

MODIFICATION REQUEST:

***Construction and Operation of Water
Related Services for the North West
Growth Centre First Release Precincts
Modification 4***

(MP07_0125 MOD 4)

***Construction of an Emergency Storage Tank at
Mile End Road, Rouse Hill***



Secretary's Environmental Assessment Report
Section 75W of the
Environmental Planning and Assessment Act 1979

July 2014

ABBREVIATIONS

Council	The Hills Shire Council
The Department	Department of Planning and Environment
EA	Environmental Assessment
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
ESD	Ecologically Sustainable Development
EST	Emergency Storage Tank
Minister	Minister for Planning
NWGC	North West Growth Centre
OEH	Office of Environment and Heritage
Proponent	Sydney Water Corporation
SEPP	State Environmental Planning Policy
Secretary	Secretary of the Department

Cover Photograph: Mile End Road, Rouse Hill (Source Google Maps 2014)

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NSW Government

Department of Planning & Environment

1. BACKGROUND

Sydney Water Corporation is responsible for providing water and wastewater services to facilitate the development of the North West Growth Centre. The North West Growth Centre Water Related Services for the Stage One Precincts (MP07_0125) was approved by the then Minister for Planning on the 18 November 2008 and included the provision of:

- potable and recycled water trunk mains;
- wastewater carriers;
- water pumping stations;
- new and upgraded sewage pumping stations;
- amplification of Riverstone Sewage Treatment Plant;
- recycled water facilities at Quakers Hill Sewage Treatment Plant; and
- water and recycled water reservoir infrastructure at Cudgegong Road.

The approval has been modified three times prior to this request, as detailed below:

Modification 1, approved on 8 June 2009, clarified the exact archaeological site referred to as A7 and the timing of when condition 2.9 was required to be fulfilled.

Modification 2, approved on 19 May 2010, included changes to the alignment of the approved drinking water pipeline at various locations including Parklea, Rouse Hill and Stanhope Gardens.

Modification 3, approved on 10 September 2012, included changes to the alignment of wastewater and water pipelines and the relocation of a sewerage pumping station to Clapham Road, Vineyard and changes to the Statement of Commitments to ensure consistency with the North West Growth Centre Water Related Services for the Second Release Precinct.

Following detailed design of the Cattai Creek wastewater carrier, additional modelling has revealed the need for off-line storage in the Rouse Hill wastewater system. The off-line storage system is to ensure EPA licence conditions, which limits wet weather overflows to 12 in 10 years, can be achieved. As such, Sydney Water Corporation has requested a modification to the approval.

The subject site is located at the northern end of Mile End Road, Rouse Hill adjacent to an existing Pumping Station. An existing shared cycle/pedestrian pathway, and road reserve lies between the two sites. The subject site is currently vegetated and slopes away from the front boundary towards Cattai Creek. Land subject of this modification application is located within the Hills Shire Local Government Area and is shown in **Figure 1** and **Figure 2** below.

