NSW GOVERNMENT | Department of Primary Industries

OUT14/30436

Mr Alexander Scott
Infrastructure Projects
NSW Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

22 SEP 2014

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Dear Mr Scott,

WestConnex-M4 Widening (SSI 13_6148)
Response to exhibition of Environmental Impact Statement

I refer to your email dated 11 August 2014 requesting advice from the Department of Primary Industries (DPI) in respect to the above matter.

Comment by Fisheries NSW
Fisheries NSW is responsible for ensuring that fish stocks are conserved and that there is no net loss of key fish habitats upon which they depend. To achieve this, Fisheries NSW ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (FM Act) (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, respectively), and the associated *Policy and Guidelines for Fish Habitat Conservation and Management (2013)*. In addition, Fisheries NSW is responsible for ensuring the sustainable management of commercial, recreational and Aboriginal cultural fishing, aquaculture and marine protected areas within NSW.

The Duck River has been mapped as being important key fish habitat in the Sydney Metropolitan Area. This is demonstrated by large aggregations of mullet observed by Fisheries NSW field staff in the downstream section of the Duck River, near the junction with the Parramatta River.

The Environmental Impact Statement has identified that 0.28 ha of mangrove habitat will be harmed as a result of the proposed M4 widening. Fisheries NSW recommends that the harm of mangrove habitat is minimised as far as possible and that it does not exceed 0.28 ha. Fisheries NSW requests that this loss of mangrove habitat is offset according to the aquatic biodiversity measures in the *Draft NSW Biodiversity Offsets Policy for Major Projects* (see: http://www.environment.nsw.gov.au/biodivoffsets/1480biofpolmp.htm). It is recommended that the proponent contacts Fisheries NSW to determine an appropriate offset option prior to the commencement of construction.

Fisheries NSW has no objections to the proposed M4 widening provided that the environmental mitigation measures relating to erosion and sedimentation and the protection of aquatic habitat in Table 12-1 of the EIS are implemented.

In particular, to ensure that harm to the aquatic environment is minimised as far as possible, it is important that:

- Temporary work platforms, waterway crossings and/or coffer dams required to extend the bridge over the Duck River are designed and constructed so that fish passage is maintained. These platforms and waterway crossings are to be removed once bridge construction is complete.
- Appropriate acid sulphate soil management is undertaken during construction.
- Erosion and sediment control measures are to be implemented so that subsequent turbidity and sedimentation impacts on downstream waterways are mitigated.
- Any drainage outlets into waterways are to be appropriately protected to reduce scour related erosion.
- Drainage swales are constructed outside of areas of marine vegetation (i.e. mangrove and saltmarsh habitat).
- New bridge pylons are situated next to and aligned with the existing bridge pylons, if at all possible. This is the preferred position of the Department. This will reduce debris accumulation around the bridge pylons and ensure that flood flows are not restricted.

Fisheries NSW request the opportunity to provide comment on detailed plans of the bridge and temporary waterway crossings and the Soil and Water Management Plan prior to construction.

For further information please contact Carla Ganassin, Fisheries Conservation Manager, (Wollongong Office) on 4254 5527 or at carla.ganassin@dpi.nsw.gov.au.

Comment by NSW Office of Water

The NSW Office of Water (Office of Water) has reviewed the Environmental Impact Statement (EIS) and provides detailed comments at Attachment A and recommended Conditions of Approval at Attachment B.

The Office of Water considers issues raised in Attachment A can be addressed by way of additional or amended Mitigation Measures and the recommended Conditions of Approval.

For further information please contact Janne Grose, Planning and Assessment Coordinator (Penrith office) on 4729 8262 or at janne.grose@water.nsw.gov.au.

Yours sincerely

Kristian Holz
Policy, Legislation and Innovation

Attachment A

WestConnex-M4 Widening (SSI 13_6148)
Response to exhibition of EIS
Additional comments by NSW Office of Water

Reference is made to the DPI/ NSW Office of Water submission of 24 June 2014 on the Adequacy of the draft Environmental Impact Statement (EIS). The Office of Water has reviewed the EIS and provides the following comments:

Watercourses and riparian land

The Office of Water recommends that a Condition of Approval requires a Watercourse, Wetland and Riparian Land Management Plan to be prepared, and that the vegetation management is consistent with the Office of Water's *Guidelines for vegetation management plans on waterfront land*.

