8. SOILS AND GROUND WATER	
8.3.8 Contamination	• No objection with regard to contamination and ground water management. EIS states that:- • Any contaminated areas to be directly affected by the project would be investigated and remediated prior to the commencement of construction works. All remediation works would be undertaken in accordance with the requirements of the Contaminated Land Management Act 1997 and *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites* (EPA, 1997b). • A Site Auditor would be required to certify that any contaminated areas have been remediated to a standard consistent with the intended land use prior to operation of the remediated site(s). • A typical discharge into a natural waterway (where approved) would require a groundwater treatment process that includes the following steps: ➢ Inlet buffer tank, with aeration ➢ Coagulation / flocculation ➢ Dissolved air floatation (solids removal) ➢ Multimedia filtration (25 micrograms) ➢ Cartridge filtration (2 micrograms) ➢ Brackish water reverse osmosis ➢ Disposal of water brine concentrate to sewer (dependant of future environmental policies) ➢ Discharge of adequately treated water (into aquifer of origin, stormwater (creek catchments), sewer under a trade waste agreement, onsite reuse or recycling or a combination of these options). • "Groundwater discharge quality would be required to comply with the relevant Environment Protection Licence."

8.4.2 Hydrogeology	• No objection to proposed works with regard to water quality. EIS confirms that "Water quality mitigation measures would be implemented in accordance with relevant requirements of: ➢ Landcom Managing Urban Stormwater - Soils and Construction Volumes 1 and 2 (often referred to as the Blue Book, 2004 and 2006). ➢ NOW Guidelines for Controlled Activities. ➢ ANZECC Guidelines for Fresh and Marine Water Quality. ➢ ANZECC Guidelines for Water Quality Monitoring and Reporting. ➢ Water Management Act 2000. ➢ Applicable Environment Protection Licences." • *Groundwater Dependent Ecosystems* (15.4.5) is inconsistent with the surface groundwater chapter. It states that water quality within the area is unknown, however most creeks display signs of increased turbidity, nutrient enrichment, and, potentially, oxygen depletion. **COMMENT**: Council has 17 years of water quality data for the Devlins and Terrys Creek areas see Annual Water Quality Reports from 2001 – 2010 at - http://www.hornsby.nsw.gov.au/environment/water-catchments/water-quality with recent results indicating elevated levels of faecal coliforms and pH not noted in the EIS.
Other Issues – (Asbestos Contamination)	• Residents have advised Council and Planning NSW that the Cheltenham Oval site is contaminated with asbestos. It will be the responsibility of NWRL to ensure that any investigative or construction works involving ground disturbance manages the potential risk to the applicable standard.
9. CONSTRUCTION TRAFFIC AND TRANSPORT	
	• Traffic and parking generators will be the Services Facility on the western side of Beecroft Road Epping, the decline facility on the Eastern side of Beecroft Road Epping, the Cheltenham Intermediate Service Facility in Cheltenham Oval and the Cherrybrook Station Precinct on Castle Hill Road. • Comprehensive Construction Access Management Plans will be required for each site to