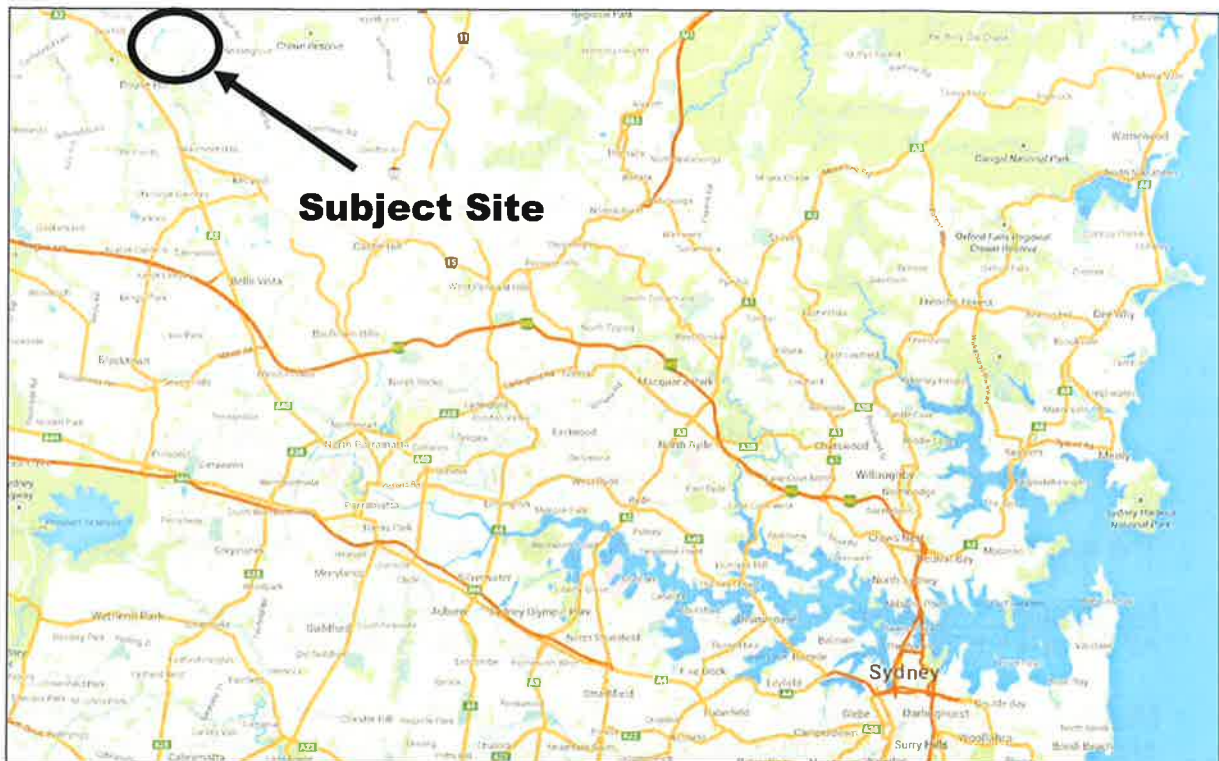


Figure 1: Project Location in Context with Sydney CBD (Base Image Source: Google Maps 2014)

