum plant container pot size of 100 litres, or greater for tree species which are commercially available. Other tree species which are not commercially available may be sourced as juvenile sized trees or pre-grown from provenance seed.***
- ***Enough area/space is provided to allow the trees to grow to maturity***

- ***A Landscape Plan is to be prepared and implemented by an appropriately qualified bush regenerator and include details on:***
  a. ***seed collection – the location of all native seed sources should be identified***
  b. ***the type, species, size, quantity and location of replacement trees and the plan demonstrates replacement trees plantings will deliver a net increase in trees for trees that are not covered by a biodiversity offset strategy***
  c. ***the species, quantity and location of shrubs and groundcover plantings***
  d. ***the native vegetation community (or communities) that once occurred in the areas to be planted and the plan demonstrates that the plant species consist of local provenance***
  e. ***the quantity and location of plantings***
  f. ***the pot size of the trees to be planted***
  g. ***the area/space required to allow the planted trees to grow to maturity.***

Watercourses and riparian corridors

Riparian Connectivity

The RtS notes detailed design would retain fauna passage at all four main creek lines (Cosgroves Creek, South Creek, Kemps Creek and Badgerys Creek) (section 3.5.1.3, page 27). It indicates the project would focus on maintaining connectivity along riparian areas, where there is limited, current connectivity (section 3.5.1.3, page 27). While EES did not raise riparian connectivity as an issue in its EIS submission, OEH provided comments in relation to this in its SEARs submission of 13 June 2018 for this SSI (our ref: DOC18/338143).

EES supports the project maintaining connectivity at the creek crossings and suggests a condition of consent is included in relation to this (see below). EES has suggested such a condition be included for other infrastructure projects, for example the Botany Rail Duplication project (SSI-9714) and the Sydney Gateway project (SSI-9737). Consent for SSI-9737 (dated 27 August 2020) has incorporated in Condition E76 the requirement for the Place Design and Landscape Plan to include “measures to maximise canopy cover where possible and vegetation growth beneath bridge structures”.

The RTS shows bridge structures are proposed across Ropes Creek, Kemps Creek, South Creek, Badgerys Creek and Cosgroves Creek (see Figures 1-2) and that it is proposed to widen the northbound bridge over Ropes Creek (see Figure 1-2 (page 3 of 3). It is important the project maintains and/or improves connectivity along the riparian areas, particularly as:

- South Creek is identified in the Western City District Plan as one of the District’s three major watercourses and Planning Priority W13 in the District Plan states, “the design of bridges will respect the local context and environment and support the movement of wildlife”.
- Kemps Creek is a tributary of South Creek and links to Kemps Creek Nature Reserve which is located to the south of the M12 alignment.
- Ropes Creek links into the Western Sydney Regional Park upstream of the proposed widened bridge crossing and downstream it flows through the Wianamatta Regional Park and then into South Creek.

EES recommends conditions of consent are included which incorporate the following:

- The bridges are designed to minimise the clearing/disturbance of native vegetation and existing native riparian vegetation is protected.
- The bridge crossings are designed to maintain and/or improve riparian/terrestrial connectivity under the bridge structure to maximise the corridor function.
- The bridge design includes:
  a. an elevated structure
  b. span the full width of the riparian corridor and/or remnant native vegetation which-ever is the widest to avoid or reduce the need to clear and/or disturb remnant native vegetation along the creeks
  c. maximises light and moisture penetration under the structure to encourage native plant growth, for example the bridges could include a grate in the structure (see photos below)
  d. a gap is provided between the proposed twin bridge crossings to assist in allowing light and moisture penetration under the two structures.

EES recommends environmental management measure (EMM) B10 is amended to not only maintain but improve riparian/terrestrial connectivity under the bridge structures where possible to maximise the corridor function (page 187 of RTS).

An example of a bridge at Lakes Environs (Waterside Green), Lakeview Drive Cranebrook with grates incorporated into the structure to assist in allowing light and moisture penetration for plant growth under the bridge

View under the bridge at Lakes Environs (Waterside Green) looking up at a grate incorporated into the structure

EMM F05 refers to the construction of bridges and culverts (page 214 of RTS). Where culvert crossings of watercourses are proposed EES recommends the culvert is designed to maintain connectivity and provide fauna passage and the culverts incorporate the following into the design:

- elevated "dry" cells to encourage terrestrial movement, and recessed "wet" cells to facilitate the movement of aquatic fauna
- maximises light penetration into the culvert using skylights or grates in the culvert structure.
- a naturalised base along the bed of the wet cells
- 'fauna furniture' (such as rocks, logs, ropes and ledges) to facilitate fauna movement

and it is recommended a condition of consent is included to this effect.

