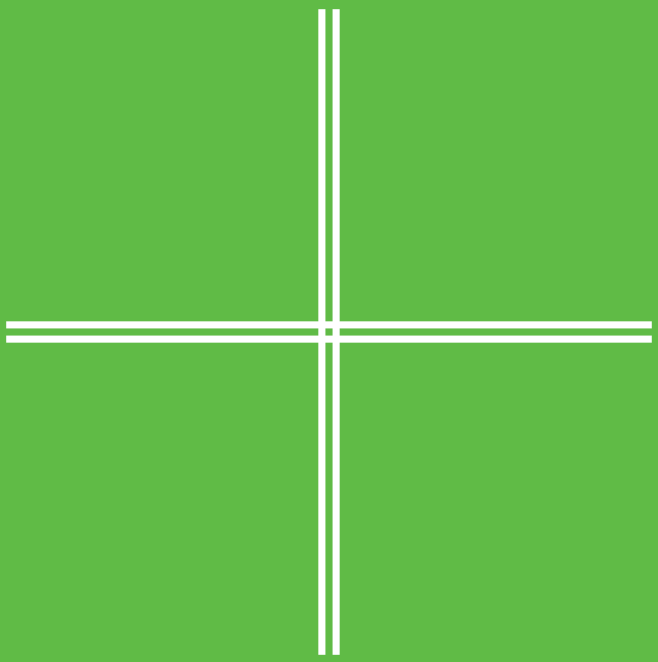
Transport for NSW

Submissions Report
Stage 1 - Major Civil Construction Works

Incorporating Preferred Infrastructure Report

July 2012

northwestraillink



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INTRODUCTION

1.1 The Project

The North West Rail Link (NWRL) Project has been identified by the NSW Government as a key priority railway transport infrastructure project. It is proposed to provide eight new stations and associated services over a 23 kilometre addition to the rail network from Epping to Rouse Hill in north west Sydney. Stations are planned at Cherrybrook, Castle Hill, Hills Centre, Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road. A stabling facility is proposed beyond Cudgegong Road station site in an area known as Tallawong Road. Bus, pedestrian and cycling access facilities are proposed for all stations, with a total of approximately 4,000 park and ride spaces to be provided at Cherrybrook, Hills Centre, Bella Vista, Kellyville and Cudgegong Road Stations.

EIS 1 described and assessed the major civil construction elements of the project including:

- Two 15.5km rail tunnels between Epping and Bella Vista, linking directly into the Epping to Chatswood Rail Line (ECRL) tunnels.
- Excavation works for underground railway station construction.
- Above ground construction, including the 4.2km Skytrain viaduct structure between Bella Vista and Rouse Hill.

EIS 1 has been prepared to address:

- The environmental assessment requirements specified in the Concept Plan Approval / Staged Infrastructure Approval, which have been endorsed by the Department of Planning and Infrastructure (DP&I) as the environmental assessment requirements for that EIS under Part 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 3 February 2012.

- Supplementary environmental assessment requirements issued by the Director-General of DP&I on 3 February 2012 including Staged State Significant Infrastructure Modification (MP 06_0157) and State Significant Infrastructure Application – Major Civil Construction Works (SSI-5100).
- The commitments made in the Statement of Commitments included in North West Rail Link Supplementary Submissions Report (TIDC, March 2008).
- The outcomes of on-going consultation with key stakeholders.

1.2 Purpose of this Report

This report has been prepared in accordance with Section 115Z – Environmental assessment and public consultation of the EP&A Act. Sub section (6) specifies the following:

(6) The Director-General may require the proponent to submit to the Director-General:

a. a response to the issues raised in those submissions, and

b. a preferred infrastructure report that outlines any proposed changes to the State Significant Infrastructure to minimise its environmental impact or to deal with any other issue raised during the assessment of the application concerned.

This report presents the following information:

- A number of clarifications to EIS 1 are presented in Chapter 2 in relation to noise and geotechnical issues. Chapter 2 also describes the project changes announced on 20 June 2012 regarding the rapid transit service proposed to operate between Cudgegong Road and Chatswood Stations.
- Details of the community involvement activities undertaken for the project (Chapter 3).
- Responses to the submissions received during the public exhibition period (Chapters 4 and 5).
- Design development of the NWRL, which has been ongoing throughout the EIS 1 public exhibition period, has resulted in a number of changes to the project described in EIS 1 for which approval is sought. These changes are described and assessed as a Preferred Infrastructure Report in Chapter 6.
- Revised mitigation measure tables, resulting from submissions received and the Preferred Infrastructure Report (Chapter 7).

1.3 Next Steps

The Department of Planning & Infrastructure (DP&I) will, on behalf of the Minister for Planning and Infrastructure, review the environmental assessment and this submissions report. Once the DP&I has completed its assessment, a draft assessment report will be prepared for the Director-General of DP&I, which may include recommended conditions of approval.

The assessment report will then be provided to the Minister for Planning and Infrastructure for consideration. The Minister for Planning and Infrastructure may then approve the project (with any conditions considered appropriate) or refuse to give approval.

The Minister for Planning and Infrastructure's determination and the Director-General's report will be published on DP&I's website immediately following determination with a copy of the submissions report.

1.3.1 State Significant Infrastructure – Stage 2: Stations, Rail Infrastructure and Systems (EIS 2)

As described in Section 3.2.8 of EIS 1, a separate EIS (EIS 2) is currently being prepared for the stations, rail infrastructure and systems associated with the NWRL. EIS 2 will present and assess the potential impacts associated with the construction of the stations, station precincts, rail infrastructure and systems as well the operation of the NWRL.


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CLARIFICATIONS

2.1 Sydney's Rail Future – rapid transport network

On 20 June 2012 the NSW Government announced Sydney's Rail Future. Key elements of the announcement are provided below.

In line with the approach of focusing specifically on the different needs of customers, Sydney's Rail Future will deliver a three-tiered system to respond to changing customer needs.

TIER 1: Rapid Transit:

- Frequent 'turn up and go' services without the need for consulting a timetable.
- Fast single deck trains with plenty of seats and more doors, designed for easy boarding and alighting.

TIER 2: Suburban:

- Timetabled services.
- Double deck trains with more seats per train.

TIER 3: Intercity:

- Timetabled services.
- Double deck trains for Central Coast, Newcastle, Wollongong and Blue Mountains services.

- Comfortable services for long distance commuting and leisure travel with on-board facilities for improved customer convenience.

Under the new three tier system, the NWRL would operate as a Tier 1 rapid transit single deck train system, initially operating between the North West and Chatswood, with a cross-platform interchange at Chatswood to suburban services for those customers travelling to the CBD. In line with the NWRL, an upgrade of the Epping to Chatswood Rail Link to a high capacity rapid transit system would be required as a separate project to the NWRL.

The rapid transport network would not result in any substantial changes to Stage 1 of the NWRL project as described within EIS 1.

The introduction of the Rapid Transit Network may result in the need for additional environmental assessments to be undertaken as Tier 1 develops beyond the scope of the NWRL project.

2.2 Noise and Vibration

2.2.1 General

EIS 1 provided an assessment of construction noise and vibration issues arising from major civil construction works. It also provided, for information, a preliminary assessment of noise and vibration issues arising from construction of stations, rail infrastructure and systems as well as rail operations.

These latter impacts will be presented and assessed in detail as part of EIS 2.

This section of the report provides an update on the preliminary noise and vibration assessment presented in EIS 1, highlighting any significant areas of change. Based on currently available information the only significant change compared to the information provided in EIS 1 relates to the impact of horn noise at the Tallawong Stabling Facility. As a result of the move to single deck rolling stock arising from the incorporation of NWRL into the recently announced Rapid Transit System, it is not anticipated that horn testing would be required.

2.2.2 Horn Noise at Tallawong Stabling Facility

EIS 1 identified noise from horn soundings at the Tallawong Stabling Facility as having the potential to cause sleep disturbance at nearby residences. As the rolling stock now proposed for NWRL under the Rapid Transit Network would incorporate Automatic Train Protection (ATP), horn testing is not anticipated to be required, representing an improvement in the noise and vibration impact.

The Tallawong Stabling Facility is a fixed facility and as such, noise levels are required to be assessed in accordance with the Industrial Noise Policy (EPA, 2000) (INP). All noise emissions emanating from within the stabling facility, including train movements, need to be assessed in accordance with the INP. In addition, the risk of sleep disturbance is assessed in accordance with the Road Noise Policy (DECCW, 2011) (RNP) as well as the screening criterion contained in the INP.

The nearest existing sensitive receivers to the proposed stabling facility are residential. This assessment therefore only considers impacts on residential receivers as this provides the controlling criteria.

The primary noise metrics used to describe noise emissions from fixed facilities in the modelling and assessments are described in **Table 2.1**.

Table 2.1 Fixed facility noise metrics

Metric	Description
L_{Amax}	The "typical maximum noise level" measured using the 'fast' response setting on a sound level meter. In the INP assessment of sleep disturbance, L_{Amax} is used interchangeably with $L_{A1(1minute)}$.
$L_{A1(1minute)}$	The noise level which is exceeded for 1% of the sample period, used interchangeably with the L_{Amax} noise level in the assessment of potential sleep disturbance during night-time periods.
$L_{Aeq(15minute)}$	The "energy average noise level" evaluated over a 15 minute period, used in the assessment of the intrusiveness of noise sources.
$L_{Aeq(period)}$	The $L_{Aeq(period)}$ is the "energy average noise level" evaluated over the relevant time period, either day (11 hours) evening (4 hours) or night (9 hours). It is used in the assessment of amenity.

Based on the modelled assessment and excluding horn testing the $L_{Aeq\ (15minute)}$ noise levels are 40-45 dBA at the nearest residences. This is based on a worst case assessment. Assuming calm weather conditions, predicted noise levels are assessed as exceeding noise management levels by only 1 dB during the night-time period. On this basis no mitigation is proposed.

2.3 Geotechnical Interpretation and Data

Additional investigations have occurred throughout the EIS 1 public exhibition period and a number of clarifications regarding geotechnical data are provided.

2.3.1 Groundwater Chemistry

Groundwater within Hawkesbury Sandstone is typically of low to moderate salinity, with electrical conductivity (EC) generally between 500 microsiemens per centimetre (µS/cm) and 2000µS/cm and pH generally varying between 4.5 and 6.5. The sandstone tends to have naturally elevated iron concentrations.

The quality of groundwater in shale of the Wianamatta Group tends to be inferior to groundwater in sandstone, with EC varying between 2000µS/cm to in excess of 10,000µS/cm in this part of the Sydney Basin.

Laboratory analysis results have been obtained for representative samples from 44 piezometers. The pH and total dissolved solids (TDS) results indicate that salinity of groundwater along the alignment is high overall, and pH is near neutral. Sandstone underneath the Wianamatta Group has slightly higher salinity and a lower pH than the overlying shale.

The groundwater present along the NWRL alignment would not be regarded as fit for drinking water, but could possibly be used for stock watering, industrial uses or construction purpose, subject to further water quality assessment.

Groundwater captured by the NWRL is generally expected to be of similar quality to that observed from the Epping to Chatswood Rail Link (ECRL), with the potential exception of a greater need for processing higher salinities for NWRL drainage water.

The concentrations of chloride, sodium and TDS reported in groundwater samples analysed indicate that the groundwater in the vicinity of the proposed tunnels and stations is generally slightly saline and consequently, unsuitable for discharge to stormwater system.

2.3.2 Groundwater Drawdown and Water Discharge

Creeks

A long term drawdown of more than two metres is estimated for the water table underneath the upper reaches of Cattai Creek. A long term drawdown of less than one metre is estimated for the water channels of Second Ponds Creek and an unnamed tributary, increasing to more than two metres at the confluence of the drainage channels at about Ch 43000 where the tunnel comes close to the surface (refer to Appendix A Geotechnical Long Section for chainage locations). The drawdown estimates are for the water table, not for the water flowing in the channel. Mitigation measure E14 (refer to Chapter 7 of this report) describes the requirement to undertake visual inspections of creeks above the tunnel to monitor for drawdown impacts to creeks.

Note that Section 5.5.4 of EIS 1 discusses the identification of impacts to Groundwater Dependent Ecosystems. It was identified that the potential impacts and risk level associated with the loss of aquatic fauna habitat, general hydrological changes and altered groundwater recharge were all low.

Private Water Bores

Private water bores within 500m of the alignment have been assessed for potential drawdown impacts. There are 25 private bores within this corridor. Of these private bores, 21 of the bores are identified as monitoring bores. Private groundwater bores at risk of drawdown are listed in **Table 2.2**. Mitigation measure SG21 (refer to Chapter 7 of this report) provides for consultation with these bore owners to develop appropriate mitigation measures as required.

Table 2.2 Private groundwater bores at risk of drawdown

Bore No.	Alignment chainage (m)[1]	Offset from alignment (m)	Rail depth (mbgl[2])	Estimated long term drawdown at bore (mbgl[1])	Bore depth (mbgl[2])	Groundwater level at bore (mbgl[2])
GW100981	35040	320	28	10	102	15 (max)
GW105750	31662	20	16	20	127	70
GW106144	32658	170	54	15	240	Unknown
GW021982	33648	110	26	15	49	34 (rock)

1 Refer to chainage shown on Appendix A Geotechnical Long Section
2 Note mbgl denotes metres below ground level

Groundwater Inflow and Discharge Requirement

Hydraulic modelling of the proposed tunnel and station designs has provided an estimate of total inflow of 0.35ML/d at the end of the first stage of tunnelling (completion of the Cherrybrook to Epping section), increasing to a maximum of approximately 0.6ML/d at the end of tunnelling. This rate is estimated to reduce to a long term inflow of around 0.5ML/d. This rate of inflow during both construction and over the long term is likely to far exceed the options for reuse. Treatment to an acceptable standard would be required prior to discharge to natural waterways.

