14 December 2018

Director Infrastructure Projects
Transport Assessments
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Reference: F6 Extension Stage 1 – SSI 8931

Thank you for the opportunity to review and comment on the Environmental Impact Statement for the proposed F6 Extension Stage 1 Project. The following are our comments.

Sydney Water wastewater and potable water assets

- Sydney Water owns and operates trunk and reticulation assets located within and outside the project boundary for the proposed F6 Extension Stage 1 Project. These assets provide wastewater and potable water services to our customers in the affected area. Sydney Water, during and post works of the F6 Extension Stage 1 Project, must continue to provide these services as per Sydney Water's Operating Licence and regulatory requirements. These assets include (but not limited to) the trunk water mains along Princes Highway and Arncliffe and Sewage Pumping Station (SP0089) at Rockdale.

- Sydney Water encourages early consultation and discussions with Roads & Maritimes Services for these works. We also recommend that all relevant information, plans, needs specifications for these assets are requested from Sydney Water.

- The Environmental Impact Statement states there is a need for potable water use within and for the project. The availability and volume of these flows will depend on system capability and will be confirmed during detail design.

- Sydney Water reserves the right to assess, based on final project layout and construction designs prepared by the project team and or their contractors, the impacts on our assets located within the project scope, and the potential needs for adjustments funded by the project to accommodate accessibility of our pipes for operational and maintenance purposes, new pavement locations and changes to structures.

- Sydney Water requires safe unrestricted access to our assets throughout the life of the project. We need to ensure these assets are fully operational at all times.

- Sydney Water recommends early consideration for staging and timing design work and delivery of the project. This is very **critical** to allow sufficient time for Sydney Water to schedule and program shutdowns and reconnections of our assets. This ensure that Sydney Water continues to meet its Operating Licence and most importantly maintain services to our customers. A Water Service Coordinator can assist you with this process.

- Sydney Water Asset Adjustment process, found on the Sydney Water website, should be adhered to for the relocation, adjustment and or protection of our assets. Additionally, if assets are required to be changed, the environmental approval will need to cover any works identified that may fall outside of the project boundary, but be a result of the project works.

- Any trade waste licence request, most notably for removal of leachate, will need to meet Sydney Water's requirements.

- The environmental approval needs to meet the discharge protocols of chlorinated water due to watermain shutdown and reconnection of live Sydney Water assets that will need to be adjusted.

- Amplification of assets may be required to facilitate future growth along the development corridor. This will be assessed as adjustment applications are referred to Sydney Water for review. Sydney Water consultation is required early to ensure any amplifications are identified, planned and confirmed early.

- Volume 1 Section 2.3 Other NSW Legislation – please add **Sydney Water Act 1994**.

- Volume 1 Section 7.5 Utility Services and Table 24-2 Major Project Elements to be amended/included as follows:

    - Potable Water (Sydney Water) – mains of 250 millimetre diameter or greater
    - Wastewater (Sydney Water) – mains greater than 300 millimetre diameter
    - Stormwater (Sydney Water) – mains of 375 millimetre diameter or greater including, culverts and open channels

- Volume 1 Table 21-2 Anticipated construction waste types

  Under the *Drainage and Water Management Infrastructure*, the contractor **must** consult with and **obtain approval** from Sydney Water regarding the disposal of potentially contaminated wastewater to the sewer for treatment.

Sydney Water stormwater assets

- Close consultation with Sydney Water during the concept & detailed design, construction and operational phases of the project **must be required** to ensure that the objectives are met and that the impacts to Sydney Water stormwater assets is minimised, or improvements to the receiving environment can be achieved.

- Based on the current level of investigation and reporting provided, Sydney Water could not agree to the connection of tunnel water discharges to the Sydney Water stormwater system.

- Out of catchment offset stormwater treatment strategies are not appropriate and are not supported. The project should directly manage and treat stormwater runoff from its own pavement areas.

  It is not appropriate to take the 'low-hanging-fruit' from areas outside project drainage system to facilitate a disregard of stormwater water quality discharges from the project pavement areas.

- Given the anticipated adverse impact to groundwater the project designers should reconsider the stormwater strategy and seek to comply with the Council stormwater retention strategy for development and develop a groundwater recharge approach for stormwater disposal.

- The proponent should review the proposed 1% ARI flood immunity standard for surface road pavements.

  - Surrounding roads do not have this level of service and a high standard for isolated sections of road would not be supported where there is potential impact to flood sensitive nearby properties.

  - This is particularly the case where local road pavements are proposed to be raised / perched and serve to obstruct cross flows (by capacity limits or blockage incidents) to the detriment of nearby properties.

- While the project is not deemed sensitive to climate change impacts, the project impacts to local properties in combination with climate change should also be evaluated within a prudent selection of climate change and blockage incident scenarios.

- We commend the EIS position aiming to achieve best practice outcomes for the entire project and support adopting the NSW Water Quality Objectives, ANZECC Water Quality Guidelines and Botany Bay Water Quality Improvement Plans.

- Sydney Water's stormwater quality targets will apply when a connection to our asset is required (Refer to Sydney Water's website http://www.sydneywater.com.au/SW/water-the-environment/how-we-manage-sydney-s-water/stormwater-network/stormwater-quality-targets/index.htm).

- Stormwater quality monitoring results for stormwater discharges should be provided to Sydney Water throughout including pre, during and post construction of the road (3 years).

- Continual communication with Sydney Water regarding the detailed design and flood assessment will be required. Any weakening of the EIS position during detailed design will be critically examined by Sydney Water.

Tunnelling beneath Sydney Water assets

It is recommended that further work is required to inform assessment of the impact of the proposed F6 Extension Project on Sydney Water assets. Such may include (not necessarily comprehensive) the following:

- Detailed geotechnical investigations;
- Groundwater well installation and monitoring of groundwater levels;
- Groundwater modelling and prediction of ground settlement induced by excavation dewatering and groundwater inflow into the tunnel, accounting for construction staging and in the long term in the course of operation of the F6 extension;
- Settlement and ground movement predictions from various activities (tunnelling, fill embankments, etc.) that may impact Sydney Water assets;
- Dilapidation surveys of Sydney Water assets, and, in particular the Muddy Creek concrete channel;

Furthermore, a set of criteria would need to be established to enable monitoring and mitigation of adverse impacts to Sydney Water assets, which may include:

- Establishing minimum separation distances
- Establishing appropriate ground movement (strain) criteria, including settlement (total and differential), curvature, rotation etc.
- Vibration limits and trigger levels;
- Settlement monitoring requirement during construction, including defining various trigger levels;
- Establish contingency actions in the event that settlement and vibration limits are exceeded.

Overall, Sydney Water strongly recommends continued consultations with Roads & Maritime Services to discuss designs and constraints which will benefit the project.

Please contact me on 8849 3528 for further information and to discuss any questions.

Yours sincerely,

Willy Ramlie
Strategic Project Coordinator
Development Partnerships