Further detailed comments are provided below.

New bridge over Duck River

The EIS notes the new bridge over the Duck River would involve installation of up to four piers within the channel (Section 8.4.3, page 8-74). The Office of Water repeats that if possible it is recommended the number of piers are minimised within the river and the piers are located outside the bed and banks of the river (this will assist to mitigate future creek stability and maintenance costs).

The Office of Water previously recommended that the bridge/viaduct is designed to allow sufficient light and moisture to penetrate beneath the structure to allow for riparian plant growth to improve riparian connectivity and naturalised stabilisation of the banks. The EIS has not addressed whether it is possible to incorporate light and moisture in the design features.

It is suggested the project includes a mitigation measure that requires a report to be prepared prior to construction commencing which provides details on the crossing design.

The detailed design of the bridge should consider light and moisture beneath the structure, particularly as Appendix I notes regrowth of vegetation beneath the existing Duck River bridge has been limited by low light levels and it anticipates similar effects for the new bridge (section 4.2, page 71). It is recommended the project includes a mitigation measure that requires the crossing design to consider options that improve the provision of light and moisture under the bridge to improve connectivity.

Appendix I indicates connectivity can be enhanced by planting locally indigenous species either side of the viaduct /bridge. This mitigation measure is supported but it is noted it has not been included in Table 12-1 of the EIS. It is recommended the project incorporates this mitigation measure.

A'Becketts Creek

Appendix F proposes to introduce gabion retaining walls with landscaped terraces along A'Becketts Creek (see Section 7.1, page 54). If possible, it is recommended the rehabilitation of the riparian corridor mimics a more naturalised approach rather than using gabion retaining walls.

The EIS indicates a mitigation strategy will be developed to address predicted flood level increases in the vicinity of A'Becketts Creek. It notes one mitigation option may include "*widening or augmentation of A'Becketts Creek between Good Street and Woodville Road*" (Section 8.5.4, page 8-89). Appendix I notes a small area of natural based creek line is present east of Church Street on A'Becketts Creek (page 69). Based on the information provided it is unclear if the natural sections of A'Becketts Creek would be affected by widening or augmentation of the creek, or if these works are only proposed along the concrete-lined sections. Further details are requested on

this. If the concrete lined sections are to be widened to increase channel capacity, it is recommended these sections are then rehabilitated to mimic a more naturalised system rather than retaining a concrete lined channel.

Appendix I notes several piers may be required within the concrete lined and more natural based sections of A'Becketts Creek (Section 4.6, page 76). Appendix H also refers to the placement of viaduct piers within the waterway but it indicates the channel is concrete lined (Section 6.4, page 44). Further details (including a scaled plan) should be provided on the proposed location of the piers in relation to the natural areas of the creek and the concrete lined sections. It is recommended a Condition of Approval requires a Watercourse, Wetland and Riparian Land Management Plan to be prepared and this detail is included in the plan.

Wetlands

Appendix I notes highly disturbed freshwater wetlands of A'Becketts Creek would be impacted by the project due to overshadowing from the viaduct or potential in-stream structures (Section 4.1.1, page 69). The Office of Water previously suggested the EIS show the location of the freshwater wetlands along A'Becketts Creek that would be affected by the project. If this detail is not currently available it is recommended a Condition of Approval is included which requires a Watercourse, Wetland and Riparian Land Management Plan to be prepared and this detail is included in the plan.

Appendix I includes a Mitigation Measure to only protect the riparian vegetation and wetlands along Duck River but not the other waterways affected by the project, including the freshwater wetlands along A'Becketts Creek:

> "*Riparian vegetation and wetlands along the main wildlife corridor (Duck River) will be protected during construction works where possible with any affected areas to be rehabilitated*" (see Table 5.1, page 86, Appendix I).