This estimated long term inflow comprises some 0.36ML/d from the tunnels, or 72% of the total long term inflow. Additional estimated long term inflow to individual station boxes is listed in **Table 2.3**.

Table 2.3 Estimated long-term groundwater inflows to bored tunnels and station boxes

Station	Estimated long-term groundwater inflow from rock (ML/day)	
	Drained tunnels (numerical model)	Undrained tunnels (numerical model)
Cherrybrook	0.035	0.049
Castle Hill	0.026	0.038
Hills Centre	0.033[1]	0.047[1]
Norwest	0.026	0.035
Bella Vista	0.022	0.026
Tunnels	0.359	0
TOTAL INFLOW	0.502	0.195
No evaporative losses included in inflow estimate (evaporative losses could be 50%)		

1. Short-term and long-term inflows from alluvium and fill at Hills Centre Station could be significant and are not simulated in the inflow model. It is assumed these inflows would be managed by construction methods.

The groundwater table around undrained tunnels would return to pre-tunnel levels after construction and thus a drained station (linked by undrained tunnels) would have a high hydraulic gradient into the base of a drained station. Should the tunnels approaching the station be drained, then the groundwater table around the tunnels would be lowered and inflow to a drained station would be less.

These groundwater inflow estimates have been made using simple models which depend strongly on the hydraulic conductivity distribution. Actual inflows may vary significantly from these estimates. In addition, inflows are expected to vary according to climate, with inflows increasing during periods of rainfall and decreasing during drier periods.

Groundwater Conditions

Groundwater flow directions are controlled by the topographic setting. For the eastern part of the alignment the groundwater flow direction in the upper rock strata is expected to be southerly towards the Parramatta River, and for the western part of the alignment the flow direction is expected to be northerly / north westerly towards Eastern and Cattai Creeks.

2.3.3 Contamination Issues

Further contamination assessment and testing has been undertaken during the EIS 1 exhibition period. This additional investigation has indicated that, generally, the alignment has a low risk of encountering soil or groundwater contamination. Key updates to the contamination assessment include the following:

- The Hills Shire Council Depot site was built on a cut and fill platform infilling the original Cattai Creek channel. The fill material contains isolated areas of asbestos and hydrocarbon contamination. Elevated hydrocarbon levels within the groundwater have been recorded.
- The pavement materials at the Totally Home Centre at Bella Vista were found to contain elevated levels of nickel that may impact on their reuse and disposal.
- The NWRL alignment at Area 20 extends over a 15m deep, partially backfilled shale quarry at approximately Ch45800 (refer to Appendix A Geotechnical Long Section). There exists a potential for encountering contaminated fill and groundwater during construction in the area.
- Testing at the Shell Service Station at Norwest has indicated the presence of elevated hydrocarbon contamination at the service station site and the Norwest Station footprint.

Mitigation measure SG12 (refer to Chapter 7 of this report) describes the requirement to undertake Stage 2 contamination site investigations in potentially contaminated areas prior to the commencement of construction.

Two rounds of groundwater sampling and testing have been undertaken. The first round was undertaken from 19 January to 13 February 2012 with groundwater samples collected from 35 monitoring wells. The second round of sampling was undertaken from 9 March to 13 April 2012 with groundwater samples collected from 57 monitoring wells including 9 existing monitoring wells.

Although the concentrations of heavy metals found as part of groundwater testing were considered to be generally indicative of background levels, concentrations of iron, copper, nickel and zinc were above National Health and Medical Research Council (NHMRC) (2004) Australian Drinking Water Guidelines and Australia and New Zealand Environment Conservation Council (ANZECC) (2000) Guidelines for Fresh and Marine Water Quality. Additionally, a concentration of zinc was reported in the vicinity of Castle Hill Road, Cherrybrook that exceeds the typical value for road run off listed in Cooperative Research Centre for Catchment Hydrology (2004).

A summary description of findings in regard to soil and groundwater contamination conditions at each of the major construction sites is provided in **Table 2.4**.

Table 2.4 Summary of assessment of contamination conditions and potential constraints to construction

Area of environmental concern	Medium (soil or water)	Assessment summary
Epping to Cherrybrook (Tunnel Drive)	Soil	The area is not assessed to have a significant contamination risk and, as such, no soil samples were selected for laboratory testing between Epping and Cherrybrook for contamination purposes. Commercial buildings upslope of Devlins Creek were possibly constructed over fill material so further investigation of the soil would be required in the vicinity of the Epping construction site and the shaft following demolition of the commercial buildings.
	Groundwater	Further monitoring is required during the detailed construction planning stage of the project to assess potential hydrocarbon migration in the vicinity of the Epping service station and in the vicinity of the access shaft to the north of the service station site after demolition of commercial building and the location is accessible.
Cherrybrook Station (Open-cut Station)	Soil	A low concentration of lead was reported east of the proposed station. Further delineation and / or waste classification may be required if excavation and offsite disposal of soil is to take place in this area, during the construction of Cherrybrook Station.
	Groundwater	Concentrations of Contaminants of Potential Concern (CoPC) were reported at levels considered to be indicative of background levels.
Cherrybrook to Castle Hill (Tunnel Drive)	Soil	The area is not assessed to have a significant contamination risk and, as such, no soil samples were selected between Cherrybrook and Castle Hill for contamination purposes.
	Groundwater	Trace levels of Total Petroleum Hydrocarbons (TPH) were detected which are considered likely to be naturally occurring.
Castle Hill Station (Underground Station)	Soil	Concentrations of CoPC in the soil samples analysed were either detected below the Limits of Reporting (LOR) or typical of background concentrations.
	Groundwater	Concentrations of CoPC were generally typical of background concentrations with the exception of trace levels of TPH found in the a sample well. This anomalous detection is considered potentially to be naturally occurring though the well is directly outside the former Mobil service station. Due to this anomaly, further monitoring of the wells within the former service station site would be undertaken during the detailed construction planning stage of the project.

Area of environmental concern	Medium (soil or water)	Assessment summary
Castle Hill to Hills Centre (Tunnel Drive)	Soil	The area is not assessed to have a significant contamination risk and, as such, no soil samples were selected between Castle Hill and Hills Centre for contamination purposes.
	Groundwater	CoPC were reported at levels generally typical of background concentrations.
Hills Centre Station (Underground Station)	Soil	Further delineation and / or waste classification may be required if excavation and offsite disposal of soil is to take place in this area, during the construction of the Hills Centre Station due to nickel and Polycyclic aromatic hydrocarbons (PAH) impacts and the presence of asbestos fibres.
	Groundwater	TPH, PAH and phenol impacts were identified. Given that groundwater in the vicinity of the Hills Shire Depot is likely to be disturbed during construction of the Hills Centre Station, impacts on the construction workers (via dermal contact and inhalation) as well as disposal management would need to be further assessed during the detailed construction planning stage of the project and further delineation, remediation or management would be required.
Hills Centre to Norwest (Tunnel Drive)	Soil	The area is not assessed to have a significant contamination risk and, as such, no soil samples were selected between Castle Hill and Hills Centre for contamination purposes.
	Groundwater	CoPC reported were indicative of background levels and the trace levels of TPH reported are considered likely to be naturally occurring.
Norwest Station (Underground Station)	Soil	Concentrations of CoPC in the soil samples analysed were either detected below the LOR or typical of background concentrations.
	Groundwater	TPH impact has been identified. Given that groundwater in the vicinity of the Shell service station is likely to be disturbed during construction of the Norwest Station, impacts on the construction workers (via dermal contact and inhalation) as well as disposal management would need to be further assessed during the detailed construction planning stage of the project and further delineation, remediation or management would be required.

Area of environmental concern	Medium (soil or water)	Assessment summary
Norwest to Bella Vista (Tunnel Drive)	Soil	The area is not assessed to have a significant contamination risk and, as such, no soil samples were selected between Norwest and Bella Vista for contamination purposes.
	Groundwater	Concentrations of CoPC in groundwater samples analysed were generally typical of background concentrations.
Bella Vista Station (Open In-Ground Station)	Soil	Further waste classification in this area may be required if excavation and offsite disposal of fill is to take place in this area, during the construction of the Station due to concentrations of nickel in the fill material.
	Groundwater	Concentrations of CoPC in groundwater samples analysed were generally typical of background concentrations. Further assessment of groundwater in the vicinity of the BP service station would be required if the shallow seepage water is to be disturbed during construction of Bella Vista Station due to TPH and PAH impacts reported at the BP service station.
Bella Vista to Rouse Hill (Open Cutting for Bella Vista Dive and Skytrain)	Soil	If excavation for offsite disposal is to take place, additional assessments for waste classification may be required due to low TPH and heavy metals impacts reported in fill samples. Further assessment in this area may be required if disturbance is to take place in this area.
	Groundwater	If groundwater is to be disturbed then groundwater management may be required due to low concentrations of TPH and PAH reported in this area.
Rouse Hill to Cudgegong Road (Earthworks and Bridges)	Soil	If excavation for offsite disposal is to take place, additional assessments for waste classification may be required due to low TPH and phenol impacts reported in fill samples. The contamination assessment at this stage is not intended to be comprehensive and not all of the Areas of Environmental Concern (AEC) in this area were specifically targeted, ie individual Above-ground Storage Tanks (AST), farm dams, asbestos in buildings, and therefore additional assessment and waste classification may be required.
	Groundwater	Concentrations of CoPC in groundwater samples analysed were generally typical of background concentrations.

Area of environmental concern	Medium (soil or water)	Assessment summary
Rouse Hill to Tallawong Stabling (On-grade Works)	Soil	The contamination assessment at this stage is not intended to be comprehensive and not all of the Areas of Environmental Concern (AEC) in this area were specifically targeted, ie individual Above-ground Storage Tanks (AST), farm dams, asbestos in buildings, and therefore additional assessment and waste classification may be required.
	Groundwater	Concentrations of CoPC in groundwater samples analysed were generally typical of background concentrations.

2.3.4 Landslides

The proposed NWRL tunnels and Cherrybrook Station are located upslope of some 12 known landslide areas, as identified by the NSW Soil Conservation Service (1977), along the south flanking slope of the escarpment adjacent to Castle Hill Road.

The NWRL horizontal alignment between Ch29400 and Ch29800, and between Ch30700 and Ch31000 (refer to Appendix A Geological Long Section), passes beyond the southern edge of an escarpment and partly beneath steeper flanking slopes. The tunnel section from Ch29400 to Ch29800 has some 40m of fresh shale rock above the tunnel and the tunnel horizon is below the Ashfield Shale and below the level of landsliding down slope. As a consequence of these site factors, this section of NWRL tunnel is assessed to not be influenced by the landslide activity.

The landslide scarp feature at Ch30700 to Ch31000 is situated immediately south of Castle Hill Road and west of Coonara Avenue. Part of this landslide feature is within 20m of Castle Hill Road. The landslide area is characterised by a ground slope of 5° to 10°, hummocky terrain, seepages and a deepened slide debris profile.

The following targeted geotechnical investigations were located within the Coonara landslide scarp area between Ch30700 and Ch31000:

- Borehole NWR-BH014 (refer to Appendix A Geological Long Section Sheet 3) was located on the Castle Hill Road footpath upslope of the landslide scarp. Borehole completed as a standpipe piezometer, screened in Mittagong Formation.
- Boreholes NWR-BH137, NWR-BH138 and NWR-BH139 were located immediately below Castle Hill Road, on the tunnel alignment and at the crest of the landslide scarp. Boreholes NWR-BH137 and NWR-BH139 were incline drilled with defect orientation measurements. Borehole NWR-BH138 and an adjacent shallower borehole (NWR-BH138A) were completed as standpipe piezometers, screened in Ashfield Shale.
- Boreholes NWR-BH109, NWR-BH109A and NWR-BH109B were located 130m down slope of the NWRL alignment and within the landslide mass. These boreholes had drill depths ranging from 10m to 39m, with standpipe piezometers screened in the base of landslide debris, within the underlying Ashfield Shale and the deeper Hawkesbury Sandstone.

Impact of Landslides on NWRL

Based on the current topographic setting (slope profiles, distance to the incised watercourses and accumulated debris) and quality of the rock, it is assessed that the relative risk of landslide enlargement affecting the NWRL alignment is very low and no alteration to the current alignment is assessed to be warranted.

The existing landslide debris on the slopes below the NWRL alignment from Ch30700 to Ch31000 (refer to Appendix A) would experience on-going creep movements and periodically more rapid failures. These landslides, down slope of the NWRL alignment are assessed to have no impact on the NWRL tunnels.

Impact of NWRL Tunnels and Cherrybrook Station on the Existing Landslide Features

The construction and operation of the NWRL tunnels may have a potential impact on downslope landslide features by potentially altering the groundwater regime beneath the edge of the escarpment.

Tunnelling is anticipated to locally generate additional rock structure around the tunnel from stress redistribution in rock and settlement in the poorer material, particularly with shallower tunnels in more weathered and fractured rock. This rock structure can locally enhance infiltration and groundwater flows around the tunnel.

