

21 November 2013

Attention: Kate MacDonald

Mr Chris Ritchie
A/Director – Industry, Social Projects & Key Sites
Department of Planning and Infrastructure
GPO Box 39
Sydney NSW 2001

Re: SSD 5897 – Remediation, land forming works, and general excavation works associated with the future basement area, Hickson Road, Barangaroo

Dear Mr Ritchie,

Thank you for your letter about the development proposal referenced above. We have reviewed the application and provide the following comments for your consideration.

Diversion of Stormwater Drainage

- Sydney Water has no principal objection to the proposed temporary and permanent diversion of Sydney Water's stormwater drainage traversing the Barangaroo South Stage 1B site as per Cardno's sketch NA50613044-SK011(08)
- This is subject to feasibility through engineering investigation and documentation that to the satisfaction of Sydney Water, the existing stormwater capacity is being maintained
- Prior to any further approvals, Lend Lease (Millers Point) Pty Limited and Lend Lease Project Management & Construction (Australia) Pty Limited must address the following:

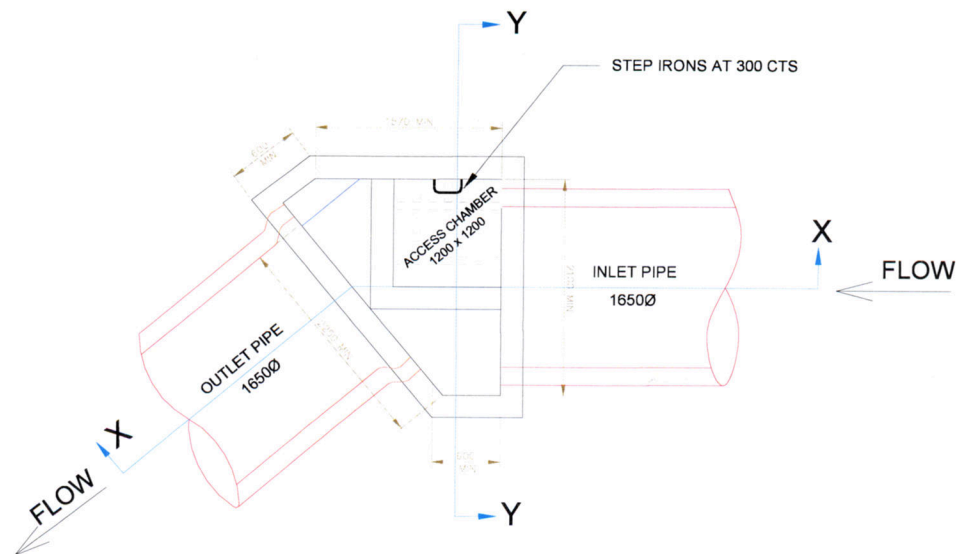
1. Connection and disconnection of Stormwater Drainage

- Indicate in writing how disconnection of assets will take place. Sydney Water needs to ensure remaining stormwater assets are in perfect working order to operate and maintain
- Demonstrate how new temporary and permanent stormwater assets will be connected to Sydney Water stormwater assets. Sydney Water needs to ensure these connections comply with Sydney Water's Asset Creation Process
- If the proposed connection size is 300mm or over, a qualified structural engineer is required to design the connection with the connection angle to be 30 degrees to the flow direction. A structural Engineer's certificate is to be attached with the connection drawing. Any stormwater connection which is 225mm or less, then Sydney Water's standard drawings could be used to design the connection drawings
- Stormwater connection drawings in AutoCad are to be submitted to the Water Servicing Coordinator.