It is noted the EIS has not fully incorporated the above mitigation measure. Mitigation Measures FF-9 and FF-10 in the EIS do not include the rehabilitation of affected wetland areas.

It is suggested the project includes a Mitigation Measure that applies to all watercourses, wetland areas and riparian land affected by the project (see comments below).

Environmental Management Measures

Compound sites – the Office of Water previously recommended construction compound sites are located outside the riparian corridors. The EIS confirms the compound sites would aim to be located more than 50 m from a waterway (Section 6.4, page 6-12) but Appendix G still indicates many of the compound sites are adjacent to, or in close proximity to existing drainage channels (Section 1.2, page 3). It is recommended the project includes the following management measures:

- *compound sites shall be located outside the riparian corridors, where possible*
- *Any riparian areas disturbed by the compound sites will be rehabilitated post-construction with local native plant species that are representative of the local vegetation community.*

Stockpiles - Environmental management measure (SWW-2) in the EIS requires stockpiles to be located away from drainage lines and creek channels (see Table 12.1, page 12-8). The Office of Water previously recommended the mitigation measure is amended to include details on the proposed setback distance between stockpiles and watercourses and repeats this advice. As a minimum, stockpiles should be located outside the riparian corridors.

Loss of Native Vegetation – Environmental Management Measure (FF-5) in the EIS requires a detailed landscape plan to be prepared for the project. It is recommended a specific Watercourse, Wetland and Riparian Land Management Plan is prepared which includes details on the protection and rehabilitation of riparian and wetland vegetation and FF-5 is amended to include this requirement.

Impacts on Riparian Vegetation – Management measure FF-9 indicates the detailed design of the

Duck River bridge will be refined to reduce impacts on riparian vegetation and wetlands. It is suggested the mitigation measure is amended to also include:

- a report on the final design of the watercourse crossings is to be prepared in consultation with the Office of Water;
- The detailed design of the bridge/viaduct over Duck River shall include consideration of provision of light and moisture beneath the structure to assist riparian plant growth and improve riparian connectivity;
- Locally indigenous species are to be planted either side of the viaduct /bridge to improve connectivity.

Management measure (FF-10) notes riparian vegetation along Duck River will be protected and any affected areas to be rehabilitated (see Table 12.1 on page 12-13). It is recommended this mitigation measure is amended as follows:

- Riparian vegetation and wetlands along the main wildlife corridor (Duck River) ***and all other waterways affected by the project*** will be protected during construction works where possible with any affected areas to be rehabilitated.

- ***Any riparian and wetland areas affected by the project shall be rehabilitated with native plants species from the relevant local native vegetation community either at the site, or elsewhere along the subject watercourse.***

If the project is approved, it is recommended a Condition of Approval is included that is consistent with the above mitigation measure.

Watercourses

The following mitigation measures are recommended:

- *Where possible:*
  - *the existing natural sections of A'Becketts Creek are protected from further degradation,*
  - *piers are located outside the natural sections of A'Becketts Creek and also the stream banks,*
  - *any widening or augmentation of A'Becketts Creek is restricted to the existing concrete lined sections and these sections are rehabilitated to mimic more naturalised systems.*

Scour around pipe outlets and Creek bank instability

Environmental Management measure (HF-1) in the EIS notes suitable protection measures will be provided at pipe outlets and at locations where there is a risk of creek bank instability (see section 8.5.4, page 8-88). The pipe outlets should be consistent with the Department of Primary Industries Office of Water (2012) *Guidelines for outlet structures on waterfront land.*

Groundwater

Appendix G indicates that if construction works include dewatering, additional investigations should be undertaken to assess potential impacts (see Section 5.5.1, page 47). The Office of Water previously recommended this mitigation measure be included in the EIS and repeats this recommendation.

Appendix G notes that groundwater levels would be monitored to identify any impacts on groundwater during construction (see Sections 5.5.1 and 6.4 on pages 51 and 52). The Office of Water previously recommended this mitigation measure be included in the EIS and repeats this recommendation.