As undrained (tanked) tunnels are proposed, there is a small possibility of an increased groundwater mound upslope of the tunnel under the escarpment (Ch30700 to Ch31000 – refer to Appendix A Geological Long Section) if southward drainage is impeded by the tunnel. In addition, groundwater can flow around the annulus of a segmentally lined tanked tunnel and intersect more permeable zones in the shale such as at faulted zones.

A drained Cherrybrook Station (as proposed) would locally drawdown the groundwater table around the station. This effect is likely to not extend far from the station due to the limited excavation depth and the low permeability of the residual soil and weathered shale materials.

Existing Buildings and Structures (EBS) Risk Assessment

An update to the EBS Risk Assessment as summarised in EIS 1 has not been undertaken at this time. The project would undertake building condition surveys and assessments of risk from structural and settlement impacts prior to construction.

2.4 Cadastral Maps

A number of submissions requested more detailed mapping of the tunnel alignment in relation to property boundaries. A set of 20 maps showing the project alignment with cadastral information is provided in Appendix B.

2.5 Traffic Management Documentation

Section 8.2 of the Construction Environmental Management Framework provided as Appendix C to EIS 1 described a hierarchy of traffic management documentation to be implemented during the construction of the NWRL. This hierarchy includes four levels of documentation, being:

- A Framework Traffic Management Plan to document overarching management procedures.
- Construction Traffic Management Plans for each major stage of construction.
- Site Specific Traffic Management Plans for each construction site.
- Construction Traffic Control Plans for each traffic or road occupancy stage at each construction site.

It is now proposed to simplify and consolidate this documentation to two levels for each Principal Construction Contractor, while still maintaining the same overall level of management. These two levels would be:

- A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction.
- Construction Traffic Control Plans setting out the traffic and transport management arrangements to be implemented at specific locations during the construction.

This is detailed in the revised Construction Environmental Management Framework provided in Appendix C of this report.


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3

COMMUNITY INVOLVEMENT

3.1 Consultation Overview

The NWRL EIS 1 public exhibition process commenced on 4 April 2012 and closed on 21 May 2012 – a period of 48 days. During this time, a range of consultation activities were undertaken to engage key stakeholders and the community on information available in EIS 1, encourage participation in exhibition activities and provide guidance on the submissions process. Submissions on the project were received by the Department of Planning & Infrastructure (DP&I) during and immediately after the exhibition period. Responses to issues raised in submissions received during the public exhibition are outlined in Chapters 4 and 5 of this report.

3.2 Pre EIS 1 Consultation Activities

Extensive consultation has occurred over the last 10 years on the provision of a rail link to the North West.

The first consultation occurred in 2002 with the community, local business and industry groups and included:

- Publication of the initial Overview Report (2002).
- Consultation for the Environmental Assessment and Concept Plan (2005-2007).
- Publication of the Preferred Project Report (2007).
- Supplementary Submissions Report (2008).

Since the NSW Government announced its intention to proceed with the NWRL in March 2011, the following activities have been undertaken:

- NWRL Community Information Centre opened (June 2011).
- Consultation about the Project Overview Report (July 2011).
- Place Managers appointed to liaise with residents, businesses and community organisations (October 2011).
- Establishment of website with consultation forums.
- Dedicated 1800 number and email address.
- Regular leaflet drops along the alignment.

TfNSW has taken a proactive approach to consulting the community since April 2011. In June 2011 the Minister for Transport opened the NWRL Community Information Centre which is staffed five and a half days a week by expert community liaison staff most of whom live locally and understand the local transport challenges.

In June 2011, TfNSW published the North West Rail Link Project Overview Report which canvassed a number of changes including the extension through to Cudgegong Road. This was the subject of a public exhibition process which included 10 community information and feedback sessions held along the alignment, and resulted in a submissions report that informed the final project definition.

The need for key stakeholders and the community to have accessible points of contact throughout the planning process was recognised with the appointment of four Place Managers – specialised community liaison officers. Following the distribution of newsletters along the proposed alignment, the Place Managers have made contact with directly affected residents and businesses through door-knocking as well as visiting residents' groups, schools, sporting clubs, and many others organisations / groups to offer briefings about the plans and their potential impacts.

The project team has also sought early consultation with the three local councils and relevant government agencies, with numerous briefings and topic-specific workshops being held. Ongoing meetings have also been held with potentially affected local businesses.

This methodology has been underpinned by the ease of access to information via the Community Information Centre at Castle Hill, an information / feedback line and an interactive website.

3.3 EIS 1 Consultation Activities

The NWRL project team has supported the public exhibition of EIS 1 by undertaking a variety of consultation activities, including holding community information sessions, briefings and meetings, and distributing a range of information materials.

The full EIS 1 and its accompanying documents were made available to view on the DP&I website: www.majorprojects.planning.nsw.gov.au, the project website www.northwestrail.com.au and at the following the locations:

- Department of Planning & Infrastructure, lnformation Centre, 23-33 Bridge Street, Sydney.
- North West Rail Link Community lnformation Centre, 299 Old Northern Road, Castle Hill.
- Nature Conservation Council, Level 2, 5 Wilson Street, Newtown.

- Hornsby Shire Council, 296 Pacific Highway, Hornsby.
- Hornsby Shire Council libraries:
  Pennant Hills – corner Ramsay and Yarrara Roads, Pennant Hills
  Epping – Chambers Court, Epping
  Hornsby – 28-44 George Street, Hornsby.
- Hills Shire Council, 129 Showground Road, Castle Hill.
- Hills Shire Council libraries:
  Castle Hill – corner Castle and Pennant Streets, Castle Hill
  Vinegar Hill Memorial – 29 Main Street, Rouse Hill Town Centre
  Baulkham Hills – Railway Street, Baulkham Hills.
- Blacktown City Council, 62 Flushcombe Road, Blacktown.
- Blacktown City Council libraries:
  Blacktown – corner Flushcombe Road and Alpha Street, Blacktown
  Stanhope Gardens – Denis Johnston Library, corner Stanhope Parkway and Sentry Drive, Stanhope Gardens.

The following engagement methods and communications materials have been used to consult on EIS 1:

- Community information sessions (CIS).
- CIS advertisements.
- Email alerts to the project mailing list.
- Meetings with stakeholders.
- Website updates.
- Online public forum via the NWRL website.
- EIS 1 summary report.
- Project fact sheets, brochures and community information session invitations.
- Submission forms and envelopes.
- NWRL Community Information Centre.
- Place Managers working with impacted residents, tenants and businesses.
- Monitoring the 1800 project information line and project email address.

3.3.1 Community Information Sessions

A total of eight community information sessions were held during the public exhibition period for EIS 1. In total, over 500 people attended the eight sessions.

Five of the sessions were general information sessions, held in different locations along the proposed NWRL corridor at varying dates and times. The session times are outlined in **Table 3.1**.

Table 3.1 Community information session schedule

Location	Date	Time
Epping Club 45-47 Rawson Street, Epping	Thursday 26 April	4pm - 8pm
Rouse Hill Town Centre 10-14 Market Lane, Rouse Hill	Saturday 28 April	10am - 2pm
Community Information Centre 299 Old Northern Road, Castle Hill	Thursday 3 May	4pm - 8pm
Cherrybrook Uniting Church 134 New Line Road, Cherrybrook	Saturday 5 May	10am - 2pm
Crowne Plaza 1 Columbia Court, Baulkham Hills	Tuesday 8 May	4pm - 7pm

Members of the public were invited to attend the sessions to collect information and speak with project team members. Invitations were letterboxed to over 40,000 people along the alignment.

The events were also advertised in local newspapers and via a ministerial media release which was placed on the NWRL website. The advertising schedule is shown in **Table 3.2**.

Table 3.2 Community information session advertising schedule

Community information session	Newspapers targeted	Date of publication (week commencing)
Epping	▪ Northern Districts Times ▪ Hills News ▪ Hornsby Advocate	Monday 16 April Monday 23 April
Rouse Hill Town Centre	▪ Rouse Hills Times ▪ Blacktown Advocate ▪ Stanhope Gardens News	Monday 16 April Monday 23 April
Castle Hill Community Information Centre	▪ Hills News ▪ Hills Shire Times	Monday 23 April Monday 30 April
Cherrybrook	▪ Hills News ▪ Hills Shire Times ▪ Northern District Times	Monday 23 April Monday 30 April
Norwest	▪ Hills News ▪ Hills Shire Times ▪ Rouse Hill /Stanhope Gardens News	Monday 30 April Monday 7 May

People attending these sessions were able to have their questions answered by technical experts from the project team representing the following disciplines:

- Construction.
- Environment.
- Noise and vibration.
- Traffic.
- Property.
- Design.
- Stakeholder engagement.

At each event, 21 information display boards were placed around the room and aerial maps of the proposed route were also made available. Hard copies of the EIS 1 summary report and CD copies of EIS 1 were made available. Submission forms and envelopes were provided at the events and attendees were encouraged to make a submission via email or post. The display boards covered the following topics:

- About EIS 1.
- How to make a submission.
- Information about the tunnels.
- The Skytrain.
- Worksites.
- Topography of alignment.
- Noise and vibration.
- Work hours.
- Managing traffic.
- Managing excavation.

Additional technical information sessions were held at the Community Information Centre (CIC) which members of the public were also able to attend. The sessions were held as shown in **Table 3.3**. Details of these specialist sessions were included in the broader invitation which went to 40,000 people and were advertised in local press and on the internet site. Place Managers also personally invited directly affected residents and businesses in their areas.

Table 3.3 Specific topic community information sessions schedule

Topic	Date	Time
Noise and vibration	Thursday 12 April	6pm - 8pm
Construction traffic	Thursday 19 April	6pm - 8pm
Construction methods	Thursday 10 May	6pm - 8pm

3.3.2 Meetings with Stakeholders

During the EIS 1 public exhibition period, a number of meetings were held with stakeholders. The meetings provided stakeholders the opportunity to obtain an overview of EIS 1 from the project team, and to discuss issues raised. During the meetings, stakeholders were also encouraged to make formal submissions to DP&I. **Table 3.4** shows the stakeholders with whom meetings were held.

Table 3.4 Stakeholder organisations consulted during exhibition period

Working group	Stakeholder	Meeting
Local council / councillor officer briefings	The Hills Shire Council	17, 19 & 30 April 2012, 10 May 2012
	Hornsby Shire Council	18 & 24 April 2012, 2 & 7 May 2012
	Blacktown City Council	26 April 2012, 8 May 2012
Roads and Maritime Services (RMS) Working Group	Transurban	3 May 2012
	TfNSW Interface	3 May 2012
	RMS	2, 09 & 16 May 2012
Utility and Service Provider Group	Optus	11 April 2012
	Jemena	2 April 2012
Local stakeholder organisations	Castle Hill and Hills District Agricultural Society committee	5 May 2012
	Castle Hill RSL sub branch	4 April and 18 April 2012
	Budokan Judo Club	18 April 2012
	Castle Hill RSL Group	18 April 2012
	Bushcare Representatives	2 April 2012
	Computer Pals for Seniors	18 April 2012
	Beecroft Netball Club	5 May 2012
	Tangara School for Girls	4 & 21 May 2012
	Beecroft Nursing Home	16 April 2012
	Epping Chamber of Commerce	16 & 19 April 2012
	Epping Baptist Church	16 April 2012
	Epping Heights Public School	3 May 2012
	Sydney Hills Business Chamber	11 April 2012
	Inala – Rudolf Steiner Organisation	5 April 2012, 4 May 2012
	EcoTransit Sydney	10 April 2012

Working group	Stakeholder	Meeting
	Sydney Hills Business Chamber	11 April 2012
	Cheltenham Girls High School	16 April 2012
	Kindalin Child Care	19 April 2012
	Robert Road residents	19 April 2012
	McDonalds Bella Vista	20 April 2012
	Castle Hill Players	3 May 2012
	Norwest Commercial & Industrial Real Estate Pty Ltd & Beaumont Strata Management	4 & 10 May 2012
	Norwest Association Limited	4 May 2012
	Representatives of clubs associated with the Norwest Canine Association Ltd	5 May 2012
	BP Bella Vista	11 May 2012
	Amalgamated Holdings Limited	14 May 2012
	Country Women's Association	15 May 2012
	West Pennant Hills Valley Progress Association	15 May 2012
	Hawkesbury Harvest	21 May 2012
	IBM Real Estate and Operations	19 April 2012
	Executive committee of 6-8 Old Castle Hill Road	10 May 2012
	Queensland Investment Corporation	23 May 2012
NWRL Training and Workforce Opportunities Group	NSW Department of Premier and Cabinet	13 April 2012
	TAFE NSW, Sydney Institute	13 April 2012
	NSW Department of Education & Training	13 April 2012
	Local Employment Coordinator	13 April 2012
Government agency meetings	Department of Planning & Infrastructure	8 May 2012
	Sydney Water Corporation	8 May 2012
	Sydney Parklands Trust	8 May 2012
	Office of Environment & Heritage	8 May 2012

Working group	Stakeholder	Meeting
	Transport Projects Division	2 May 2012
	Land and Property Management Authority	19 April 2012
	Landcom	19 April 2012
	Roads and Maritime Service	8 May 2012

3.3.3 Website Updates

The NWRL project website (www.northwestrail.com.au) was updated during the public exhibition process. Website links through to the full EIS 1 and EIS 1 summary document were posted on the website. Information was also made available regarding the community information sessions and visitors were provided with guidance on how to make a submission (electronic or hard copy) to the DP&I. A link to the DP&I website (www.majorprojects.planning.nsw.gov.au) was also made available on the project website.