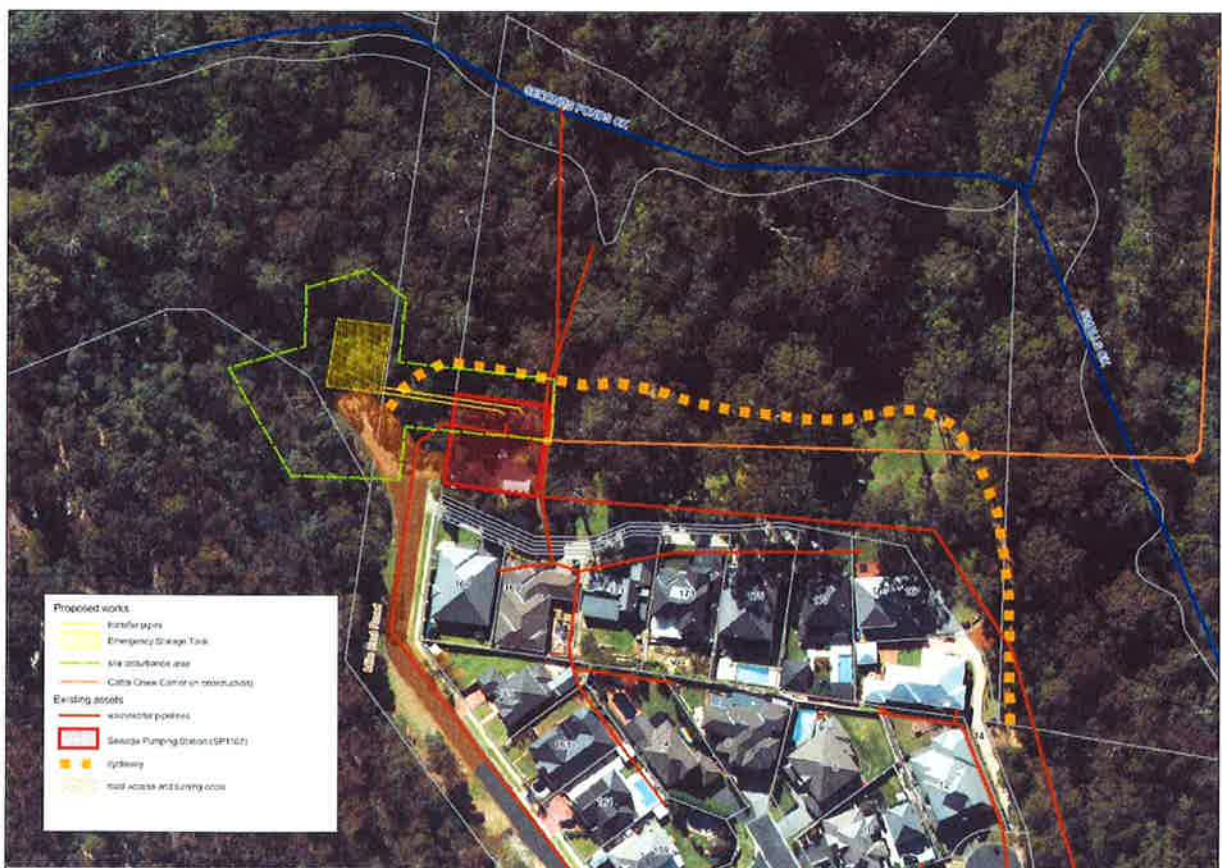


Figure 2: Project Layout (Source: EA 2014)

2. PROPOSED MODIFICATION

2.1 Modification Description

The Proponent has submitted a request (MP07_0125 MOD 4) under Section 75W of the Act to include the construction of a below ground Emergency Storage Tank (EST) at Mile End Road, Rouse Hill. The key aspects of the proposed modification are listed in **Table 1** and the site layout and plan view are shown in **Figure 3**.

Table 1: Proposed additions to the approved project

Aspect	Description
Emergency Storage Tank (EST)	A new underground EST measuring 19m x 13m x 9m deep with a volume of approximately 2223m ³ or 2.22 megalitres.
Pipelines	Two new gravity fed wastewater pipelines connect to the existing pump station (SPS1107) approximately 40m in length; one to take overflow to the new EST during heavy rainfall events that would otherwise result in overflow, and the other to bring wastewater back from the EST following heavy rainfall events.