9.4.2 Epping Services Facility and Epping Decline Construction Site **9.4.3 Cheltenham Services Facility Construction Site** **9.4.4 Cherrybrook Station Construction Site**	manage heavy vehicle access, staff parking and local traffic, including pedestrians and cyclists, during the construction phase. • Dilapidation reports on local roads that will be affected will be required before and after construction. At this stage only Kirkham Street and Castle Howard Road, and the section of Franklin Road near Castle Hill Road, are the only local roads affected. • Council has no objection to use of local roads for construction traffic as detailed in the EIS subject to state roads being used for access where possible. Council notes that - o at the two sites in Epping all heavy vehicle and staff vehicle access will be via Beecroft Road and all movements will be left in/left out. There will be above 80 heavy vehicles movements in and 80 out per day, mostly from the Decline site. o At Cheltenham Oval heavy vehicle access will be most likely via Kirkham Street near the M2 bridge with heavy vehicles restricted to left in/left out at the intersection with Beecroft Road. Traffic signal control at this intersection may be required. There will be about 35 heavy vehicle movements in and 35 heavy vehicle movements out per day. Light vehicles will have access via Castle Howard Road. o At Cherrybrook Station all access will be via Castle Hill Road, with new traffic signals creating a four way intersection at Glenhope Road, and new traffic signals at Franklin Road. There will be 275 heavy vehicles movements in and 275 heavy vehicle movements out per day.
10. NOISE AND VIBRATION CONSTRUCTION	
10.7.2 Epping Service Facility and Epping Decline **10.7.3 Cherrybrook Service Facility** **10.7.4 Cherrybrook Station**	• Concerns are raised with regard to predicted noise exceedances. Notably, the anticipated exceedance of more than 20 dB of the Noise Monitoring Levels during site establishment and rock excavation at the Cherrybrook site. Further, moderate to high exceedances are predicted at services facility construction sites. Whilst further acoustic mitigation measures have been identified such as periodic notifications, project info-line, phone calls, briefings, respite offers and alternative accommodation, the EIS appears to indicate that noise will continue to impact upon residents and the community. Further mitigation measures which reduce noise impacts upon residents should be considered.

13. LOCAL BUSINESS IMPACTS	
13.4.2 Epping Services Facility and Epping Decline (Sites 1 and 2)	• The EIS indicates that both the depth of the NWRL tunnel within the vicinity of property Nos. 240-244 Beecroft Road and the functioning of the *Epping Services Facility* during the construction period will interfere with the land use planning strategy recommended under the Epping Town Centre Study in respect of the development potential of property Nos. 240-244 Beecroft Road. • The operation of the *Epping Services Facility* is an important element within the overall NWRL project and it is acknowledged that an infrastructure project this large is likely to impact upon the amenity of adjoining land during construction. However, it is unclear from the EIS the extent to which the operation of the *Services Facility* and tunneling within the vicinity will impact upon either the current use of properties Nos. 242-244 Beecroft Road for commercial purposes or impact upon the development potential of the properties in respect of: ➢ The provision of access; ➢ The depth of excavation permitted to accommodate basement parking; and ➢ Any setback requirements from the adjacent *Services Facility* having regard to its current and ultimate function for ventilation. • Accordingly, additional information should be provided to enable Council to determine the impact of the *Epping Services Facility* and tunneling activity on the Epping Town Centre Core.
14. LAND USE AND COMMUNITY FACILITIES	
14.3.3 Cheltenham Service Centre (Site 3)	• Concern is raised primarily with impacts caused by the service centre at Cheltenham Oval. • The work includes a construction zone that will result in the demolition of the amenities building, netball courts, playground and car park, but the oval itself will not be affected. • NWRL will provide a temporary amenities building so that oval activities can continue during construction however, netball training will have to relocate for the duration of construction. • There is capacity for alternative netball training for the Beecroft Netball Club at the closest

	courts at Pennant Hills Park and Dunrossil Reserve, Epping. • There is uncertainty about the route through the site that will be used for the haulage of spoil removed at the site during construction. • One possible route is directly on and off the M2, however this would be likely to have a large impact on the space in the park currently used for recreation facilities. • Based on available information, a direct link from the construction site to the M2 is not supported. • It appears that the 'end state' of surface facilities for the NWRL at Cheltenham will comprise of one building, probably small in size. • There should be sufficient space to reinstate most or all of the demolished recreation facilities at Cheltenham in the site's end state (at the cost of the NWRL project). • The netball courts are no longer used for competition, only training, therefore the end state of the site has potential for a better balance between netball needs and car parking. • There will be consultation by the NWRL, Council and the community about the configuration of the reinstated facilities.
15. ECOLOGY	
15.5.2 Terrestrial Flora (Threatened flora species)	• The EIS states that the construction of the *Epping Services Facility* and the *Epping Decline Site* would have a major adverse impact upon the heritage listed bushland. The loss of vegetation and the resultant visual impact would likely impact on the existing visual qualities of the adjoining streetscape. The loss of the vegetation and resultant visual impact should be addressed through replacement planting within the subject sites. • The EIS states that the *Cheltenham Services Facility* would have a minor adverse impact upon the heritage listed item - "*Roadside/Park Tree*s *(Road Reserve & Beecroft Park/Cheltenham Oval*", being a severe long term and possibly irreversible impact on the significance of the item. The remnant group of trees identified in the listing retains a more or less contiguous native canopy with native understorey/ ground stratum components. The corridor is considered to have significance in terms of its natural, biodiversity, genetic, visual and aesthetic values. The corridor provides a visual backdrop not only to the