All project collateral, including a ministerial media release announcing the commencement of the EIS 1 exhibition, was made available on the website. A further ministerial media release was posted on the website on 14 May 2012, to remind the community to comment on EIS 1 before the submissions closing date. There were 19,158 unique visitors to the site during the exhibition period and 6,802 documents downloaded.

3.3.4 Online Forums

During the public exhibition, the NWRL website (www.northwestrail.com.au) hosted three online forums to allow members of the public to comment on the NWRL proposal and topics relevant to EIS 1. Further forums will remain open for comment on an ongoing basis while the website remains perational.

The forums during the exhibition period related to the following locations:

- Epping – Cherrybrook.
- Castle Hill – Hills Centre – Norwest – Bella Vista.
- Kellyville – Rouse Hill – Cudgegong Road.

Participants in the forums were encouraged to comment upon three particular topics relevant to these localities including:

1. What are your thoughts about the proposed construction process for the North West Rail Link in your area?
2. What are your thoughts on the environmental considerations for the project? Do you have ideas on how these topics can be further addressed?
3. Do you have ideas for how we can maximise the benefits of this major infrastructure investment?

The forums resulted in 30 individuals participating in the discussions over the exhibition period. The comments raised during these forums have been considered by the project team and will inform consultation efforts going forward.

3.3.5 EIS 1 Summary Report

A summary of EIS 1 was made available to coincide with the EIS 1 exhibition. The document presented an overview of the EIS and the planning approvals process, encouraged readers to make a submission, provided details of how to view the full copy of EIS 1 and summarised key issues and mitigation measures presented in the full copy of EIS 1.

The EIS 1 summary report was posted on the project website and made available at the community information sessions and upon request. Over 2,000 of these documents have been distributed.

3.3.6 Project Fact Sheets, Brochures and Community Information Session Invitations

Several project fact sheets were distributed during the public exhibition process. These included:

- Invitation to information sessions.
- Community Newsletter.
- Station specific newsletter and EIS 1 Overview document doorknocked /delivered by Place Managers.

Invitations to the community information sessions were also issued by letterbox drop to 40,000 households in the project area.

Z-cards (pocket-sized, accordion style fold out information booklets) explaining the EIS 1 process were also handed out in and around key shopping centres along the alignment.

3.3.7 Submission Forms and Envelopes

Hard copy submission forms and envelopes were provided at the community information sessions and expert topic sessions and attendees were encouraged to make a submission via email or post.

3.3.8 Other Consultation Activities

NWRL Community Information Centre

The NWRL Community Information Centre (299 Old Northern Road, Castle Hill) opened in July 2011 and is staffed for five and a half days a week. During the EIS 1 public exhibition period this allowed members of the public to drop in and obtain information about the project.

The centre opening hours are:

- Monday to Friday 10am to 6pm.
- Thursday 10am to 7pm.
- Saturday 10am to 2pm.

Place Managers

Place Managers have been assigned to the various areas along the route alignment. The Place Managers have proactively engaged with affected individuals, businesses and community groups directly impacted by the construction sites via doorknocking, phone calls, emails and one-on-one meetings. Place Managers attended the community information sessions and directly engaged with impacted landowners who attended the sessions.

1800 Number, Project Email

Various ongoing communication channels were also made available for community and stakeholders to contact the project team for more information during EIS 1. These included:

- Project freecall number – 1800 019 989
- Project email address – info@northwestrail.com.au

3.4 Ongoing Consultation

Consultation on the NWRL will continue throughout the EIS 2 preparation process. The 1800 number and email address will continue to operate, and the website will be updated as the project progresses.

The Community Information Centre will also remain open, offering all community and stakeholders the opportunity to drop in and speak with project team members five and a half days a week.

Place Managers will continue to act as the key point of contact between the project and the community.

Their contact details will be available at all construction sites as well as via the project website (www.northwestrail.com.au). Regular stakeholder meetings will also be held with councils, businesses and other groups.

EIS 2 (station design, railway operating systems and remaining construction work) has already been the subject of agency and key stakeholder consultation conducted both before and during the EIS 1 public exhibition process. A community consultation strategy to support EIS 2 is currently being developed.

The project team and its contractors will continue to work in partnership with communities during construction.

The priority is to ensure people have an understanding of the proposed works and the points of contact for each of the proposed worksites.

Throughout construction, stakeholders and the community will be kept informed of significant events or changes that might affect individual properties, residences and businesses, including:

- Significant milestones.
- Work method changes.
- Changes to traffic conditions and road access arrangements.
- Construction operations that could have a direct impact including noisy works, interruptions to utility services or work outside of normal hours.


4

4

SUBMISSIONS RECEIVED

4.1 Submissions Overview

4.1.1 Receipt of Submissions

Submissions in response to the NWRL EIS 1 public exhibition were accepted by the DP&I throughout and immediately after the public exhibition period (a period of 48 days from 4 April 2012 to 21 May 2012). Submissions were accepted by:

- Electronic submission (online) – **www.majorprojects.planning.nsw.gov.au**
- Email - **plan_comment@planning.nsw.gov.au**
- Fax - (02) 9228 6355
- Post - Major Projects Assessment
  Department of Planning and lnfrastructure
  GPO Box 39, SYDNEY, NSW 2001

A total of 359 submissions were received in response to EIS 1. A summary of submissions received is outlined in **Table 4.1**.

Table 4.1 Summary of submissions received

Submission group type	Number of submissions received
Individual	303[1]
Council	4
Agency	8
Interest group/organisation	23
Businesses	21[2]
Total	**359**

1. 3 individuals made two submissions
2. 1 business submission was received twice

Of these submissions:

- One was a form letter (counted each time the form letter was received).
- Three were petitions.
- Two were relating to the North West Options Project (separate TfNSW project).
- Two were relevant to the Northern Sydney Freight Corridor (separate TfNSW project).
- One was a duplicate (the same submission received twice).

Three individuals also made two unique submissions each.

4.1.2 Submissions Analysis Process

Issue categories were developed based on previous project consultation and EIS 1 content. Each issue category is supported by a series of sub issues to ensure thorough analysis of submissions. Each submission was individually analysed, issues and suggestions raised in each were then summarised, consolidated with other issues raised if they were similar or the same and responses developed.

Submission authors have not been identified in this report (excluding agencies, councils and key stakeholders). Submission authors have each been assigned a unique identification number referred to in this report as a stakeholder identification number. Letters have been sent to each submission author (where contact details were provided / legible) to advise of their stakeholder identification number and availability of this report. Approximately 40 submission authors selected to not disclose their contact information (meaning TfNSW was unable to obtain the individuals information from the DP&I) therefore these individuals have not received a letter.

4.2 Key Stakeholders Submissions

Of the total 359 submissions, eight were from agencies, four were from councils and nine were from other key stakeholders.

A list of submissions from key stakeholders is included in **Table 4.2**.

Table 4.2 Key stakeholder submissions

Submissions from Agenciesw
Roads and Maritime Services (formerly Roads and Traffic Authority)
NSW Department of Trade & Investment, Resources & Energy
NSW Department of Primary Industries
NSW Office of Environment and Heritage (OEH)
NSW Environment Protection Authority (EPA)
Heritage Council of NSW
RailCorp
NSW Department of Education and Communities
Submissions from Councils
Parramatta City Council
The Hills Shire Council
Blacktown City Council
Hornsby Shire Council
Submissions from other key stakeholders
GPT Group
Lend Lease / GPT (Rouse Hill) Pty Ltd
Bus NSW
McDonald's
BP Australia Pty Ltd
The Hills Motorway Limited
Busways Group
Comfort Delgro CabCharge
Sydney Business Park

Responses to each of these submissions are provided in the following sections.

4.2.1 Government agency submissions

Roads and Maritime Services (RMS)

The submission from RMS raises a number of technical traffic and transport related issues. In order to provide a context to this submission, a brief overview of the key issues and their relationship with the Environmental Impact Statement (EIS 1) Traffic and Transport Assessment is provided below.

1. **The Environment Impact Statement traffic and transport assessment overall identified minimal transport impacts upon the road network**

   EIS 1 thoroughly addressed construction traffic and transportation issues. Details of this assessment are found in Chapter 9 - Construction Traffic and Transport and Technical Paper 1 – Construction Traffic and Transport Management. The methodology for the assessment included:

   - Traffic count information was collected for key intersections in the vicinity of the proposed construction sites during the peak periods. These were supplemented with seven day counts along selected roads in the area.
   - Traffic count results were utilised to undertake intersection modelling using the Signalised & Unsignalised Intersection Design and Research Aid (SIDRA - traffic engineering software) modelling program. Predicted intersection performance was determined as both the degree of saturation (DOS) and the level of service (LOS).

   For the 17 construction sites spread across the 23km NWRL route, it was found that the total daily vehicle movements associated with spoil and waste removal, material deliveries and the arrival and departure of construction workers amounted to 2,850 heavy vehicle movements and 3,710 light vehicle movements.

   At 13 construction sites there were minimal or no changes to the degree of saturation for the performance of nearby intersections modelled. Changes to the degree of saturation were higher at Hills Centre (0.04), Bella Vista (0.31), Kellyville (0.05) and Schofields Road (0.22).

   RMS is suggesting certain stringent mitigation measures when the assessment of traffic and transport impacts identifies minimal impacts.

   Overall, the impacts which have been identified in the traffic and transport investigations forming part of EIS 1 do not warrant wholly the controls suggested in the RMS submission.

2. **Severe impacts on construction methodology**

   EIS 1 has assessed potential environmental impacts for the construction methodology developed for the NWRL.

   The construction methodology (including site area requirements, impact assessment, construction program and construction cost) developed for the NWRL has been based on construction traffic movements occurring generally during standard construction hours. The construction methodology has not allowed for blanket restrictions or prohibitions of construction vehicle movements during AM and PM peak hours as suggested by RMS.

   Should the peak hour restrictions or prohibitions suggested by RMS be imposed, it would be necessary to review the proposed construction methodology developed for the NWRL and the associated environmental impacts.

   The suggested RMS blanket peak hour restrictions or prohibitions would exacerbate the extent and intensity of identified environmental impacts and jeopardise the project's viability for the following reasons:

- Additional land would need to be acquired at several key and tunnelling construction sites to store, handle and transport spoil and construction materials.
- It would result in a longer construction program than that presented in EIS 1 and overall project cost and delays.
- Additional construction activities would need to be undertaken outside of standard construction hours which have the potential to greatly increase impacts to the communities surrounding the construction sites.
- All environmental investigations undertaken as part of EIS 1 would need to be re-examined to assess:
  - The increased size of several key and tunnelling construction sites.
  - The undertaking of additional construction activities outside of standard construction hours at each site.
  - The longer construction program.

  Mitigation measures would need to be developed to manage these changes.
- It would result in greater project costs arising from the need to acquire additional land and a longer construction program.

Overall, the impacts of the peak hour restrictions or prohibitions suggested by RMS would severely impact the construction methodology for the NWRL, would exacerbate the extent and intensity of identified environmental impacts and would jeopardise the project's viability.

3. **A major transport project in the area which is most relevant to the NWRL is the M2 Upgrade**

   This project was approved on 21 October 2010 (File No:S08_01075) and has traffic and transport approval conditions which would appropriately manage traffic and transport for the construction of the NWRL and should generally be adopted for this project. These conditions could be considered for inclusion in the Department of Planning and Infrastructure's determination of the NWRL EIS 1 as they set out an appropriate range of controls that reflect the timing and scale of impacts. Particular conditions of relevance include:

   - Section 2 – Traffic, Transport and Access Arrangements (Conditions 2.1 to 2.4 of M2 Upgrade below):
     - 2.1 The Proponent shall provide appropriate car parking and shall manage construction traffic and construction personnel to discourage and minimise construction vehicles from parking or queuing on public roads.
     - 2.2 Road dilapidation reports shall be prepared for all local roads likely to be used by construction traffic prior to use by construction heavy vehicles. A copy of the relevant report shall be provided to the relevant councils. Any damage resulting from the construction of the project, aside from that resulting from normal wear and tear, shall be repaired at the cost of the Proponent. The roads likely to be used by heavy construction vehicles should be identified in the Traffic Management Plan required under condition 6.5(a).
     - 2.3 Where approved access to a property is affected by either construction or operation of the project, unless otherwise agreed with the property owner, the Proponent shall provide an alternative access of a standard that is at least equivalent to that currently existing and meets relevant road safety standards prior to commencement of construction or opening of the project to traffic, whichever is relevant. Details for provision of altered access for both construction and operation shall be determined in consultation with the landholder.

- 2.4 The Proponent shall maintain safe pedestrian and cyclist access through and around the worksite during construction. In circumstances where pedestrian and cyclist access is restricted due to construction activities, the Proponent shall ensure that an alternate route is provided and signposted.