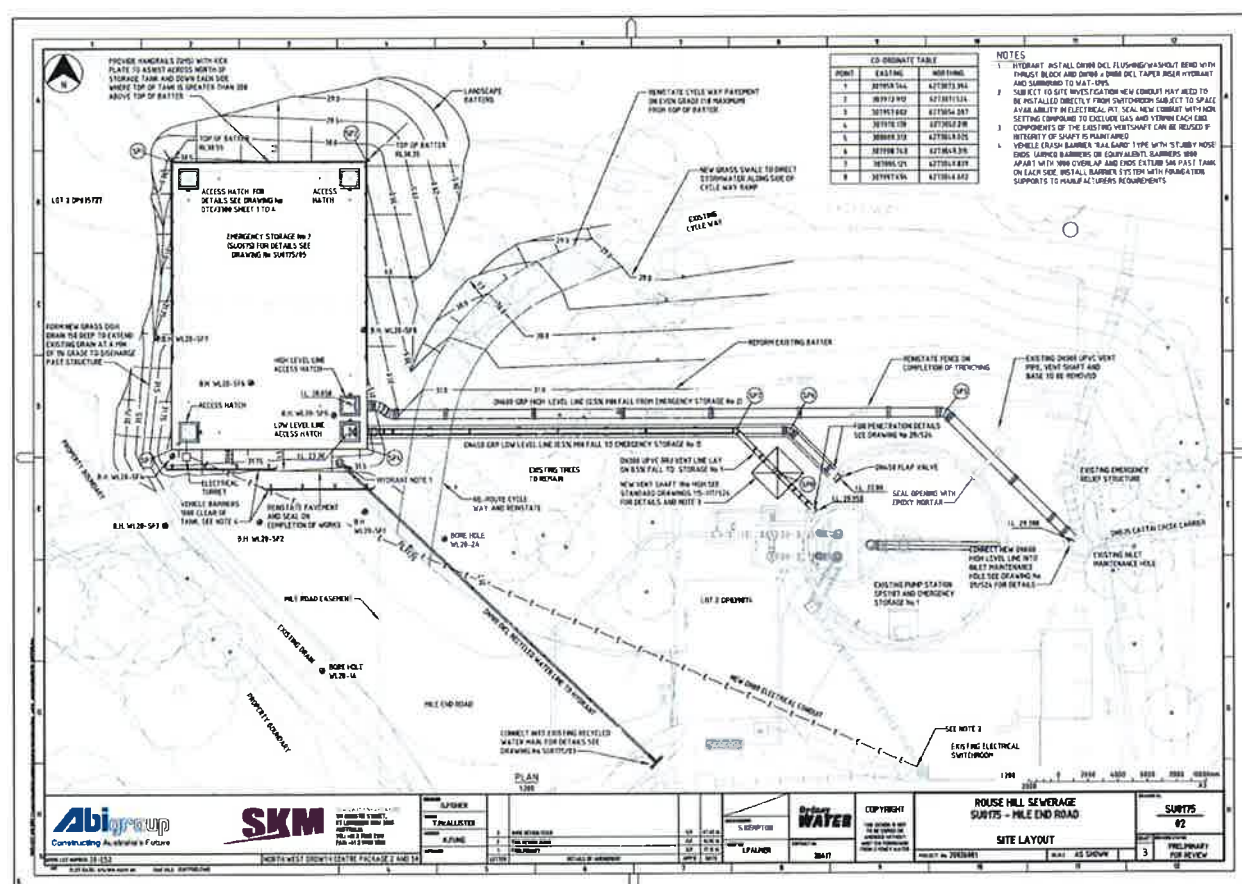


Figure 3: Plan view of EST (left) with connections to the existing pumping station (centre) (Source: EA 2014)

3. STATUTORY CONTEXT

3.1 Modification of the Minister's Approval

In accordance with clause 3 of schedule 6A of the Act, section 75W of the Act as in force immediately before its repeal on 1 October 2011 and as modified by schedule 6A, continues to apply to transitional Part 3A projects.

Section 75W of the Act provides that a Proponent may request the Minister to modify the approval of a transitional Part 3A project. The Minister's approval is not required if the project, as modified, will be consistent with the original approval. The subject modification is not consistent with the approval, but does not constitute a project in its own right, and therefore a modification in accordance with section 75W of the Act is considered appropriate.

3.2 Delegated Authority

An application to modify a transitional Part 3A project approval may be determined by the Director, Infrastructure Projects of the Department of Planning and Environment under delegation from the Minister for Planning, dated 14 September 2011. This delegation applies where the local council does not object, a political disclosure statement has not been made in relation to the application, and less than 10 objections are received. This proposed modification meets the terms of this delegation, and may be determined by the Director, Infrastructure Projects.

4. CONSULTATION AND SUBMISSIONS

4.1 Exhibition

Under Section 75X(2)(f) of the Act, the Secretary is required to make the modification request publicly available. The Department placed the modification request on its website and notified the Office of Environment and Heritage (OEH), the Environment Protection Authority (EPA), and the Hills Shire Council. A summary of the issues raised is provided below.

4.2 Public Authority Submissions

OEH raised the following:

- notes that a due diligence assessment has been provided which does not fulfil the requirements to address impacts to Aboriginal cultural heritage under Part 3A of the Act;
- require site RH/SP9 SPOP8 be registered in the Aboriginal Heritage Information Management System (AHIMS) as a matter of priority; and
- agrees that the removal of 0.2ha of native vegetation would not have a significant impact on the Endangered Ecological Community (EEC), however consider an offset is warranted given the impacts will result in the loss of extent of the EEC.

EPA raised the following:

- notes the operational details of the EST have not been provided (such as flow rates, capacity and bypass operations in a worst case flow); and
- recommended a number of construction conditions relating to construction hours, stockpiles, water quality, traffic, dust and odour and noise.

The Hills Shire Council does not object to the proposed modification however:

- requests that the Mile End Road stormwater, which flows overland in a table drain to Cattai Creek is not impacted by the proposed EST; and
- requests the reinstatement of Council's cycleway is in accordance with Council's design specifications.