Replanting riparian vegetation

The RtS notes riparian vegetation removed for the purposes of construction would be replaced and the area rehabilitated with the aim to improve the existing conditions where feasible (section 3.5.1.3, page 27). It states, "the creek corridors would be vegetated with native riparian vegetation

suitable for the local area, in accordance with the requirements of the Policy and guidelines for fish habitat conservation and management (DPI 2013)" (section 4.5.1.2, page 67).

The riparian corridors should be rehabilitated where necessary with fully structured local provenance native vegetation (trees, shrubs and groundcover species) from the relevant local native vegetation community or communities that occur at the crossing locations. EES recommends a Vegetation Management Plan (VMP) is prepared by a suitably qualified bush regenerator for the protection and rehabilitation of riparian corridors and the following condition of consent is included:

A vegetation management plan shall be prepared and implemented by a suitably qualified bush regenerator to protect and restore the riparian corridors along Ropes Creek, Cosgroves Creek, South Creek, Kemps Creek and Badgerys Creek. The plan should include:

- ***a scaled plan which locates the watercourses; top of highest bank; existing native vegetation along the creeks; the riparian corridor widths proposed along the creeks (measured from the top of the highest bank); the project boundary; the area of riparian land/riparian vegetation that will be temporarily disturbed or permanently removed by the project***
- ***details on the native vegetation communities and plant species that currently occur along the creeks***
- ***details on the local native provenance plant species (trees, shrubs and groundcovers) to be planted – a diversity of local native species should be planted. The plan should demonstrate that the plant species consist of local native species.***
- ***details on the location and number of trees and other plants that are proposed to be planted***
- ***specify that plants are to be propagated from locally sourced seeds to ensure genetic integrity. Seed should be collected from native trees and other native vegetation that is to be removed as part of the project and plants shall be propagated for use – the location of all seed sources should be identified in the VMP***
- ***any juvenile native plants to be removed by the project shall be replanted to locations where plants from these PCTs would naturally occur. The juvenile plants must be translocated prior to any earthworks and clearing of native vegetation commencing. The plants should be relocated when plant growth conditions are ideal to give the native plants the best possible opportunity to survive and should be maintained until established***
- ***details on topsoil removal and reuse. Topsoil from areas of native vegetation to be cleared will be collected for re-use, including within the rehabilitation of the riparian corridors***
- ***details on replacement tree hollows and/or nest boxes including their location, which must be provided prior to any loss of existing trees hollows***
- ***plant maintenance regime - riparian vegetation should be regularly maintained and watered for 12 months following planting. Should any plant loss occur during the maintenance period the plants should be replaced by the same plant species.***

Stream diversions

The RtS states Badgerys Creek, South Creek and Kemps Creek may be permanently adjusted over distances of 64 metres, 200 metres and 84 metres respectively. Minor creek adjustments of the fourth order streams Badgerys Creek, South Creek and Kemps Creek are required to avoid placement of bridge piers within the waterway to minimise bridge lengths, reduce and creek disturbance and to minimise shading of creeks (section 4.23.1.2, page 169).

EES preference is for the project to avoid or minimise creek diversions particularly higher order streams and subsequent disturbance of aquatic and riparian habitat. Any stream realignment/diversion channel should be designed to mimic a natural creek system from the local area. The realignment/diversion of existing streams should assess the impact on aquatic native fauna and provide adequate provisions to protect and manage native fauna, including the relocation of native fauna impacted by such works.

EES recommends EMM B13 (page 188) is amended to include the creek adjustments will be designed so that any stream realignment/diversion mimics a natural creek system from the local area

Farm Dams

OEH in its submission on the SEARs for this project advised if the project requires the dewatering/removal of any farms dams, the EIS should assess the potential impact on native fauna (including any water dependent species) and provide adequate provisions to protect and manage native fauna and the downstream environment. EMM B01 requires a Construction Flora and Fauna Management Plan to be prepared and it will include a process for de-watering farm dams and the relocation of aquatic fauna (page 185). In addition to this EMM, EES recommends the following condition of consent is included:

- ***A dewatering plan will be developed by a suitably qualified and experienced ecologist prior to the dewatering of farm dams. The dewatering plan will include native aquatic fauna relocation requirements, and include details on:***
    - ***the native fauna species known to inhabit and/or use the dam which require transfer from the dam***
    - ***the methodology proposed to transfer the fauna***
    - ***the location and suitability of the proposed relocation sites***
    - ***any potential impacts of relocating the fauna to the relocation sites***
    - ***the need for a suitably qualified ecologist to be present during the dam dewatering.***

End of Submission