• Condition 6.5(a) Construction Traffic Management Plan:
  - A Construction Traffic Management Plan to ensure traffic and access controls are implemented to avoid or minimise impacts on traffic and the amenity of the surrounding environment. The Plan shall be developed prior to the generation of construction traffic or works, or each stage of works, with the potential to affect traffic flows. The Plan shall be developed in consultation with the relevant councils and include, but not necessarily be limited to:
    i. impacts on existing traffic in the M2 corridor (including associated local roads) and the timing of the impacts (including on pedestrians, public transport, vehicles, parking and cyclists).
    ii. details of construction vehicle movements and parking for each stage of works, including access arrangements for construction sites and site compounds, and ingress and egress routes.
    iii. where reasonable and feasible, measures to minimise heavy vehicle movements, where construction vehicle routes directly pass schools or childcare centres, between 8.00am and 9.30am, and between 2.30pm and 4.00pm Monday to Friday.
    iv. details of traffic control measures, and changes to traffic configurations, arrangements and facilities.
    v. the retention and/or provision of alternate vehicular access.
    vi. impacts on bus stops and the provision of safe and convenient access to all bus stops.
    vii. identification of impacts to pedestrian and cycle access areas, including measures to ensure safe pedestrian and cycle routes and access at all times, and the provision of alternative facilities and locations for pedestrians and cyclists.
    viii. a response plan which sets out the proposed response to any traffic, construction or other incident.
    ix. appropriate monitoring, review and amendment mechanisms.

4. **Construction Traffic Management Plans are to be developed**

To further manage traffic and transport issues, a Traffic Management Plan was prepared and implemented as part of the construction management framework for the M2 Upgrade in response to Condition 6.5(a) (see above).

A similar approach would also be adopted for the NWRL, as specified in the Construction Environmental Management Framework (refer to Appendix C). It recommended, inter alia, a hierarchy of traffic management documentation including:

1. A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction of the Project Works and Temporary Works; and

2. A Construction Traffic Control Plan setting out the specific traffic and transport management arrangements to be implemented at specific locations during the construction of the Project Works and Temporary Works

These plans would be developed in response to detailed construction management plans.

The Construction Environmental Management Framework also indicates that TfNSW and its Contractors would undertake liaison with agencies and the community regarding traffic management. This would involve:

- Establishment of a Traffic and Transport Liaison Group likely to consist of representatives from NWRL Contractors, TfNSW, RMS, NSW Police and bus operators. The group would review Road Occupancy Licence Applications to monitor potential cumulative impacts from multiple Road Occupancy Licences operating concurrently in one area.
- Establishment of a Central Project Coordination Committee which would seek to coordinate NWRL works with other major developments. The committee will also take a strategic approach to longer term traffic and transport management and review permanent arrangements including network integration with NWRL facilities.

5. **TfNSW Agencies will negotiate a mutually acceptable Deed**

   The NWRL team and RMS are now both part of TfNSW and would negotiate a Deed specific to the NWRL Project. Issues raised can be negotiated and bound by a mutually acceptable Deed prepared under common law. Matters within TfNSW do not need to form part of approval conditions.

6. **Operational matters are to be addressed in EIS 2**

   The RMS submission raised many operational matters that are not relevant to EIS 1. Once operational the project presents an alternative mode of mass transport to the North West region's road network. This would assist in alleviating the current pressures on the North West's regional road network. Operational matters were presented in the documentation which formed part of the Staged Infrastructure Approval (Concept Plan Environment Assessment) for the NWRL, identifying "improved access to Sydney's public transport network, providing improved travel choice and potential for travel time savings". This will be assessed further as part of EIS 2.

Each of the comments raised in the RMS submission are addressed below.

Roads and Maritime Services (RMS, formerly RTA)

Planning - Approval Process

1

Issue (Note: RMS comment numbers are shown in brackets at the end of each comment)

TfNSW and RMS have agreed to enter into a formal agreement to administer the delivery works within the classified road corridor (for those roads are under the care and control of RMS). The agreement is currently being drafted as a Works Authorisation Deed. RMS expects the Agreement will form a condition of consent as proposed in items listed below.

Response

RMS is seeking the execution of the Works Authorisation Deed to form a condition of consent.

Details of a Works Authorisation Deed can be found from the attached link: http://www.rta.nsw.gov.au/doingbusinesswithus/downloads/landuse/landuse_c1_developersnotes.pdf

A 'Works Authorisation Deed' is typically prepared for use with private developers. It is not appropriate for a Works Authorisation Deed to be used for the NWRL project or between two NSW Government Agencies, such as RMS and TfNSW.

A Deed of Agreement specific for the NWRL project would be negotiated between RMS and TfNSW and would be fair and reasonable to both RMS and TfNSW. It would be a formally executed common law agreement, therefore TfNSW does not agree that the Deed of Agreement should form a condition of approval under the *Environmental Planning and Assessment Act 1979*.

Construction - Access

2

Issue

RMS has reviewed the SSI application and provided the following comments to the Department of Planning and Infrastructure (provided separately to TfNSW as part of the ongoing consultation) for consideration in the determination of the SSI application:

a. Section 138 concurrence: The design and construction of any construction sites vehicular access to any classified road shall be in accordance with Austroads, AS 2890.1 – 2004, AS2890.2 – 2002 and the RMS' requirements. A certified copy of the design plans shall be submitted to RMS for consideration and concurrence prior to site establishment and commencement of road works. (1)

b. Any proposed road infrastructure works, road restoration works, vehicular accesses or signalised intersections located along the state classified road system, and any new signalised intersections and/or other modifications to existing signals located on the local road system shall be designed to meet RMS' requirements. The design requirements shall be in accordance with Austroads, RMS supplements and technical directions and other Australian Codes of Practice. The certified copies of the civil, structural and traffic signal design plans shall be submitted to RMS for consideration and acceptance prior to site establishment and commencement of road works.

c. The proponent will be required to enter into a Works Authorisation Deed (WAD) for the abovementioned road/bridge works and traffic control facilities identified on the state classified and local road systems. (2)

d. The project shall be designed with the objective of minimising adverse changes to existing access arrangements and services for all transport modes and where reasonable/feasible, facilitate an improved level of access and service comparable to the existing situation. Where the relocation/removal of bus stops/interchanges/transit ways is required, approval is to be obtained from the relevant agency. (3)

◆ Response

a. A certified copy of the design plans would be submitted to RMS for consideration and concurrence prior to substantial site establishment and commencement of road works.

b. Certified copies of the civil, structural and traffic signal design plans would be submitted to RMS for consideration and acceptance prior to substantial site establishment and commencement of road works.

c. As discussed in item 1 above, TfNSW does not agree that a Works Authorisation Deed is appropriate for the NWRL. A Deed of Agreement specific for the NWRL project would be negotiated between RMS and TfNSW.

d. The NWRL project would be designed to minimise adverse changes to existing access arrangements where feasible and reasonable. Further details regarding these arrangements will be provided in EIS 2.

Where impacts would occur to existing public transport infrastructure, consultation would occur with the relevant authority / asset owner.

3

◆ Issue

The T-Way is not to be used as an access or haul road to the Construction Sites (unless approved otherwise by RMS). (17)

◆ Response

Consultation would be undertaken with RMS prior to any use of the T-Way for access or haulage purposes. RMS officers have advised NWRL that use of the T-way for constuction related purposes may be appropriate / preferred in some circumstances.

4

◆ Issue

The proponent shall retain access to all properties during construction and operation of the NWRL, unless otherwise agreed by the relevant property owner and reinstate any access physically affected to at least an equivalent standard. (18)

◆ Response

Mitigation measure T5 (refer to Chapter 7) states that access to existing properties and buildings would be maintained.

5

Issue

All vehicles are to enter and exit the worksites in a forward direction (unless approved otherwise by RMS). (21)

Response

Mitigation measure T7 (refer to Chapter 7) states that all trucks would enter and exit the worksites in a forward direction, where feasible and reasonable.

6

Issue

All existing and proposed vehicular accesses to each construction site must be designed to ensure that the largest vehicle servicing each site can enter and exit the site in the following manner:

a. Left-in or left-out movements can occur within the kerbside lane (where feasible).

b. Vehicles must not encroach onto the wrong side of the road when entering or exiting the site. (23)

Response

Any application of such requirements is more appropriately determined on a site by site basis during preparation of detailed Construction Traffic Management Plans.

7

Issue

All proposed road infrastructure works, road restoration works, vehicular accesses or signalised intersection works will require Road Safety Audit(s) to be conducted and submitted to RMS for approval. (27)

Response

Any application of such requirements is more appropriately determined on a site by site basis during preparation of detailed Construction Traffic Management Plans.

8

Issue

Any temporary road infrastructure works (on public roads) must be designed in accordance with RMS requirements (i.e. for long term use). (28)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

9

Issue

The proponent shall be responsible for identification of all utilities/services potentially affected by the works and make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required by the relevant owner/service provider in consultation with RMS. The cost of any such arrangements shall be borne by the Proponent. (30)

Response

Section 7.10.2 of EIS 1 discusses management of existing utilities. The Proponent would be responsible for identification of all utilities and services potentially affected by the works. Suitable arrangements for their protection, diversion or adjustments would be made in consultation with the relevant authority and asset owner. RMS would be consulted where these utilities / services are located within arterial road reserves.

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

Transport - Parking Availability

10

Issue

Where existing parking, either on-street or in car parks, is removed (suggested for periods greater than four weeks) to facilitate construction activities, either alternate arrangements must be provided or the proponent must identify where the displaced vehicles can be satisfactorily accommodated. Displaced vehicles must not be accommodated on the state road network. (5)

Response

This comment has been noted and would be addressed within the scope of subsequent Construction Traffic Management Plans.

11

Issue

In relation to new or modified road, parking, pedestrian and cycle infrastructure for the NWRL construction works shall be designed:

- In consultation with the RMS and councils.
- In consideration of existing and future demand, road safety and traffic network impacts.
- To meet relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Engineering Practice, RMS supplements.
- Is certified by an independent Project Verifier as described in the TfNSW/RMS Works Authorisation Deed. (29)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

Construction - Sites

12

Issue

Prior to construction site establishment for all construction sites associated with the NWRL the proponent must prepare and submit a "Construction Site Parking Management Plan" to RMS and Local Council(s) for approval.

The Plan must address the following key issues:

- Where feasible the proponent must provide significant levels of worker parking, either onsite or remotely.
- Where remote parking is provided detailed information must be provided indicating how staff will be transferred to construction sites (i.e. shuttle bus routes, frequencies) and the locations of the remote parking sites.
- Details of local traffic impacts to nearby roads and intersections due to remote parking locations
- Details of on-street parking availability/occupancy in areas likely to be affected by staff parking on the local street network and how areas with limited ·on-street parking availability would be appropriately managed.
- Where feasible details should be provided on the use of shuttle bus services to ferry workers to construction sites from more distant public transport nodes.
- Provide details of car-pooling mechanisms to reduce the traffic impacts on the surrounding road system.
- Provision of details indicating how the proponent will proactively manage their staff parking and adequately respond to community concerns. (7)

Response

It is noted that prior to substantial construction site establishment for all construction sites associated with the NWRL, the proponent would prepare and submit Construction Traffic Management and Control Plans to RMS for approval. Construction site parking considerations would form a component of these plans.

Consultation would occur with relevant local council(s) during the preparation of the plans.

13

Issue

With regard to Epping Services Facility:

a. To facilitate construction vehicle access to the site, the proponent should provide a deceleration lane with a minimum storage length of 60m.

b. Movements to/from Beecroft Road must be restricted to left-in/left-out movements. Note: The existing provision of a median island along Beecroft Road can enforce this requirement.

c. Cut and cover works along Beecroft Road must be limited to night works and is appropriately staged to ensure that the existing lane capacity along Beecroft Road is maintained at all times, unless approved otherwise by RMS/TMC.

Cut and cover works must promptly reinstate any median island that is removed as part of such works.

d. Due to signal phasing and competing traffic movements , a 'No Right Turn' ban will be enforced for construction vehicles turning from Ray Road onto Carlingford Road (westbound) during the following times (Mon-Fri 6am-10am & 3pm-7pm)

e. RMS notes that the Epping Decline site has potential road safety issues and may impact works associated with permanent infrastructure for the Northern Sydney Freight Corridor. Hence, given the above any additional construction access at the Epping Decline site would not be supported. Potential changes to construction sites and construction vehicle movements at Epping have been investigated in consultation with RMS. (48)

Response

a. The requirement for a deceleration lane would be addressed as part of the detailed Construction Traffic Management Plans.

b. The proposed access to and from Beecroft Road is planned to be left in / left out only as described in EIS 1.

c. Any cut and cover works along Beecroft Road would be performed in accordance with the requirements of RMS.

d. The banning of right turn movements from Ray Road is not supported. A review of the current level of service for the Carlingford Road / Ray Road / Rawson Street intersection indicates that it is already operating at, or above, capacity. This is mainly due to the impacts of the congestion from the Beecroft Road / Carlingford Road intersection. The right turning trucks and some additional light traffic has a minimal impact on the level of service for the intersection, with the level of service remaining at 'E' and 'F' for the AM and PM peaks respectively. The assessment assumes seven trucks leaving the site during the peak hour via Ray Road. These trucks would all turn right from Ray Road into Carlingford Road to travel west.

Banning of these movements would constrain trucking operations to and from the site which would result in a need to amend the construction methodology, including the construction program, with consequent cost implications.

e. The Epping Decline site is no longer proposed as part of the project and is consolidated into the Expanded Epping Services Facility (refer Chapter 6, Preferred Infrastructure Assessment).

14

Issue

With regard to Cheltenham Services Facility:

- Proposed direct heavy vehicle access to the M2 Motorway is unlikely to be supported.
- RMS will not support the provision of a temporary signalised intersection to the Kirkham Street access.
- Right turn movements out of the site onto Kirkham Street must be managed through Traffic Controllers.
- Due to safety concerns and queuing along Beecroft Road, all construction vehicles accessing Kirkham Street from Beecroft Road must be restricted to left-in/left-out movements at the intersection of Beecroft Road/Kirkham Street. (49)

Response

This has been noted and would be addressed within the scope of subsequent Construction Traffic Management Plans.