5. ASSESSMENT

The Department considers the key issues for the proposed modification to be biodiversity, construction noise and vibration and Aboriginal heritage. Other impacts considered in the original approval such as odour, water quality, soil and non-Aboriginal heritage impacts are considered to be of similar scale to that considered as part of the approved project.

5.1 Biodiversity

As part of its assessment, the Proponent prepared a Flora and Fauna Assessment to determine the vegetation communities and describe the fauna habitat characteristics of the site. It also assessed the likelihood of occurrence of threatened species, populations of EECs listed under both the *Threatened Species Conservation Act 1995* (TSC Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), described the potential impacts arising from the proposed modification and discussed mitigation measures to minimise any impacts.

The only vegetation community identified on the subject site was Shale-Sandstone Transition Forest, which is listed as an EEC under both the TSC Act and the EPBC Act and is classified as disturbed. No threatened flora or fauna species were recorded.

The proposed modification would result in the clearing of approximately 0.2 hectares of disturbed Shale-Sandstone Transition Forest EEC. An assessment of significance was prepared by the Proponent, concluding that no significant impact is likely as a result of the proposal. This is due to the disturbed state of the community and the high number of weed species making the community unviable in the long term. Further, it is argued that larger portions of Shale-Sandstone Transition Forest EEC exist in the region adjacent to riparian areas along Smalls Creek, Cattai Creek and Second Ponds Creek.

A number of management and mitigation measures have been proposed during construction. Measures include limiting construction access is limited to hard surfaces, implementation of sedimentation and erosion controls, removal of noxious weeds, and implementation of the North West Growth Centre Flora and Fauna Management Plan, which includes the requirement for pre clearance assessments from a suitably qualified ecologist prior to commencement of any clearing on the subject site.

To offset any residual impacts, the Proponent has indicated that while the vegetation to be impacted is not located within the North West Growth Centre certified and non-certified areas as defined by the Biodiversity Certification, active management of approximately 250ha of Rouse Hill Trunk Drainage land is ongoing.

Department's Consideration

The Department has considered the Proponent's flora and fauna assessment and is satisfied with the level of assessment undertaken.

The Department understands that no threatened flora species exist or are likely to occur within the subject site however some highly mobile fauna species may use the site as part of a much larger area. Notwithstanding, the proposed management and mitigation measures are to minimise any impact associated with the construction would be adequate in managing any impact.

The Department notes that OEH consider the loss of 0.2ha of EEC would not have a significant impact on the community, however consider an offset is still warranted as the proposal would result in the loss of the extent of an EEC. In this regard, OEH have requested that 0.5ha of Sydney Water land be actively managed, or be included in addition to the Proponent's offset program elsewhere. The Proponent has stated that it is actively managing 250ha of Rouse Hill Trunk Drainage land for 6 years and a further bush regeneration contract has just been let within this area bringing the total cost of management to \$5.5 million. The Department considers that

while no additional land has been targeted for active management, the existing 250ha of actively managed land which comprises a large proportion of Shale-Sandstone Transition Forest EEC, is considered adequate in offsetting the loss of 0.2ha of disturbed EEC.

5.2 Construction Noise and Vibration

The Proponent prepared a Construction Noise and Vibration Impact Statement in accordance with the *NSW Industrial Noise Policy 2000* (INP) and *Interim Construction Noise Guidelines* (ICNG) as part of the EA for the proposed modification.

The closest residential properties (receivers) are located approximately 20 metres to the south of the subject site on Mile End Road (**Figure 4**). Background noise levels at these receivers was determined by a noise logger placed on the western side of Mile End Road south of the subject site.



Figure 4: Location of sensitive receivers (Base Image Source: Nearmap 2014)

The rating background noise level results of monitoring at the residential areas are provided in **Table 2**.

Table 2: Rating Background Noise Levels (RBL)

RBL (dBA)		
Daytime (7am-6pm)	Evening (6pm-10pm)	Night (10pm-7am)
37	35	30

Noise emission levels from the typical equipment that is likely to be used during construction have been considered to determine the most noise intensive plant and machinery sound power levels. Modelling was conducted to determine the predicted sound power levels at sensitive receivers and a comparison against the relevant criteria. The results are shown in the following table.

