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NSW GOVERNMENT | Office of Water

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Our ref ER21335
Your ref MP10_0211

Kane Winwood
Department of Planning and Infrastructure
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Attention: Kane Winwood

Dear Kane

MP10_0211 – Water Related Services for the North West Growth Centre – Second Release Precincts, Box Hill, Box Hill Industrial and Schofields – Environmental Assessment

Thank you for your letter of 10 October 2011 seeking comment from the NSW Office of Water (Office of Water) on the Environmental Assessment (EA) for the above project.

Attachment A provides the Office of Water's detailed comments on the EA. The Office of Water provides the following advice on the basis that the former legislative provisions under Part 3A of the *Environmental Planning and Assessment Act 1979* apply to this proposal.

As outlined in the Office of Water's Test of Adequacy submission, the Office of Water and the Department of Planning and Infrastructure (DP&I) have previously negotiated and agreed to watercourse and riparian outcomes in the Box Hill, Box Hill Industrial and Schofields Growth Centre precincts and it is important the Sydney Water project is consistent with these agreed outcomes, particularly where trenching is proposed along riparian corridors and not across the watercourses and corridors.

The Office of Water reiterates that for future Growth Centre precincts, all stakeholders involved with impacts on watercourses /riparian areas need to be involved from the commencement of the precinct planning to ensure a consistent outcome can be achieved and to minimise the issues raised in this submission.

Yours sincerely

Mark Mignanelli
Manager Major Projects, Mines and Assessment
21 November 2011

NSW Office of Water Comments

Water Related Services for the North West Growth Centre – Second Release Precincts, Box Hill and Schofields – Environmental Assessment

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The NSW Office of Water (Office of Water) has previously advised it is important the project is consistent with the watercourse and riparian outcomes that were negotiated and agreed to between the Department of Planning and Infrastructure (DP&I) and the Office of Water for the Second Release precincts (Box Hill; Box Hill Industrial and Schofields Precincts).

The EA indicates creek crossings will be necessary at a number of locations and the wastewater pipelines will generally be located adjacent to drainage lines and creek lines (i.e. the wastewater pipelines are proposed to the located along the riparian corridors). The Office of Water is concerned that Appendix B (Terrestrial Flora and Fauna Study) indicates the replanting of riparian vegetation may not be achievable. Section 7.4 of Appendix B states that "*in many cases it will not be possible to replant vegetation after clearance as infrastructure for water related services requires regular maintenance*" (page 7.3). Based on this statement the maintenance regime for the pipelines is inconsistent with achieving the agreed riparian outcomes as future rehabilitation of fully vegetated riparian corridors (up to a 10 m in width) would appear to be impacted by the pipeline.

It is important that the project demonstrates consistency with negotiated riparian agreements and associated pipeline maintenance where located in riparian areas. If this cannot be achieved, consideration should be given to relocation of the pipeline route outside the riparian land (except in relation to crossings).

Waterway crossing methodology

Section 3.3.2 of the EA includes a mitigation measure that "***all*** *creek crossings by pipelines would be underbored except where underboring would cause more impacts than trenching*" (see Sections 6.5.2, 6.6.2 and Table 9-1). Sections 6.5.2 and 6.7.2 however state that trenching may be chosen for minor creeks that are shallow, ephemeral, highly disturbed and weed infested.

The Office of Water supports the underboring of the creeks and is not aware of any circumstances where underboring would cause more impacts than trenching. The Office of Water recommends the underground boring commence from the outer edge of the riparian land and that it is bored for the full width of the watercourse and riparian land so as to avoid impacts on the waterway/ aquatic environment and any existing native riparian vegetation or rehabilitation of riparian vegetation.

Trenching of the watercourses is not supported as it would disturb the bed and banks of the watercourses; potentially cause instability and erosion of the watercourses; degrade instream habitat and the loss of existing aquatic and riparian vegetation.

In the Office of Water's submission on the ToA, the Office of Water advised the EA needs to provide details on the waterway crossings, including:

- the number of crossings;
- the location of the crossings;
- the Riverstyle at each crossing;

- whether the watercourse is perennial or intermittent;
- the existing geomorphic condition at each crossing and identify any existing bed and bank instability;
- the existing aquatic and riparian environment;
- the proposed crossing methodology for each crossing;
- photographs of the watercourse crossing locations;
- scaled maps of the watercourse crossing locations in relation to existing remnant riparian vegetation and riparian corridor width;
- construction and operation impacts; and
- mitigation measures to demonstrate the project will not adversely affect the stability of the watercourses, the aquatic and riparian environment, native riparian vegetation or the rehabilitation of riparian vegetation.

The EA has not adequately addressed the above information requested. This information needs to be provided to enable an informed assessment of the potential impacts.