15

Issue

With regard to Cherrybrook Station Construction Site:

a. The proposed signalisation of the intersection of Castle Hill Road/Glenhope Road must be designed to include the following:

- The provision of a fourth leg.
- Designed to ensure double-diamond phasing operation.

- ❖ The provision of separate right turn bays.
- ❖ The provision of a separate left turn lane from Castle Hill Road into Glenhope Road.
- ❖ Pedestrian crossing facilities.

b. Signalisation of this intersection would be subject to provision of technical assessment against the warrants for traffic signals and the provision to a suitably designed layout and appropriate consultation with Council/affected parties.

The proposed signalisation of the Castle Hill Road/Franklin Road intersection must be designed to include the following:

- ❖ Comply with relevant Austroads and RMS supplements sight line requirements,
- ❖ The banning of right turn movements from Castle Hill Road into Franklin Road,
- ❖ Provision of separate left and right turn approach lanes within Franklin Road,
- ❖ Separate long left turn lane from Castle Hill Road into Franklin Road,
- ❖ Appropriate pedestrian crossing facilities.

Signalisation of this intersection would be subject to the provision to a suitably designed layout and appropriate consultation with Council/affected parties.

Approval to the signalisation of the intersection will only be granted in consideration of the construction activities, RMS reserves the right to remove the proposed signals at the Castle Hill Road/Franklin Road intersection at any time after the completion of the construction of the NWRL. (50)

◆ Response

a. The detail of the Castle Hill Road / Glenhope Road intersection would be addressed by way of the Deed of Agreement discussed in item 1.

b. Signalisation of this intersection is crucial for the NWRL project to facilitate the movement of heavy vehicles to and from the Cherrybrook Station site. Consultation would occur with the affected parties regarding the design of the signalised intersection. The application of a 'warrants' based approach to the assessment of need for signalisation at this location would not be appropriate in the circumstances.

The detail of the Castle Hill Road / Franklin Road intersection would be addressed by way of the Deed of Agreement discussed in item 1.

16

◆ Issue

With regard to Castle Hill Station Construction Site:

a. As the primary access would be at the intersection of Old Northern Road/Terminus Street RMS requires the signalisation of this intersection.

b. Due to heavy volumes of traffic turning from Old Northern Road into McMullen Avenue, the secondary access off McMullen Avenue must be designed to ensure that left turn entry movements are sheltered (i.e. through the provision of an adequately dimensioned deceleration lane or via possible modifications to the existing left turn slip lane at the intersection of Old Northern Road/McMullen Avenue).

c. The bus interchange relocation to Old Castle Hill Road shall require the following:

- ❖ Provision for two way bus traffic along Old Castle Hill Road (between Eric Felton Street and Castle Street/Crane Road).
- ❖ Maintaining the existing one-way northbound flows for general traffic.
- ❖ Physical separation (by means of a concrete median island) for general traffic and bus movements along Old Castle Hill Road (between Eric Felton Street and Castle Street/ Crane Road).

d. The changes to the traffic signal arrangements at the Old Northern Road/Old Castle Hill Road/Castle Street/Crane Road intersection would be subject to the following:

- ❖ The provision of suitable designs for approval and detailed traffic modelling demonstrating that this arrangement can operate satisfactorily during the entire construction period. Note: The modelling must also examine the subsequent changes to traffic volumes at this intersection as a result of the expansion to Castle Towers Shopping Centre.

e. The proponent must satisfactorily resolve, prior to site establishment, where existing bus layover facilities will be relocated. This must occur in consultation with RMS, TfNSW, Council and local bus operators.

The bus layover area must be adequately maintained and provide adequate space for the growth in bus numbers.

Adequate provision must be provided for bus stops/bays to maintain satisfactory operations.

Appropriate maintenance/enhancement of passenger amenities and safety/security during and after construction shall be included in for the site. (51)

◆ Response

a. The detail of the Old Northern Road / Terminus Street intersection would be addressed by way of the Deed of Agreement discussed in item 1.

b. There may be insufficient space for a deceleration lane. The detail of the access arrangements would form part of the Construction Traffic Management and Control Plans.

c. Details of the bus interchange relocation would be addressed by way of the Deed of Agreement discussed in item 1 and be subject to further consultation with RMS, The Hills Shire Council and local bus operators.

d. The detail of the Old Northern Road / Old Castle Hill Road / Castle Street / Crane Road intersection would be addressed by way of the Deed of Agreement discussed in item 1.

e. The arrangements for bus layover and bus stop facilities would be satisfactorily resolved, prior to substantial site establishment. This would occur in consultation with RMS, TfNSW, Council and local bus operators.

17

Issue

With regard to Hills Centre Station Construction Site:

a. RMS will not approve the proposed traffic signal site along Showground Road (i.e. west of Gilbert Road - slightly east of Cattai Creek) on traffic safety grounds. Concerns include the following:

- Increased rear-end accident potential (i.e. due to light vehicles being able to stop in less distance than a trailing heavy vehicle).
- Traffic efficiency impacts (i.e. potentially due to heavy vehicles climbing the hill from a standing start).
- Vehicles speeding through the intersection.

b. RMS recommends a more feasible alternative access to Showground Road may be via a fourth leg at the intersection of Showground Road/Gilbert Road.

c. Traffic analysis for the intersection of Showground Road/Carrington Road shows that vehicles occasionally queue out of the existing right turn bay and subsequently impede eastbound through traffic along Showground Road during the AM peak. This will worsen as a result of the NWRL construction vehicle traffic associated with the Hills Centre Station Construction Site.

d. To address this concern, the proponent will be required to lengthen the existing right turn bay for the movement from Showground Road into Carrington Road to provide adequate storage.

e. RMS raises no objections to the future need to signalise the intersection of Carrington Road/ Doran Drive. This would be subject to the provision of technical assessment against the warrants for traffic signals and suitable designs which include the following:

- Separate right turn bay for the Carrington Road approach.
- Satisfactorily accommodating the turning paths of the largest vehicle using the intersection.

RMS requires the proponent to confirm if 25m B-doubles are to be used for haulage from The Hills Centre with access via Carrington Road and also a new entrance off Showground Road. Currently Carrington Road is not an approved B-Double route and would not comply with route assessment guidelines in its current form. (52)

Response

a. Access and egress from Showground Road would largely follow an existing road (to be upgraded) with the Showground complex, located towards the western boundary adjacent to Cattai Creek. This alignment was chosen to minimise impacts to the Showground.

This would be subject to an appropriate road safety audit, an assessment of traffic flow implications and an assessment of the feasibility of reducing posted speeds limits along Showground Road for the period of its use. Subject to outcomes associated with the above, alternative access arrangements would be investigated in consultation with RMS.

A potentially reasonable access and intersection alternative has been identified on Showground Road, roughly midway between the Carrington Road and Gilbert Avenue intersections. This would require a new signalised intersection. This alternative would facilitate effective and safe construction access on a dedicated construction truck access.

Potential impacts associated with traffic on Showground Road would be consistent with those described in EIS 1.

Potential impacts associated with noise from truck movements would be consistent with those described in EIS 1, noting that Showground Road is an arterial road and the risk of sleep disturbance is low.

b. The alternative of a fourth leg at the Showground Road / Gilbert Road intersection would have significant impacts on the Showground precinct, including the need to demolish additional buildings and facilities.

c. TfNSW would continue to consult with RMS regarding the access from Showground Road to the Hills Centre Station site, with the detail of the final arrangements to form part of Construction Traffic Management and Control Plans.

d. The detail of the arrangements for the Carrington Road / Doran Drive intersection would form part of Construction Traffic Management and Control Plans.

18

◆ Issue

With regard to Norwest Station Construction Site:

a. Signalisation (to RMS satisfaction) of the Norwest Boulevard/Brookhollow Ave/Century Cct intersection will be required prior to site establishment. This is likely to be in the form of an interim layout which will require RMS approval prior to implementation.

The proponent must ensure that the existing road capacity along Norwest Boulevard is not reduced during construction and that the performance of the Norwest Boulevard/Brookhollow Ave/Century Cct intersection during construction operates at existing levels of service.

Should the interim signalised layout be unable to accommodate the provision of right turn bays along one or both of the Norwest Boulevard approaches, then the following alternative arrangements shall be considered:

- ❖ If coming from Windsor Road heading west - turn left into Brookhollow Ave at the Norwest Boulevard/Brookhollow Ave/Columbia Court roundabout then follow Brookhollow Ave through to the Norwest Boulevard/Brookhollow Ave/Century Cct intersection and then enter Century Cct (i.e. G-Turn).
- ❖ If the above is not possible, head westbound along Norwest Boulevard to the Norwest Boulevard/Scient Cct/Reston Grange roundabout and perform a U-turn and then head eastbound back to Century Cct.
- ❖ If coming from Old Windsor Road heading east- turn left into Century Cct, perform a U-turn at the roundabout along Century Cct, head back to the Norwest Boulevard/ Brookhollow Ave/Century Cct intersection and then enter Brookhollow Ave.

b. The Proponent is to continue to liaise with RMS regarding the ultimate design for Norwest Boulevard, including delivery of the Norwest Boulevard/Brookhollow Ave/ Century Cct intersection and the provision for set down and pick up for buses outside of the station in each direction (T-way standard). RMS understands that this will be dealt with as part of EIS 2 along with Station Accessibility. (53)

◆ Response

a. The location of the station box at Norwest Station construction site has been realigned outside of Norwest Boulevard footprint (refer to Chapter 6 of this report for details). As such, there would not be direct construction impacts to Norwest Boulevard and the existing road capacity would be maintained throughout the daytime periods. There would be times outside the peak periods when through capacity on Norwest Boulevard would be impacted. It is noted that Norwest Boulevard would still be required as a heavy vehicle access and egress point to and from the construction site.

An assessment of construction traffic impacts upon road network operation and intersection performance found no significant change to the operation of the Norwest Boulevard / Brookhollow Avenue / Columbia Circuit and Norwest Boulevard / Brookhollow Avenue / Century Circuit roundabouts. The analysis identified an increase in the degree of saturation of 2% in the AM peak at the existing Norwest Boulevard / Windsor Road intersection with no change in the PM peak and no change to the AM / PM peak levels of service.

b. Consultation would continue with RMS during the development of EIS 2 regarding future arrangements for Norwest Boulevard.

19

◆ Issue

With regard to Bella Vista Station Construction Site:

a. The intersection of Old Windsor Road/Celebration Drive suffers from significant traffic congestion during the morning and afternoon peaks due to the following:

- ❖ AM - Heavy left turn and right turn movements from Old Windsor Road turning into Celebration Drive.
- ❖ PM - Heavy right turn movement exiting Celebration Drive hitting the back of the lengthy queue (>1 km) along Old Windsor Road caused by the Old Windsor Road/ Sunnyholt Road/Memorial Avenue intersection operating at capacity.

This site will generate significant heavy vehicle movements which will further exacerbate the abovementioned issues in this location.

To address the abovementioned concerns, the proponent will be required to implement the following:

- ❖ Direct vehicle access to Celebration Drive be restricted from use during the following periods (Mon-Fri: 6:30-9:30am & 3-7pm).
- ❖ During the above time restriction, consideration should be given to the use of the local access road which runs parallel to the T-Way as a means of vehicular access to this site (with access back to Balmoral Road or Memorial Ave).
- ❖ Strategies to ensure that heavy vehicles do not lay over in Old Windsor Road or Celebration Drive.

b. RMS does not support the proposed signalisation of the Celebration Drive/Lexington Drive intersection. To address traffic concerns the proponent will be required to implement other alternative measures to improve the capacity of this roundabout which may include:

- ❖ Enhancing the capacity of the existing roundabout.
- ❖ Provision of two eastbound through lanes along Celebration Drive (between Old Windsor Road and Lexington Drive).

c. RMS does not support the provision of a pedestrian crossing across the northern leg of the Old Windsor Road/Celebration Drive intersection.

d. The proponent must ensure that the T-Way services are not detrimentally impacted by construction traffic/activities. (54)

◆ Response

a. As previously noted, the time restriction on truck movements would result in a number of additional impacts associated with the NWRL project including increased land acquisition, additional works outside of standard construction hours, and increased impact to the local community.

The access arrangement would be addressed by way of the Deed of Agreement discussed in item 1.

b. TfNSW would assess the merits of the retention of the Celebration Drive / Lexington Drive roundabout in consultation with RMS and other stakeholders.

c. The pedestrian access needs of the Bella Vista station are being assessed in consultation with RMS officers and will be further discussed and assessed in EIS 2.

d. Consultation would continue with RMS, bus operators and the T-Way operator in relation to any potential impacts and mitigation measures regarding the T-Way services.

20

◆ Issue

With regard to Balmoral Road & Memorial Ave Construction Sites:

a. Should significant traffic movements be pushed onto Balmoral Road, RMS may consider making modifications to the operation of the Old Windsor Road/Miami Street/Balmoral Road signals (if required).

To reduce road network impacts, construction vehicle access must be designed to allow vehicle movements to occur directly across Balmoral Road between the Balmoral Road Construction Site and the Memorial Avenue Construction Site (ie: paired access). This may also include relocating the "paired access" closer to Old Windsor Road in order to align with the proposed location of the ultimate "Spine Road".