Table 3: Predicted Construction Noise Levels at Sensitive Receivers

Receiver	Construction Phase - Level LAeq, 15min							
	Clear and Grade	Excavation	Thrust Bore	Base Construction	Wall Construction	Backfill	Roof Slab Construction	Finishing
2 Berkeley Grove	48	48	33	34	34	33	34	33
4 Berkeley Grove	52	51	35	37	37	36	36	37
6 Berkeley Grove	56	55	40	41	41	40	41	41
8 Berkeley Grove	55	54	39	40	40	39	40	40
10 Berkeley Grove	55	53	35	39	38	38	36	40
12 Berkeley Grove	62	61	46	47	47	46	47	47
14 Berkeley Grove	62	60	45	46	46	45	46	47
16 Berkeley Grove	68	68	50	54	54	53	51	53
40 Highlands Way	51	50	35	36	36	35	36	36
42 Highlands Way	49	49	34	35	35	34	35	34
44 Highlands Way	48	47	29	33	33	32	30	33
147 Mile End Road	60	59	44	45	45	44	45	45
149 Mile End Road	61	59	44	45	45	44	45	46
151 Mile End Road	54	53	36	39	39	38	37	39
153 Mile End Road	62	60	45	46	46	45	46	47
155 Mile End Road	63	60	45	46	46	45	46	48
157 Mile End Road	63	62	47	48	48	47	48	49
159 Mile End Road	67	66	49	52	52	51	50	52
161 Mile End Road	68	68	50	54	54	53	51	53
163 Mile End Road	70	70	53	56	56	55	54	56
165 Mile End Road	74	73	55	59	59	58	56	59
167 Mile End Road	84	84	65	70	70	69	66	69
169 Mile End Road	83	82	61	68	68	67	62	68
171 Mile End Road	83	83	60	69	69	68	61	68
173 Mile End Road	77	77	55	63	63	62	56	62
175 Mile End Road	74	73	53	59	59	58	54	59
177 Mile End Road	71	70	52	56	56	55	53	56
3 Pelligrino Grove	61	60	45	46	46	45	46	46
4 Pelligrino Grove	70	70	52	56	56	55	53	55
6 Pelligrino Grove	67	67	51	53	53	52	52	52
8 Pelligrino Grove	64	62	41	48	48	47	42	49
10 Pelligrino Grove	58	58	43	44	44	43	44	43

Note 1: Goal 47dB(A)

Note 2: Bold indicates exceedence

Note 3: Red indicates highly noise affected

The results in **Table 3** indicate that construction noise levels are predicted to exceed the noise management levels at a number of receivers, with four properties predicted to be highly noise affected during clearing and grading and excavation activities. Clearing and grading is programmed to occur over 2 days, and noise levels associated with excavation would decrease as the excavated pit deepens (due to the shielding effect of the excavators being within the pit).

The Proponent has indicated that the predicted noise levels are a worst case scenario, with all plant associated with each stage operating simultaneously for a continuous 15 minute period. For the majority of the time, noise levels would be less than predicted.

Notwithstanding, the Construction Noise and Vibration Impact Statement recommends a number of mitigation measures be employed to manage construction noise, including updating the project's Construction Noise and Vibration Management Sub Plan to include the identification of affected receivers, description of hours of work and activities to be undertaken, description of work practices to minimise noise, and a description of the complaints handling procedure. Additionally,

mitigation measures that should be investigated include the use of appropriate plant, implementation of shielding techniques (ie. offsetting noisy plant with nearby receivers, and use of structures and enclosures etc) and implementation of respite periods during noise intensive works. It is also recommended that receivers be kept informed of construction activities.

Potential vibration impacts during construction of the project are most likely to occur during the use of an excavator (up to 45 tonne) with a breaker. The assessment states that plant of this size may cause some cosmetic damage at the nearest properties and recommends consultation with nearby residents, consideration of respite periods, preconstruction dilapidation reports be undertaken on receivers most at risk and site specific vibration measurements to determine safe working distances for the project. The assessment also recommends that should measurements indicate the work can be undertaken within safe working distances from receivers, a permanent vibration monitoring system should be installed to warn operators when vibration levels are approaching the peak particle velocity objective.