Pipeline corridor widths
Section 3.3.2 of the EA indicates the width of the total construction footprint is expected to be approximately 6 m but could be up to 10 m wide. The design and construction footprint of the project and any mitigation measures in the vicinity of riparian land need to be in accordance with achieving the agreed and negotiated watercourse and riparian outcomes between the Office of Water and DP&I.

Riparian Land

While the existing condition of the riparian corridors may be degraded (see Section 6.3.1 of EA), Office of Water advised in its ToA submission that the EA needs to address that the riparian land is meant to be rehabilitated and revegetated in accordance with the riparian outcomes agreed for these precincts. Office of Water recommended the EA assess the potential impact of the proposal on the future rehabilitation of fully vegetated riparian corridors. The project should not adversely effect existing native riparian vegetation or the rehabilitation of riparian land with fully structured riparian vegetation. Section 6.5.2 of the EA refers to "*appropriate revegetation of the riparian zone*" but it is not clear if the riparian areas affected by the proposal can be rehabilitated with fully structured riparian vegetation. The statement that the "*nature extent and degree of impact on riparian zones , if any, will be determined when design and construction requirements are finalised*" (page 80 of the EA) only defers the assessment of potential impacts.

As noted above, statements included in the Terrestrial Flora and Fauna report are a concern. Section 6.7 of the report, for example states that "*direct impacts to vegetation will be long term and irreversible in most areas due to the nature of ongoing management requirements for pipelines" (page 6.15*) and Section 7.4 states that "*in many cases it will not be possible to re-plant vegetation after clearance as infrastructure for water-related services requires regular maintenance*". It would appear the maintenance regime for the pipelines is inconsistent with achieving rehabilitated riparian vegetation.

Section 6.5.2 of the EA still indicates the proposal will require construction works in the riparian zones as the wastewater system needs to be located at low points in the landscape (page 80). The Office of Water reiterates that as the areas near the watercourses, particularly Killarney-Chain of Ponds are broad and flat there is not a necessity for the pipeline to be close to the watercourses as a small increase in trench depth can achieve the same result while keeping all works out of the riparian areas. The EA has not addressed this issue. The locating of the pipeline route outside riparian land will assist to prevent creek instability issues, mitigate impacts on remnant native riparian vegetation and the rehabilitation of riparian land.

The Office of Water previously recommended the EA include scaled plans which show the agreed riparian corridor widths along relevant waterways in relation to the location of the water related services project but this has not been addressed.

The EA includes a mitigation measure that "*Sydney Water will prepare post construction management plans for rehabilitation areas including replanting activities using local indigenous flora where practical*" (page 68). The inclusion of the wording "where practical" is not a commitment. Office of Water recommends the project avoid disturbing remnant native riparian vegetation in the first instance. If this is not possible, for any native riparian vegetation that is removed or disturbed these areas need to rehabilitated with fully structured local native plant species and the loss of remnant vegetation adequately compensated for.

Sodic soils

Section 6.7.1 of the EA notes sodic soils are likely. The Office of Water previously advised that sodic soils are more prone to erosion and the effects of tunnel erosion. Areas of potential erosion related to the presence of sodic soils need to be identified and contingencies developed to minimise crossing instability.

Maintenance Structures

Section 3.2.2 of the EA indicates that where new maintenance structures are required these will preferably be located to minimise environmental impact (page 19). While Section 6.3.3 indicates that potential impacts associated with routine maintenance are likely to be minor and may involve some disturbance of vegetation, the Office of Water reiterates its recommendation that any new maintenance structures should be located outside the riparian areas to mitigate impacts on riparian land and creek stability.

Construction facilities

Section 3.3.2 of the EA indicates the location of temporary construction compounds will be determined during detailed design (page 20) and Section 6.3.2 includes a mitigation measure for "*appropriate soil stockpiling, locating construction facilities and vehicle turning areas in already cleared lands where practical .....and restoring impacted areas to pre-works condition where practical*" (page 68). Office of Water previously recommended the EA include a specific safeguard measure and a Statement of Commitment that any construction compounds and facilities are to be located outside any existing native riparian vegetation and if located within cleared riparian land these areas are to be rehabilitated following the completion of works to pre construction condition. The Office of Water reiterates the construction compounds and facilities should not disturb or remove native riparian vegetation that has been agreed to be kept as part of the Office of Water's and DP&I's negotiated riparian outcomes.

Access tracks

Office of Water previously recommended the EA identify if temporary or permanent access crossings are required for this project and if so, Office of Water recommended the EA provide details on each of these crossings and assess their potential impact on watercourse stability. Access track crossings could affect watercourse stability if bank cuttings are required to enable the tracks to get down to the bed level. Access track crossings can cause raised weirs, culvert crossings can act to block fish passage and bridges can require bank cuttings with the potential for erosion to occur and issues with unstable fill. It is not clear if access tracks are required.