To minimise the potential for queuing back along Balmoral Road, adequate heavy vehicle storage must be provided within each construction site before construction vehicles are required to stop.

b. The T-Way is to maintain absolute priority over any additional local roads constructed as part of any precinct works.

Any relocation of the T-Way is to have the same asset quality and level of priority at "all" intersections as per existing arrangements.

c. RMS objects to the proposed new signalised intersection along Memorial Avenue (located east of the existing T-way intersection) due to road safety concerns as well as this resulting in the provision of four signalised intersections over a distance of 400m as indicated below:

- ❖ Old Windsor Road/Sunnyholt Road/Memorial Avenue (existing)
- ❖ Memorial Avenue/North West T-Way (existing)
- ❖ Memorial Avenue/NWRL Construction Access (proposed)
- ❖ Memorial Avenue/Arnold Avenue (west) - (to be implemented via BRRA Section 94 Plan)

Alternative options shall be pursued such as combining construction access with the existing Memorial Avenue/North West T-Way signals. However, any modifications to this intersection must ensure that T-Way services are not detrimentally affected.

d. The proponent must ensure that the existing building located within the North West T-Way car park (i.e. Traffic Signal Cabin and any underground services) is replaced with a similar or improved building, relocated to a suitable alternate location (in consultation with the RMS/TMC).

e. The proposed NWRL viaduct and support structures must be located/constructed to ensure that it does not preclude the future construction of Old Windsor Road/Sunnyholt Road/ Memorial Ave grade separation (see Attachment No 1). In addition, the NWRL viaduct support structure within the road reserve shall not encumber the constructability of future road enhancements. (55)

◆ Response

a. TfNSW requests RMS to consult with TfNSW before progressing any changes to Balmoral Road.

The two construction access points are proposed to be constructed to allow a direct connection between the two construction sites for construction vehicles.

Discussions with RMS regarding operational access are ongoing and will be presented and assessed as part of EIS 2.

The detail of arrangements at access points would form part of the Construction Traffic Management and Control Plans.

b. The interaction of the T-Way with any future roads as part of precinct works will be presented and assessed as part of EIS 2.

c. TfNSW would assess the merits of modifying the proposed construction access arrangements via Memorial Avenue in consultation with RMS and other relevant stakeholders.

d. Any alterations to T-Way infrastructure would be undertaken in consultation with RMS, bus operators and the T-Way operator.

e. Consultation would occur with RMS where viaduct support structures are located within road reserves.

21

◆ Issue

With regard to Kellyville Station Construction Site:

a. To minimise impacts upon reduced T-Way patronage, the proponent must ensure that the proposed relocated T-Way temporary parking area is designed/located to minimise walking distance from the existing Samantha Riley T-Way station.

b. The proposed construction vehicle access across the North West T-way may be limited to off peak times and/or be regulated to set durations during nominated times of the day. Such timeframes must be satisfactorily resolved between the proponent, RMS, TfNSW and local bus operators prior to site establishment. (56)

◆ Response

a. Any alterations to T-Way infrastructure would be undertaken in consultation with RMS, bus operators and the T-Way operator.

b. Timeframes would be satisfactorily resolved between the Proponent, RMS, TfNSW and local bus operators prior to substantial site establishment.

22

◆ Issue

With regard to Old Windsor Road to White Hart Drive Construction Site:

a. The proponent must ensure that the NWRL viaduct support piers are located to ensure that it does not preclude the potential future widening of the White Hart Drive (southern side) approach to Windsor Road by an additional lane.

a. The proponent must provide small indented right turn and left turn bays of appropriate length within Sanctuary Drive at the Bellcast Road intersection to ensure that turning construction vehicles do not impede the dual right turn movement from Windsor Road into Sanctuary Drive. (57)

◆ Response

a. Consultation would occur with RMS where viaduct support structures are located within road reserves.

b. The intersection arrangements during construction would be addressed by way of the Deed of Agreement discussed in item 1.

23

◆ Issue

With regard to Rouse Hill Station Construction Site:

a. Impacts to the T-Way operation in and around the Rouse Hill Town Centre (i.e. future interim and ultimate routes) need to be satisfactorily resolved between the RMS, TfNSW, and local bus operators prior to site establishment.

This will require the proponent to demonstrate through modelling or similar:

- ❖ Provision of sufficient bus set down/pick up locations as per existing.
- ❖ Cumulative impacts and integration of Rouse Hill Town Centre (Northern Precinct) expansion with project and effect on bus operations.
- ❖ Reinstatement/replacement of existing T-Way facilities to equal or higher standard.
- ❖ How buses will access/exit the proposed temporary stops and layover.
- ❖ Pedestrian access and amenity to/from T-Way.
- ❖ Impacts along Windsor Road should bus services be diverted from the T-Way or Town Centre to Windsor Road.
- ❖ That provision of adequate, high quality facilities are provided and maintained (i.e. DDA compliant facilities, shelters, CCTV, real-time information) if buses are relocated.

b. The central foundation/pier structure supporting the rail bridge viaduct over Windsor Road is to be constructed to ensure:

- ❖ That it is constructed in a manner that allows continuous traffic flow along Windsor Road during construction.
- ❖ That the existing traffic capacity along Windsor Road is not compromised.
- ❖ That it does not preclude the future grade separation of the Windsor Road/Schofields Road intersection.

- That it will not preclude the future need to lengthen the existing dual right turn storage bay for the movement from Windsor Road into Commercial Road (likely ultimate storage lengths are indicated within Attachment No 2).
- That the central foundation/pile structure is constructed deep enough below ground level to ensure that future grade separation construction will not impact upon the structural integrity of the rail bridge viaduct support structure or impact rail operations.

The proponent must ensure that the NWRL rail viaduct and support piers are located to ensure that they do not impact upon the following:

- Future Rouse Hill Town Centre (Northern Precinct) Car park access – Western Gateway, and (interim/ultimate bus routes adjacent to the Windsor Road/Schofields Road intersection).
- Future grade separation footprint of the Windsor Road/Schofields Road intersection.

c. The proponent will need to consult with the Castlebrook Lawn Cemetery and crematorium in order to determine if the proposed area identified for temporary road realignment is affected by grave sites. Should this be the case, then the proponent will need to identify alternative arrangements for temporary road realignment to the satisfaction of the RMS. These matters must be satisfactorily resolved prior to site establishment. (58)

◆ Response

a. Impacts to the T-Way operation in and around the Rouse Hill Town Centre during construction would be satisfactorily resolved between the RMS, TfNSW, local bus operators and owners of the Rouse Hill Town Centre (Lend Lease / GPT) prior to substantial site establishment.

b. Consultation would occur with RMS where viaduct support structures are located within road reserves.

c. If a temporary road re-alignment is required, consultation would occur with all relevant parties, including the Castlebrook Lawn Cemetery and Crematorium, prior to substantial site establishment.

24

◆ Issue

Schofields Road Construction Sites:

- It is understood that the proponent must ensure that through connections for Tallawong Road, Cudgegong Road, proposed Terry Road and Hambledon Road extensions are not excluded by the NWRL. If otherwise, then concurrence from the RMS will be required. (59)

◆ Response

Any application of such requirements is more appropriately determined on a site by site basis during preparation of detailed Construction Traffic Management and Control Plans.

Construction - Sites

25

Issue

The proponent shall prepare and submit the following traffic management plans as described below to address construction and operational traffic impacts:

- Construction Site Parking Management Plan - details construction workforce impacts.
- Construction Traffic Management Plan and Haulage Management Plan – details construction activity impacts.
- Traffic Management Plan (Operational) - details permanent changes to the road network following rail opening. (6)

Response

The Construction Environmental Management Framework (refer to Appendix C) identifies a two tiered framework of Construction Traffic Management documents which would be developed in consultation with RMS.

Additionally, the Construction Environmental Management Framework also describes the formation of a Traffic and Transport Liaison Group for the NWRL project, inclusive of RMS representatives.

Operational traffic requirements will be presented and assessed as part of EIS 2.

26

Issue

Where construction is likely to obstruct, restrict, interfere or close the free flow of traffic on any road or road related area, the NWRL contractor(s) NWRL contractor(s) must investigate, develop and implement traffic management protocols, processes and arrangements with regard to all temporary traffic arrangements. This must be done in consultation with and obtain approval from RMS and TMC for the safe and efficient management and operation of the road network. (4)

Response

As identified in the Construction Environmental Management Framework (refer to Appendix C) a framework of Construction Traffic Management documents would be prepared to manage traffic related impacts during the construction phase. These documents would be prepared in consultation with RMS.

27

Issue

The proponent must prepare and submit a Construction Traffic Management Plan and a Haulage Management Plan to RMS and TMC for review and approval. The Plan(s) shall identify the full haulage routes from all construction sites to destinations and return trips, and more accurately define haulage and construction vehicle volumes at each site access, noting that TMC are likely to prohibit haulage operations that will adversely impact traffic operations during peak traffic periods. (8)

Response

As identified in the Construction Environmental Management Framework (refer to Appendix C), a framework of Construction Traffic Management documents would be prepared to manage traffic related impacts during the construction phase. These documents would be prepared in consultation with RMS.

28

Issue

Haulage operations and the use of any construction vehicle access/egress which will adversely impact traffic operations during peak traffic periods (i.e. Monday to Friday 6-10am and 3-7pm) will be prohibited from use during these times, unless approved otherwise by the TMC. (9)

Response

EIS 1 has assessed potential environmental impacts of the construction methodology developed for the NWRL. The construction methodology (site area requirements, impact assessment, program and cost) developed for the NWRL has been based on construction traffic movements occurring generally during standard construction hours. The construction methodology has not allowed for blanket restrictions or prohibitions of construction vehicle movements during AM and PM peak hours as suggested by RMS.

Should the peak hour restrictions or prohibitions suggested by RMS be imposed, it would be necessary to review the proposed construction methodology developed for the NWRL and the associated environmental impacts.

The suggested RMS blanket peak hour restrictions or prohibitions would exacerbate the extent and intensity of identified environmental impacts and jeopardise the project's viability for the following reasons:

- Additional land would need to be acquired at several key and tunnelling construction sites for storage, handling and transport of spoil and construction materials.
- It would result in a longer construction program than that presented in EIS 1 and overall project cost and delays.
- Additional construction activities would need to be undertaken outside of standard construction hours, with the potential to greatly increase impacts to the communities surrounding the construction sites.
- All of the environmental investigations would need to be re-examined to assess: the increased size of several key and tunnelling construction sites; the undertaking of additional construction activities outside of standard construction hours at each site; and the longer construction program. Mitigation measures would need to be developed to manage these changes.
- It would result in greater project costs arising from the need to acquire additional land and a longer construction program.

Overall, the impacts of the peak hour restrictions or prohibitions suggested by RMS would severely impact the construction methodology for the NWRL, exacerbate the extent and intensity of identified environmental impacts, and jeopardise the project's viability.

29

Issue

All Construction Traffic Management Plans including Haulage Management Plans must be developed in consultation with, RMS, TMC, relevant Council(s) and emergency services to ensure that the construction impacts of the project are satisfactorily managed. Approval of all Construction Traffic Management Plans and Haulage Management Plans must be obtained from RMS, TMC, and the relevant Council(s) prior to the commencement of any of the associated construction activities. (10)

Response

As identified in the Construction Environmental Management Framework (refer to Appendix C), a framework of Construction Traffic Management documents would be prepared to manage traffic related impacts during the construction phase. These documents would be prepared in consultation with RMS and the relevant council(s).

30

Issue

The Construction Traffic Management Plan(s) must include, but not be limited to:

- Identifying haulage routes and access points from construction sites to local and arterial roads detailing measures to minimise potential access and land use conflicts.
- Identifying haulage and construction vehicle volumes and detailing measures to minimise peak time congestion and intersection impacts at local and arterial roads.
- Identifying construction activities that would require disruption of traffic, such as bridge and lane closures, and measures to minimise impacts.
- Identifying designated construction personnel parking areas.
- Detailing measures to minimise the period of time during which full or partial road closures occur and as soon as practicable, remove local traffic detours and reinstate pre-existing road network restrictions and access arrangements to the satisfaction of the relevant road authority. (11)

Response

As identified in the Construction Environmental Management Framework (refer to Appendix C) a framework of Construction Traffic Management documents would be prepared to manage traffic related impacts during the construction phase.

The Construction Traffic Management documentation would include these requirements.

31

Issue

A Road Occupancy Licence (ROL) must be obtained from the TMC for any activity likely to impact on the operational efficiency of the (state) road network arid/or for works within 100m of traffic signals. This includes Local Roads, Regional Unclassified and Classified Roads for which RMS has assumed road authority status. The ROL allows the applicant to use a specified road space at approved times, provided certain conditions are met. Proponents must allow a minimum of 10 working days for processing from date of receipt. Traffic Control Plans are to accompany each ROL application. (13)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

32

Issue

The use of traffic controllers to stop general traffic to allow access/egress into the construction sites will be subject to assessment by the TMC and will likely only be permitted outside of peak periods. Ideally accesses should be designed to ensure that traffic controllers are not required to stop general traffic. (15)

Response

Any application of such requirements is more appropriately determined on a site by site basis during preparation of detailed Construction Traffic Management and Control Plans.

33

Issue

At all proposed new traffic signal sites, turning bays of sufficient length are to be provided to fully accommodate the expected construction traffic volumes to prevent turning vehicles queuing back blocking through lanes at any time. (20)

Response

Any application of such requirements is more appropriately determined on a site by site basis during preparation of detailed Construction Traffic Management and Control Plans.