Department's Consideration

A review of the Construction Noise and Vibration Impact Statement has indicated a number of exceedences of noise management levels during the construction phase of the proposed EST, and notes that the use of an excavator (over 34 tonne) with breaker is likely to adversely impact on the occupants of nearby sensitive receivers. It is also noted that the proposed 45 tonne excavator with breaker is likely to result in cosmetic damage to nearby receivers depending on the outcome of on-site measurements to be undertaken prior to the use of this plant to determine safe working distances.

The Department acknowledges the number of exceedences of the noise management levels, and the four highly noise affected properties during the clearing and grading and excavation stages of construction. The Department considers that appropriate mitigation measures are available to address the construction noise impacts and concurs with the recommended mitigation measures. In particular, the need to undertake early (and regular) consultation prior to and during each construction stage, consideration of respite periods and temporary relocation of residents, consistent with the approved construction management plans should be implemented during construction.

In relation to potential vibration impacts, the Department notes the project's approved Construction Noise and Vibration Management Plan recommends the use of a smaller excavator with breaker should on-site measurements indicate that safe working distances cannot be achieved (where reasonable and feasible). Additionally, the Department agrees with the need to implement a permanent vibration monitoring system during construction of the project to warn operators when vibration levels are approaching the relevant objective. A recommended condition has been included to require the implementation of this system prior to the commencement of excavation and rock breaking activities.

The Department considers that construction noise and vibration impacts can be suitably managed through existing conditions of approval and implementation of management and mitigation measures contained within the project's approved Construction Environmental Management Plans.

5.3 Aboriginal Heritage

The Proponent has also undertaken an assessment of impacts of the project on Aboriginal cultural heritage, including database reviews, reviews of previous assessments and salvage excavation and a site visit. The modification has 7 Aboriginal stakeholders who were provided an opportunity to comment of the proposed EST.

A search of the AHIMS revealed no registered sites within the study area however a review of previous archaeological investigations between 1993 and 2005 and associated with various

stages of the Rouse Hill Infrastructure Development revealed a large site 120m x 70m that had been previously test and salvage excavated.

Previous testing and salvage of this site, known as RH/SP9 SPOP8 'Potential Archaeological Deposit and Artefact Scatter with Deposit' (PAD) revealed a total of 1,234 artefacts (from 18 test pits) which relate to stone tool production in the area. This PAD is considered to have moderate-high significance.

The proposed EST is to be located within the curtilage of RH/SP9 SPOP8 therefore a number of management and mitigation measures have been recommended. These include test excavation, salvage, fencing and undertaking construction in accordance with the approved Construction Heritage Management Plan. Additionally, the proposed pipes connecting the EST with the existing pumping station will be installed using an under-boring method to minimise any impact on the PAD.

Department's Consideration

The Department notes that OEH raised concern over the title of the report and noted that an assessment should be undertaken on the indigenous cultural heritage values that may be impacted by the proposal. OEH also require details of any subsurface archaeological investigation for potential archaeological deposits should also be provided. Further, OEH requires the assessment to be prepared in consultation with the Aboriginal Community and site RH/SP9 SPOP8 be registered as soon as possible.

While a Due Diligence Assessment has been submitted to support the proposed EST, the Proponent advises that following the discovery of RH/SP9 SPOP8, additional assessment has been included in the report, however the report title was not changed. The Department notes that additional assessment has been provided and consultation with 7 Aboriginal stakeholders has occurred. Following this consultation, 3 responses were received in support of the proposal. The Department is also advised that site RH/SP9 SPOP8 has now been registered.

It is acknowledged that the Proponent's assessment has relied on test excavations and salvage undertaken previously, and that the extent of site RH/SP9 SPOP8 extends much larger than originally mapped. In this regard, it is likely that all three options considered by the Proponent for the construction of the EST would be situated within this PAD. Therefore it would not be possible to avoid any potential impacts.