End Attachment A

Attachment B

WestConnex-M4 Widening (SSI 13_6148)
Response to exhibition of EIS
NSW Office of Water Recommended Conditions of Approval

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1. Where feasible, the Proponent shall ensure:
   (a) the project protects watercourses, wetlands and riparian land from further degradation and where impacts are unavoidable, adequate management measures are implemented to minimise impacts;
   (b) the project avoids disturbing the natural sections of A'Becketts Creek;
   (c) the project avoids disturbing wetlands, including freshwater wetlands along A'Becketts Creek;
   (d) the project avoids disturbing native riparian vegetation;
   (e) watercourses, or sections of watercourses that are disturbed by the project are rehabilitated to emulate a natural stream.

   Details regarding procedures to avoid, or minimise the impacts of the project on watercourses, wetlands and riparian land shall be clearly included in a Watercourse, Wetland and Riparian Management Plan contained in Condition 2 below.

2. The Proponent shall prepare and implement a **Watercourse, Wetland and Riparian Management Plan** for watercourses, wetlands and riparian land affected by the project. The plan shall be prepared with input, where relevant, from a geomorphologist, ecologist and person(s) qualified in soft engineering stream design. The plan shall include:
   (a) Details on all watercourses and wetlands affected by the project, including:
      (i) scaled maps/plans showing the location of all watercourse and wetland areas affected by the project and the areas to be restored;
      (ii) identification of works that have the potential to impact watercourses and wetlands;
      (iii) details on the existing condition of watercourses and wetlands;
      (iv) mitigation measures to be implemented to avoid, or minimise potential impacts, including:
         - measures to rehabilitate and stabilise watercourses and wetlands disturbed during construction to a standard equal to, or better than the existing condition.
      (v) a monitoring and maintenance program during construction and operation of the project. The program shall include but not necessarily be limited to:
         - the monitoring locations and methods used to assess the impact of the project on watercourses and wetlands;
         - procedures for documenting the pre-construction baseline status of the watercourses and wetlands;
         - details on the responsibilities, frequency and duration of monitoring;
         - ongoing maintenance;
         - contingency and ameliorative measures in the event that adverse impacts to watercourses and wetlands are identified which are directly attributable to the construction or operation of the project;
         - reporting of the monitoring results.

   (b) Detailed design of Watercourse crossings. The final design of the crossings shall where feasible:
      (i) be designed and constructed in accordance with the Department of Primary Industries Office of Water (2012) *Guidelines for watercourse crossings on*

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waterfront land ;

(ii) span the width of the riparian corridor;
(iii) facilitate connectivity along the riparian corridor;
(iv) allow for light and moisture beneath the structure to assist riparian plant growth;
(v) locate the piers outside the bed and banks of the watercourse;
(vi) incorporate soft engineering in any bank stabilisation.

(c) A Vegetation Management Plan consistent with the Department of Primary Industries Office of Water (2012) *Guidelines for vegetation management plans on waterfront land* and include, but not necessarily be limited to:

(i) details on riparian corridor widths; the location of existing native riparian and wetland vegetation to be protected and retained; vegetation to be cleared; areas to be restored, including detailed scaled diagrams/maps identifying the clearing limits and vegetation to be avoided;
(ii) mitigation measures to be implemented to avoid, protect and/or minimise potential impacts on riparian vegetation and wetland areas;
(iii) strategies to progressively rehabilitate/ regenerate/revegetate riparian vegetation and wetland areas, including native species to be revegetated;
(iv) a monitoring and maintenance program. The program shall include:

- details on the monitoring locations;
- performance indicators;
- details on the responsibilities, timing and duration of monitoring;
- contingencies where rehabilitation of vegetation fails;
- ongoing maintenance including weed control;
- reporting of monitoring results.

The Plan shall be developed in consultation with the NSW Office of Water and shall be submitted for the approval of the Secretary four months prior to construction commencing. The plan shall be accompanied by written evidence of consultation with the Office of Water. Construction shall not commence until written approval has been received from the Secretary.

3. The proponent shall only establish construction compounds and stockpiles in locations that satisfy the following criteria, unless otherwise agreed by the Secretary:

(a) do not require the removal of native riparian vegetation;
(b) are located outside the riparian corridors.

End Attachment B