	residents of Cheltenham and Epping, but also provides a vegetated scenic corridor adjacent to M2 motorway. • It is considered that the removal of remnant trees, including some old growth specimen trees of individual significance will have a major adverse impact on the continuity of the corridor and a significant adverse impact on the landscape qualities of the visual catchment and the landscape qualities of the *Beecroft/Cheltenham Heritage Conservation Area*. In addition to the need to provide biodiversity offsets in association with the proposed tree removal, it is appropriate that opportunities be investigated to provide supplementary/replacement planting of trees within the immediate vicinity of the item to mitigate the visual impact of the construction of the facility. Consideration should also continue to be given to the investigation of alternative options that will reduce the scale of impact on the heritage listed corridor. • Under Site 3 *Cheltenham Services Facility 7.9.3* (p. 7-22) the option to construct the access road directly off the M2 Motorway is being investigated. **COMMENT**: this option needs to be fully investigated with a view to reducing impacts of clearing of good condition vegetation, reducing impacts of fragmentation and reduction of remnant by approximately 25% and recognising concerns expressed by the Chilworth Bushcare Group and the Beecroft Cheltenham Civic Trust. • Under *Survey Limitations* (p. 15-9), the EIS notes that hollow bearing tree surveys have not been carried out in certain areas of the Cheltenham site. Figure Cheltenham HBT on page 164 of Technical Paper 5a identifies the areas that hollows have been identified. Further, Technical *Paper 5a, 4.5 Key Threatening Processes* (p. 69) notes that the loss of hollow bearing trees is to be compensated for through the delivery of vegetation community offsets. Under 15.5.2 *Terrestrial Fauna,* the EIS identifies the loss of 9 potential breeding hollows and indirectly impacting on 8 additional hollows suitable for the Gang-gang Cockatoo. This population is restricted to the Hornsby and Ku-ring-gai LGA's. The EIS also states that the loss of 2 potential roosting hollows and indirectly impacting 1 additional hollow for the Powerful Owl and Barking Owl in Cheltenham and Cherrybrook. **COMMENT**: The EIS appears to have omitted surveying hollow-bearing trees in the west part of the Cheltenham

	site including the proposed access roads leading from Kirkham Road and Castle Howard Road into the Cheltenham Service Facility. It is important that surveys of hollow bearing trees be undertaken in these locations prior to construction so that potential impacts on this habitat can be mitigated. Appendix N (Offset Strategy) has not provided for the offsetting the loss of hollows or nesting sites which needs to be included. It is recommended that where possible any hollows from trees to be removed from the site be placed back on the site to provide potential nesting habitat. If naturally occurring hollows are not suitable for placing back in the site then artificial hollows should be placed back in the site to maintain nesting habitat. • Under *Threatened Flora* (p.15-11) and *15.5.1 Terrestrial Flora* (p.15-24), the EIS notes that the ***Epacris purpurascens* var *purpurascens*** is located outside the construction footprint. **COMMENT**: The *Epacris* is potentially located within the footprint of the access road off Kirkham Street. It is also important that additional site surveys need to be undertaken as per Mitigation Measure E3 Table 15.11. Council may be contacted to provide advice on the location of the plants. Consideration should be given to translocation of the plants as well as trialling the propagation of *Epacris* from seed. • Under *Outside the North West Growth Centre* (p. 15-29), the EIS identifies the Critically Endangered Ecological Communities (EPBC Act) and the removal of Blue Gum High Forest and Sydney Turpentine Ironbark Forest within Hornsby LGA. Also in *15.4.2 Terrestrial Flora* (p. 15-13), the EIS notes that Blue Gum High Forest has been identified at only one site, Cherrybrook Station. Sydney Turpentine Ironbark Forest has been identified at the Epping Services Facility and Epping Decline site. **COMMENT**: It is important that effective offsets be provided within the Hornsby Shire as per Table 34, Offset Strategy, Appendix N, Technical Paper 5a. • Under *15.4.2 Terrestrial Flora* (p. 15-13), Coastal Shale – Sandstone Forest has been identified at the Epping and Cheltenham sites. Table 34, Offset Strategy, Appendix N, Technical Paper 5a lists that 3.03 ha. of Blue Gum High Forest within Hornsby LGA, 5.75 ha. of Coastal Shale – Sandstone Forest within Hornsby LGA and approximately 0.17 ha. of Sydney Turpentine Ironbark Forest within Hornsby LGA are to be offset. **COMMENT**: The