In light of the significance of the PAD, the Department has carefully reviewed all relevant approved construction management plans to ensure adequate processes are in place to undertake archaeological test excavations, salvage and reporting at appropriate times (ie. testing and/or salvage prior to the commencement of construction of the EST). The Department considers that subject to compliance with the Construction Environmental Management Plan, the Heritage Management Sub Plan, the recommendations in the heritage assessment and methodology described in the Proponent's consultation letter to registered Aboriginal parties, any potential impacts can be adequately managed.

The Department has recommended a number of conditions to ensure testing, salvage and reporting is undertaken in accordance with these plans. Additionally, the Department has also requested a final report be submitted to the Secretary within 12 months of the completion of these works. This report shall include the findings of the excavations, including artefact analysis and Aboriginal Site Impacts Recording Forms (ASIR), and the identification of final storage location for all Aboriginal objects recovered (testing and salvage), prepared in consultation with the Aboriginal stakeholders, the OEH (Aboriginal heritage) and to the satisfaction of the Secretary. A copy of this report shall be provided to the relevant Council.

5.4 Other

Issue	Consideration
Public Domain	<p>An existing cycleway owned by Council is located partially within the site area of the proposed EST. The Proponent has indicated that the impacted section of cycleway would be relocated outside the boundary of the site. Council has raised no objection to this relocation provided the rebuilt section of cycleway is constructed in accordance with Council's specifications for cycleways.</p> <p>The Department is satisfied that the proposal would not pose any post construction issues for users of the cycleway, provided it is reconstructed in accordance with Council's specifications. This has been included as a recommended condition of approval.</p> <p>An existing stormwater drain along the western side of Mile End Road would be extended and redirected around the western side of the proposed EST. Overland flow down Mile End Road would remain as existing, and traverse down the new section of cycleway to the creek. Council have raised no objection to the proposal provided the EST does not impact on drainage in the area.</p> <p>The Department is also satisfied that the proposal would not have any impact on Council's drainage infrastructure in the vicinity of the site and a suitable condition has also been recommended ensuring any impacts are minimised and if impacted, systems are reinstated to a condition equal to, or better than the existing situation.</p>
Visual Impact	<p>The site is located in an area of native bushland. Properties along Mile End Road are slightly elevated and enjoy an outlook of predominately bushland. Only one residential property has direct views to the subject site (No. 167).</p> <p>The Department acknowledges the proposal involves the removal of approximately 0.2ha of vegetation, however the resultant visual impact is considered to be negligible. This is due to the context of the site being predominately bushland and the retention of surrounding vegetation of the same vegetation community.</p> <p>While additional hardstand will be created in the form of a concrete 'lid' to the underground tank, and a safety rail and vehicle barrier would be installed, these aspects are not considered to result in an adverse impact on the visual amenity of the surrounding area, in particular on the occupants of No. 167 Mile End Road.</p>
Flooding	<p>Given the predominately underground nature of the proposed EST, any change to flood behaviour is considered to be negligible. The proposed EST is designed to be water tight to ensure any flood events would not result in any unintentional release of untreated sewerage into the catchment.</p>

6. CONCLUSION AND RECOMMENDATIONS

The proposal seeks to modify the approved project with the construction of a below ground Emergency Storage Tank and associated pipes to connect into the existing pumping station at Mile End Road, Rouse Hill. The Department considers that the proposed modification would continue to meet the original objectives of the project which was to support the development of the North West Growth Centre through the provision of water and sewerage related services. The proposed modification has been developed to meet EPA's licence conditions for wet weather discharges.

The Department has considered the *North West Growth Centre Water Related Services for the First Release Precincts Modification Assessment Report* dated April 2014 and prepared by Sydney Water Corporation, and has also considered submissions made by public authorities and Council. Key issues in the assessment are biodiversity, construction noise and vibration and Aboriginal heritage. Based on the Department's assessment, it is satisfied that the Proponent has undertaken an assessment of the impacts of the proposal. The Department therefore recommends the proposed modification be approved subject to conditions.


15.7.14
Karen Jones
Director
Infrastructure Projects

APPENDIX A MODIFICATION REPORT

See the Department's website for the EIS.

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6459

APPENDIX B RECOMMENDED CONDITIONS OF APPROVAL