Bed and Bank stability

The Office of Water previously advised the EA needs to provide details if any waterway crossings currently exhibit bed and bank instability and which crossings potentially require stabilisation/rehabilitation works as a mitigation measure. Office of Water reiterates any stream bed and bank rehabilitation:

- works should be soft engineering where practical.
- works are to be selected by a geomorphologist. It is recommended a Soil Conservationist

is engaged with experience in river restoration to ensure rapid reinstatement and the long term stabilisation and rehabilitation is adequately undertaken.

Waterway Monitoring

There is a need to monitor before construction commences (to provide a bench mark data), during and following construction until certified as stable to ensure the watercourses are rehabilitated to a standard equal to or better than the existing condition.

The monitoring program would need to be undertaken to assess the outcomes of the works undertaken including areas of potential erosion and ground instability associated with the construction impact. Section 6.7.2 of the EA states that following construction appropriate rehabilitation and stabilisation works would be undertaken. The monitoring program should include monitoring and maintenance of any bank stabilisation and stream bed and bank rehabilitation. The rehabilitation will need to be monitored until all crossing sites are identified as stable by an independent suitably qualified certifier.

Monitoring should be undertaken for the rehabilitation of native riparian vegetation. The Office of Water recommends a maintenance period of 5 years after final planting. The rehabilitation of other non native vegetation in riparian areas should be maintained until it is established and the area has been certified as stable by a suitably qualified independent certifier.

Wetlands

The Office of Water previously advised the EA needs to identify if any wetlands are potentially affected by the project and if so details are required on the proposed method of crossing the wetlands. Section 6.6.1 of the EA notes many shallow wetlands are found in the NW Growth Centre. While the EA identifies the project will not affect wetlands of international importance (see Section 5.3.1) it is not clear if any other wetlands will be affected. Section 6.3.2 indicates the proposal has the potential to alter the natural flow regimes of wetlands (page 65) but no further details are provided in the EA, nor mitigation measures included to mitigate potential impacts on any wetlands.

Groundwater

Section 6.7.2 of the EA notes "*any groundwater encountered during construction will be pumped out of the work area into a contained area, tested and if necessary appropriately treated prior to re-use, appropriate discharge or disposal*". Details are required on:

- the likely volumes of groundwater to be extracted to assess the potential impacts and the need for any approvals from the Office of Water.
- the proposed discharge /disposal of the groundwater.

The Office of Water will determine the need for a licence once detailed information is provided.

Table 9.1 Draft Statement of Commitments

Water quality, hydrology and aquatic ecology:

The Office of Water supports the inclusion of Statement of Commitments (SOC) (2) that all creek crossings would be underbored. As noted above, Office of Water is not aware of any circumstances where underboring would cause more impacts than trenching and suggests this wording is removed from the SOC.

Post construction rehabilitation should include the rehabilitation of waterways crossings and the

rehabilitation phase should continue until all waterway crossing sites are identified as stable by an independent suitably qualified certifier.

Terrestrial flora and fauna

SOC 7 refers to refining the infrastructure design to avoid native vegetation but it is also important the project avoids disturbing riparian land. The Office of Water agrees that where the pipeline route is proposed to remove or disturb remnant native riparian vegetation the design should be refined to avoid these areas. The retention of existing vegetation will assist to prevent creek instability issues and further loss of riparian habitat. If this is not possible, the remnant areas should be rehabilitated and the loss of any remnant vegetation adequately compensated for to mitigate impacts.

SOC 8 limits the extent of the direct pipeline construction impact to a maximum width of 10 m through native vegetation but as Section 3.3.2 of the EA indicates the construction footprint width is expected to be approximately 6 m up to 10 m wide, the Office of Water queries why the 6 m corridor width is not included as a management measure. The construction footprint of the project in the vicinity of riparian land needs to achieve the negotiated watercourse and riparian outcomes between the Office of Water and DP&I.

SOC 10 for rehabilitation refers to re-planting using local indigenous flora where practical. The inclusion of "where practical" in this SOC is not a commitment. The commitment must use local native plant species in riparian areas that have been identified for the rehabilitation of native vegetation.

Soils and Groundwater

SOC (23) notes any groundwater encountered during construction will be pumped out of the work area. If groundwater is intercepted and dewatering is necessary, the Office of Water reiterates that the Office of Water needs to be consulted to determine if an approval is required.

The Office of Water reiterates that a commitment is included that each watercourse crossing be assessed to determine whether the soils are sodic or non-sodic. The soil properties (such as sodicity) at watercourse crossings need to be assessed to determine appropriate crossing methodologies and rehabilitation measures. The investigations should be undertaken before construction commences.

End Attachment A
21 November 2011