2. Maintenance and Operations of temporary Stormwater Drainage

- Prepare and enter into an Interim Operating Procedure / Agreement, where Lend Lease will own and be responsible for the operation and maintenance of the asset

- Sydney Water will have no responsibility on the operations and maintenance of the temporary system from Hickson Road to the outlet once Sydney Water's stormwater drainage system is disconnected
 - Sydney Water will continue to operate and maintain the Stormwater Drainage system from Hickson Road to the outlet once the temporary diversion has been commissioned and approved by Sydney Water.
- 3. Agency notification**
- Disconnection of other stormwater services requires notification, advice and approval from relevant agencies including Roads and Maritime Services and City of Sydney.
- 4. Risk Workshop**
- Conduct a risk workshop with relevant design consultants, Water Servicing Coordinators and contractors to identify key risks and management controls relating to the temporary and permanent asset deviation proposals.
- 5. Emergency response plan**
- Develop and implement an emergency response plan for the temporary and permanent deviations that ensures the safety of people and property in the event of the asset and/or embankment failing or flooding.
- 6. Backfilling**
- Notations should be provided on the plans for the backfilling of any redundant pipes particularly along Hickson Road to the required specification.
- 7. Comments on Temporary Deviation**
- Consistent with previous advice, the proponent should check the hydraulic capacity and performance of the temporary system. This would ensure existing capacity is maintained and offset the impacts associated with flattening the pipe grade. Specifically, the proposed Line A (suspended 355mm diameter pipe) is not considered adequate
 - Arrange for certified design drawings, to Australian Standards, the City of Sydney Stormwater Drainage Design Code Version 1.1 and supporting documentation to be lodged into eDeveloper
 - Sydney Water requests the junction to Pit 13 meet the detail provided below. Alternatively all junctions to pits must not be at 90 degrees, preferably at minimum of 30 degrees. This ensures improved hydraulic performance, especially during flows approaching full pipe. While the plan below omits reinforcement for clarity, structural details will need to be included.



TYPICAL PLAN

- Prepare and enter into an Interim Operating Procedure / Agreement, where Lend Lease will own and be responsible for the operation and maintenance of the asset
- An erosion and sedimentation control plan should be included in the drawing set outlining the environmental controls proposed to manage pre and during the construction phase.

8. Comments on Permanent Deviation

- Sydney Water objects to the proposed road drainage pits B6 and C2. Alternative options should consider Water Sensitive Urban Design (WSUD)
- Sydney Water requests the submission of hydraulic model files to confirm the performance of the proposed permanent deviation during the 100 year ARI flood and taking into account 2100 sea level rise projections
- Consistent with previous advice, please check hydraulic capacity and performance of the permanent drainage system. This would ensure existing capacity is maintained and offset the impacts associated with flattening the pipe grade
- Arrange for certified design drawings, to Australian Standards, the City of Sydney Stormwater Drainage Design Code Version 1.1 and supporting documentation to be lodged in eDeveloper
- Indicate the addition of utility services proposed below ground pedestrian links or public services on the stormwater long section plans. The long section should include a hydraulic grade line and pipe type
- Sydney Water recommends the inclusion of a gross pollutant trap on the permanent deviation, at a location not subject to tidal inundation to improve harvested and

harbour water quality. Sydney Water requests further design advice regarding the provision of a GPT, including an assessment of various locations and device types.

Further advice and requirements for this proposal are at attachment 1 (overleaf). If you require any further information, please contact Jordan Faeghi of the Urban Growth Branch on 02 8849 4649 or e-mail jordan.faeghi@sydneywater.com.au.

Yours sincerely,



Persephone Rougellis
A/Manager, Growth Strategy

Attachment 1

Trade Waste Information

Should this development generate trade wastewater, this correspondence does not guarantee the applicant that Sydney Water will accept the trade wastewater to its sewerage system. In the event trade wastewater is generated, the property owner is required to submit an application for permission to discharge trade wastewater to the sewerage system before business activities commence.

For further information please visit the Sydney Water website at:

<http://www.sydneywater.com.au/OurSystemsandOperations/TradeWaste/>

Sydney Water Servicing

Sydney Water will further assess the impact of any subsequent development when the developer applies for a Section 73 Certificate. This assessment will enable Sydney Water to specify any works required as a result of future development and to assess if amplification and/or changes to the system are applicable. The developer must fund any adjustments needed.

The developer should engage a Water Servicing Coordinator to get a Section 73 Certificate and manage the servicing aspects of the development including building over and adjacent to Sydney Water assets.

Sydney Water e-planning

Sydney Water has an email address for planning authorities submit statutory or strategic planning documents for review. This email address is urbangrowth@sydneywater.com.au. The use of this email will help Sydney Water provide advice on planning projects faster, in line with current planning reforms.