	vegetation identified as Coastal Shale – Sandstone Forest appears to be incorrect – according to Smith and Smith 2008 this vegetation is identified as Blackbutt Gully Forest (equates to Sydney Sandstone Gully Forest – see Benson 1986, 1992, Benson and Howell 1994, Ryan et al. 1996). The area of bushland at Cheltenham impacted by the proposal appears to be under calculated and should be 1.16 ha. This would therefore require an offset of 5.8 ha and would require amendment of Table 34, Offset Strategy, Appendix N, Technical Paper 5a. • Under *Table 15.3* (p15-16), the EIS lists the Eastern Bent-wing Bat as 'likely' to occur within the site. **COMMENT**: The Eastern Bent-wing Bat has regularly been observed in the culverts adjoining Cheltenham Oval and Beecroft Reserve. • Under *Indirect Impacts* (p. 15-37), EIS notes that vegetation clearance may increase the potential for weed incursion into adjacent retained vegetation. **COMMENT**: Offset Strategy notes that it only applies to direct impacts. This needs to be amended to include indirect impacts on adjacent retained vegetation. The EIS proposal to the reinstate all bushland within the Epping and Cheltenham sites needs to consider and mitigate indirect impacts that may impact on adjoining bushland such as potential weed incursions. • Under *Bushland in Urban Areas (SEPP 19)* (p. 15-39) the EIS notes that bushland at the Epping and Cheltenham sites will be reinstated on completion of works. **COMMENT**: Site specific bushland surveys should be undertaken prior to commencement of work to enable an appropriate baseline to be achieved post construction. • Under *15.5.3 Pyes Creek Upstream of Roberts Road* (p. 15-40) the EIS notes that Cherrybrook Station will require the clearing of dense bushland within the small catchment. Impacts of this could include the spread of weeds. **COMMENT:** Good quality bushland including Blue Gum High Forest is located downstream of the subject site. Consideration should be given to appropriate mitigation measures to ensure that as a result of the works the spread of weeds does not extend into adjoining bushland. The Offset strategy needs to include addressing impacts on adjoining bushland. • Under Mitigation Measure E8 discusses wash down areas. **COMMENT**: Consideration should be given to include appropriate protocols for Phytophthora and Myrtle Rust management.

