



Umow Lai

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3 July 2017

Laing O'Rourke Australia Construction Pty Ltd
Level 4, 100 Arthur Street
North Sydney NSW 2060

Attn:- Mr Ross Perry

Dear Ross,

**University of Sydney – Health Precinct Stage 1
Health Precinct SSDA Submission
SECTION 13, UTILITIES – INTEGRATED WATER MANAGEMENT PLAN**

The following information describes the relevant Infrastructure Management Plan associated with Sewer and Water Services.

Sewer Drainage

Existing external sewer mains surround the proposed building and the footprint has been co-ordinated and arranged to suit Sydney Water sewer main infrastructure guidelines. In addition the new building will be connected to the existing sewer main system. Sydney Water are to be approached in regard to feasibility review of their sewer assets and new connections prior to an official Section 73 application that would be submitted post DA approval.

The internal sewer drainage installation will be designed and installed throughout generally as a gravity drainage system connecting to the external sewer main in accordance with the requirements set out in accordance with Australian Standard AS3500.2, Sydney Water, Sydney University CIS hydraulic services standards, all relevant Australian Standards, National Construction Code and the requirements of all controlling authorities to ensure full completion of the works.

Domestic Potable Water Services

The potable water mains installation is to be extended to the site from an adjacent water main located within Western Avenue to the east of the new facility with a new meter assembly located on the property to serve the new building. Sydney Water are to be approached in regard to feasibility review of their water mains assets and new connections prior to an official Section 73 application that would be submitted post DA approval.

The internal potable water supply installation will be designed and installed throughout in accordance with the requirements set out in accordance with Australian Standard AS3500.1, Sydney Water, Sydney University CIS hydraulic services standards, all relevant Australian Standards, National Construction Code and the requirements of all controlling authorities to ensure full completion of the works.

The domestic water supply is to be boosted via inline dual computer controlled variable speed drive pump sets with internal pipelines reticulated throughout to all points of demand complete with necessary isolation and pressure control valves to ensure supplies do not exceed 500kPa at tap outlets.

Tap ware throughout the facility is to be compliant with the WELS tap ware labelling scheme.

Recycled Water and Re-use Water Systems

A recycled rainwater installation is to be provided throughout that will be designed and installed throughout in accordance with the requirements set out in accordance with Australian Standard AS3500.1 and AS3500.3, Sydney Water, Sydney University CIS hydraulic services standards, all relevant Australian Standards, National Construction Code and the requirements of all controlling authorities to ensure full completion of the works.

Rainwater is to be collected for various roof area catchments and conveyed to connect and discharge into a storage tank of adequate capacity to suit the balance between the catchment areas collected and the supply of treated rain water to flush toilets, feed cooling towers and supply irrigation watering.

The collected drainage is to connect to the storage tank via a first flush management device to control and prevent debris and material entering the tank. Recycled water supply from the storage tank will pass through a filter system comprising bag filtration and UV disinfection. Overflow from the tank will connect to the stormwater drainage system and be conveyed to the point of discharge as detailed on the civil documents.

The treated supply is to be boosted via inline dual computer controlled variable speed drive pump sets with internal pipelines reticulated throughout to all points of demand complete with necessary isolation and pressure control valves to ensure supplies do not exceed 500kPa at tap outlets.

Recycled water supplies are to be installed with all necessary appropriate signage as well as non-drinking water warning signs at non-potable outlets to ensure cross connection and contamination of potable water systems does not occur.

Fire Service Water Re-use

Clean fire service test water will be directed to the storage tank for collection, treatment and re-use. The water will be from fire hydrants and sprinkler annubar testing that will discharge to a drainage system to convey the clean water to the storage tank.

Fire services drain down water system will be connected to the sewer system as the water is dirty, stagnated and not suitable for re-use purposes.

Commissioning and Maintenance

On completion of the works, the hydraulic services sub-contractor will commission the plumbing systems and ensure as part of the handover of operation and maintenance manuals, that the University of Sydney maintenance team are familiar with the operation and maintenance of all plumbing systems installed within the building.

Yours sincerely
UMOW LAI

A handwritten signature in black ink, appearing to read 'DU', with a long horizontal stroke extending to the right.

David Uhlhorn
Director