	• Under Mitigation Measure E11 discusses the revegetation of the Cheltenham site. **COMMENT**: Revegetation of the site should be done in consultation with Hornsby Council. • Under *Technical Paper 5a, 5.2 Vegetation Management Plans* (p77), EIS notes that the Epping, Cheltenham and Cherrybrook sites will have VMP's prepared for them. **COMMENT**: In particular the Cheltenham VMP needs to be prepared in consultation with Hornsby Council. • *Offset Options*: Council would prefer offsets to be made generally in accordance with the Hornsby Shire Offsets Code and implemented within the Hornsby Shire as opposed to Biobanking Credits. • There does not seem to have been consideration of the current bushland restoration works or walking tracks and signage occurring within the bushland at Cheltenham ie: Bushcare sites, TIDC offset, Transurban sponsorship, Council funded works, M2 upgrade funded works etc. **COMMENT**: the EIS needs to recognise the restoration efforts currently underway, any impacts on those works need to be mitigated and any third party agreements affected need to be renegotiated. Walking tracks need to be rerouted and 6 interpretive signs need to be changed to reflect the new track route and up to 10 directional signs need to be relocated.
16. VISUAL AMENITY	
16.6.1 Construction Site 1 – Epping Service Facility **16.6.2 Construction Site 2 – Epping Decline Site** **16.6.3 Construction Site 3 –**	• The four construction sites are located within areas of high visibility and currently contain elements that contribute positively to the visual qualities of the site and the adjoining locality. The location of the *Epping Services Facility* forms the northern extent of the Epping Town Centre and contains a low rise commercial building situated within landscaped grounds. The location of the *Epping Decline Site* marks the northern entry the suburb of Epping. The location of the *Cheltenham Services Facility* contains a stand of significant vegetation which provides a landscaped visual screen between the M2 and the Cheltenham Heritage Conservation Area. *Cherrybrook Station* is located on the corner of Castle Hill Road and Franklin Road and contains significant remnant vegetation contributing to the streetscape.

Cheltenham Service Facility **16.6.4 Construction Site 4 – Cherrybrook Station**	• The construction timelines provided in the EIS indicate that the 3m (6m at Cherrybrook) boundary walls around the perimeter of the sites and the 15m high acoustic sheds within the sites are likely to be retained within the construction sites for between 3 to 4 years. Although these structures are temporary, the structures will have a significant impact on the visual qualities of the sites and surrounding localities during the construction period, including impacts on views and vistas from the public domain (M2 corridor and rail corridor) for the following reasons: ➢ The anticipated period of construction of the major infrastructure project of up to 4 years is a considerable length of time; ➢ The scale and siting of the temporary structures is incongruous with both existing and anticipated future development within the site and within the locality; ➢ They structures will provide increased opportunities for graffiti; and ➢ The visual impact of the temporary structures will be exacerbated by the removal of existing vegetation screening within the construction sites and within adjoining land to facilitate access. • Accordingly, appropriate measures should be incorporated to mitigate the visual impact of the temporary structures, including: ➢ Incorporating architectural treatment and detailing of finishes within key elements of temporary structures that reflect the context within which the construction sites are located. For example, the Epping Service Facility could include public art depicting key activities and functions within the Town Centre Core and Cheltenham Service Facility could include public art depicting key activities and functions within the adjoining recreation area; and ➢ The provision of temporary landscaping/planter boxes, where appropriate, to soften views of the construction sites from adjoining sensitive areas.
19. NON-KEY ISSUES	
	• No objection is raised to proposed works with regard to air quality and waste management. EIS states that all waste would be assessed, classified, managed and disposed of in

19.2.5 Spoil Management	accordance with the Waste Classification Guidelines (DECC, 2008). • In addition to measures relating to the excavation and remediation of contaminated sites, appropriate measures should also be imposed regarding: ➢ The security of contained material being transported through the LGA; and ➢ Disposal and monitoring of spoil to authorised landfill sites. • Hornsby Council includes areas of relatively low population and some of the closest rural lands and large bushland tracts within close proximity to the Sydney metropolitan area. Due to this proximity, historically the undertaking of major infrastructure projects within the Sydney metropolitan area, such as motorway and Olympic site construction, has seen the incidence of unauthorised landfill increasing within the Shire. • Council requests that the protocols for the assessment of contamination and the disposal of excavated material are strictly regulated, imposed, and enforced on all operators and sub-contractors to ensure that spoil is appropriately transported through Hornsby LGA and disposed of to authorised sites. • With respect to opportunities for the placement of spoil, Council at its meeting of 3 August 2011 considered Executive Manager's Report No. PLN61/11 and resolved to endorse progression of the "*Hornsby Quarry Planning Proposal*" to allow the filling of Hornsby Quarry as permissible development. • Consideration needs to be given to the removal of sediment from the sediment traps. How will the sediment be treated if it is contaminated or VENM?