34

Issue

The proponent is to submit an Incident Response Plan (IRP) for the management of traffic flows in the local area should a major problem/emergency occur to the (tunnel works and/or viaduct) which directly affects any road carriageway located above, below, or alongside the proposed NWRL alignment. The IRP must be submitted to RMS (including consultation with Emergency Services and relevant councils) for approval prior to the commencement of any roadworks. (24)

Response

Incident Response Plans would form a component of the Traffic Management Plans detailed in the Construction Environmental Management Framework section 8.2 (refer to Appendix C). This plan would be submitted to RMS (including consultation with Emergency Services and relevant councils) for approval prior to the substantial commencement of any roadworks.

Operational - Traffic

35

Issue

The Traffic Management Plan(s) (Operational) is required for permanent changes on the road network in accordance with the RMS's Delegation to councils. The TMP must be approved by RMS prior to being formally considered by the Local Traffic Committee and approved by Council. (12)

Response

Operational traffic requirements would be presented and assessed in detail as part of EIS 2. Traffic Management and Control Plans would be developed after EIS 2 has been approved, in consultation with the relevant council(s) and be approved by RMS.

Construction - Heavy vehicle movements

36

Issue

Where construction vehicle routes directly pass schools or child care centres heavy vehicle movements shall be minimised (where reasonable and feasible), between 8-9:30am and 2:30-4pm Mon-Fri (on school days). (14)

Response

Where schools occur in the immediate vicinity of the construction site, heavy vehicle movements would be minimised (where reasonable and feasible), between 8:00-9:30 am and 2:30-4:00 pm Monday to Friday (on school days). This has been added to the Traffic and Transport mitigation measures (refer to Chapter 7).

37

Issue

The layout of the proposed construction site car parking areas associated with the subject development (including, driveways, grades, turn paths, sight distance requirements, aisle widths, aisle lengths, and parking bay dimensions) should be in accordance with AS 2890.1- 2004 and AS 2890.2-2002 for heavy vehicle usage. (22)

Response

Any application of such requirements is more appropriately determined on a site by site basis during preparation of detailed Construction Traffic Management and Control Plans.

38

Issue

Upon determining the haulage route(s) for construction vehicles associated with the NWRL, and prior to construction, an independent and qualified person or team shall undertake a Road Dilapidation Report. The report shall assess the current condition of the road(s) and describe mechanisms to restore any damage that may result due to traffic and transport related to the

construction of the NWRL. The Report shall be submitted to RMS for review and concurrence prior to the commencement of haulage.

Following completion of construction, a subsequent report shall be prepared to assess any damage that may have resulted from the construction of the NWRL.

Specific details of the scope of the Road Dilapidation Survey and Report, technical standards for condition measurement and assessment are to be agreed between RMS and the Proponent.

Measures undertaken to restore or reinstate roads and/or other RMS infrastructure affected by the NWRL shall be undertaken in a timely manner, in accordance with the requirements of RMS, and at the full expense of the Proponent. (38)

◆ Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

Transport -Pedestrian and bicycle access

39

◆ Issue

Safe pedestrian and cyclist access through or around worksites shall be maintained during construction. In circumstances where pedestrian and cyclist access is restricted due to construction activities, a satisfactory alternate route shall be provided and signposted in consultation with RMS and Local Council(s). (16)

◆ Response

Any application of such requirements is more appropriately determined on a site by site basis during preparation of detailed Construction Traffic Management and Control Plans.

40

◆ Issue

In relation to new or modified road, pedestrian and cycle infrastructure for the NWRL construction works shall be designed:

- ❖ In consultation with the RMS and councils.
- ❖ In consideration of existing and future demand, road safety and traffic network impacts.
- ❖ To meet relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Engineering Practice, RMS supplements.
- ❖ Is certified by an independent Project Verifier as described in the TfNSW/RMS Works Authorisation Deed. (29)

◆ Response

Any application of such requirements is more appropriately determined on a site by site basis during preparation of detailed Construction Traffic Management and Control Plans.

Construction - Public Safety

41

Issue

The proponent must ensure that existing sight lines to T-Way stops and within T-Way car parks for passive surveillance are maintained. If this is not possible, then the proponent must implement suitable alternative measures (e.g. CCTV with active surveillance). (19)

Response

Wherever possible, sight lines to existing T-Way stops and within T-Way car parks for passive surveillance would be maintained.

Where this is not possible, the Proponent would implement suitable alternative measures (eg CCTV with active surveillance) where reasonable and feasible.

This has been added to the Traffic and Transport mitigation measures (refer to Chapter 7).

Construction - Noise & Vibration

42

Issue

All works and traffic activities associated with the construction of the NWRL shall be designed and operated with the objective of not exceeding the road noise criteria outlined in the NSW Road Noise Policy (DECCW, 2011). (25)

Response

The noise assessment detailed in Chapter 10 of the EIS has been undertaken in accordance with the NSW Road Noise Policy (DECCW, 2011).

Construction - Spoil and Waste management

43

Issue

Appropriate measures are to be implemented at each construction site to ensure that all vehicles and machinery leaving each construction site will not track material onto public roads. (26)

Response

Section 18.5 of EIS 1 details mitigation measures in relation to surface water and hydrology, including the installation of appropriate erosion and sediment control measures. This would include the stabilisation of site access and egress points minimise any material tracked onto public roads.

Property - Property Damage

44

Issue

The proposed development is not to cause any material damage to RMS infrastructure, both during and after construction. The deformation criteria of all RMS assets shall be defined and agreed with RMS as a part of the design input. It is noted that the geotechnical design has not been finalised and the ground water draw down from tunnel/station or other excavations may be significant in some cases. Consolidation and creep settlements are to be evaluated demonstrating their conformance to the agreed criteria. (45)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

Property - Property condition surveys

45

Issue

A condition survey of the significant RMS assets must be carried out prior to and at the completion of construction of the project. Specific details of the scope of the survey and appropriate limits are to be agreed between RMS and TfNSW. The condition survey is to include all affected slopes, structures (e.g. bridges, retaining walls, noise walls, culverts, significant subsurface drainages, signages and the like as advised by RMS), utilities and pavements that lie within the following catchment criteria for all supported excavations:

- 1.0 times the depth of excavation in rock, or
- 2.0 times the depth of excavation in other than rock. (33)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

Construction - General

46

Issue

All excavations adjacent to RMS road Infrastructure must meet the requirements of RMS Technical Direction GTD 2012/0001 "Excavation adjacent to RMS infrastructure". (34)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

47

◆ Issue

The Proponent is to submit an Infrastructure Asset Management Plan (IAMP) for monitoring the road surface and structures during tunnelling, for RMS approval prior to bulk earthworks. The Plan shall outline the following:

- ❖ The road surface above the tunnel construction must be monitored during construction, according to the (IAMP) to ensure the pavement surface remains safe and trafficable at all times in accordance with agreed limits. In addition, RMS retaining walls and other significant structures above the tunnel must be monitored/inspected regularly during construction. The selection criteria of such structures for monitoring/surveillance are as follows:
  - Lying within a distance of half the depth of excavation for supported excavations, or
  - Lying within a distance of the full depth of excavation for unsupported excavations.
- ❖ In either of the above cases, the plan distance from the near edge of the excavation shall not be less than 20m. Depending on the significance and sensitivity of the structures, RMS may vary the above conditions and include additional elements within the excavation influence zones to be monitored. RMS will review the monitoring requirements and confirm the elements for monitoring when the tunnel alignment and support details are finalised.
- ❖ The Plan shall also outline the details of monitoring, minimum requirements for the tunnelling/ excavation works during and post construction, trigger action response plan (TARP) and reporting structures. The Plan is to be developed in consultation with RMS, or be jointly developed by a Technical Committee comprising RMS and other subject matter experts. (35)

◆ Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

48

◆ Issue

As part of the lAMP, access to data collected at various sites must be accessible by RMS subject matter experts at regular intervals as per the Plan for information. (36)

◆ Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

49

◆ Issue

If during and after construction a RMS slope has a risk rating falling below 3 (in accordance with the current edition of RMS Guide to Slope Risk Analysis), or other structures showing unusual deformation, RMS may insist on the installation of additional above and below ground monitoring instrumentation to evaluate the underlying mechanisms and ongoing management of the technical risks. (37)

◆ Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

50

Issue

As part of the station excavation/construction works, temporary anchors or rock bolts may be installed within RMS easements, subject to RMS approval. Temporary anchors must be completely isolated, if not removed, from the permanent structures upon completion of construction. Installation of permanent anchors/bolts within the RMS easement is not permitted without prior RMS approval. (43)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

Design - General

51

Issue

The design and maintenance of RMS managed road pavements must be carried out to RMS specifications and design technical documents and supplements. In the case of pavement wearing surfaces, where the contractor has to remediate an existing wearing surface, 'like for like' must be applied by the contractor. Any changes to existing lane configuration that results in changes to existing line marking shall require a full pavement re-sheet for the affected carriageway. (39)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

52

Issue

All NWRL Tunnel designs which are located under any existing or proposed classified state roads are to be submitted to RMS for review and concurrence. (40)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

53

Issue

The proposed minimum distance of 5.0m between the tunnel crown and the pavement (ground) surface must not be reduced, without RMS approval. (41)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

54

Issue

Permanent rock anchors associated with tunnel construction are not to be located within RMS easements. (42)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

Design - Viaduct

55

Issue

With the exception of the proposed support pier located within the median area of the Windsor Road corridor at Rouse Hill, all viaduct support piers must be adequately located outside of the existing and proposed road corridors for the following roads, or as agreed with RMS:

- Old Windsor Road
- Windsor Road
- North West Transitway
- Memorial Avenue
- White Hart Drive
- Samantha Riley Drive

Note: Potential localised road corridor impacts will be better understood as part of EIS 2. (31)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

56

Issue

A minimum of 5.5m clearance must be maintained between the underside of all rail structures (including any gantry or launch structures for viaduct construction) and the road pavement (including future proposed carriageways) within the classified road corridor. (32)

Response

Consultation would occur with RMS where the NWRL would cross over road reserves.

57

Issue

The rail viaduct should satisfy the following design principles:

- A structure which sits as an element within the broader landscape context, consistent with the RMS guideline "Beyond the Pavement". It will include conceptual architectural designs for the viaduct at all key locations (in particular all state road crossings). (Section 7, (xi) and (xii))

Response

The architectural design of the viaduct will be presented and assessed as part of EIS 2.

Design - Station Design

58

Issue

In accordance with the intentions stated in the Stage 1 EIS, it is necessary to ensure that the Stage 2 EIS integrates urban design into the overall design of the project, as follows:

- It will include each of the station precinct design concepts (showing the overall form and character of both stations and their precincts).
- It will include conceptual architectural designs for each station within a precinct.
- It will include the principles for civil construction works.
- It will also include concept designs for elements (such as noise attenuation), landscaping, and the maintenance of elements.
- The integration of urban design into the overall design of the project needs to include the following principles to which the Stage 1 EIS additionally makes a commitment:
- Reinforce the role of station and interchange design with the surrounding neighbourhood, locality and activities.
- Achieve good links.
- Design a hierarchy of access.
- Address context.
- Produce an inviting pedestrian environment.
- Design precincts in a way that facilitates new development. (Section 7 (i) to (x))

Response

The urban design of the NWRL Project will be presented and assessed as part of EIS 2.

Environment - Soils and Geology

59

Issue

There is no identification of specific geological structures/defects/joint swarms and regional/local stress field relevant to the proposed development. Detail discussion of these topics must be provided within the geotechnical design. Identification of paleochannels and presentation of the mass permeability of the ground in relation to the proposed design are also expected within the geotechnical design report. (44)

Response

Geotechnical investigations are continuing to be undertaken and would be used to inform the detailed design.

60

Issue

The soil profiles affecting RMS assets could be different from those used for the proposed development. Therefore sufficient site investigation must cover RMS asset areas where the ground stratigraphy is expected to be variable and where the groundwater draw down is significant. (46)

Response

This requirement would be addressed by way of the Deed of Agreement discussed in item 1.

Environment - Heritage

61

Issue

Technical Paper No 3 - European Heritage Report -

Section 3.3.7 Bella Vista Station

Heritage Item No.3252- a weatherboard house at 36 Old Windsor Road, Kellyville.

This property was acquired by Department of Planning in 2008 and the weatherboard house was demolished some time after 2010. The statement in this report "believed to have been demolished" is therefore incorrect, it has been demolished.

As it is no longer existent, the Proponent is to confirm that the site is not viewed to have any archaeological potential. If it does not have archaeological potential, all reference to it should be removed from the report. References to it on p.31, p.33, p.58 (Map 9), p.59 (Map 9) and p. 70 (Table 4.1) should be removed.

Section 3.3.12 Old Windsor Road to White Hart Drive

Windsor Road and Old Windsor Road - incorrectly listed as being on the State Heritage Register.

This component of the listing should be removed. (Sec 6)

Response

Table 11.18 of EIS 1 states that the referenced '*weatherboard house at 36 Old Windsor Road, Kellyville*' is not listed and that the house has been demolished.

NSW Department of Trade and Investment, Regional Infrastructure and Services -Resources & Energy Division

Communication - Consultation

62

Issue

It is unclear from the EIS how the Rouse Hill Shale Quarry operated by Blacktown City Council will be affected by the project. It appears that the alignment directly intersects the shale quarry. It is not clear whether consultation has been undertaken with Blacktown City Council on the matter of resource sterilisation at this site.

Response

There are no significant impacts anticipated to the Rouse Hill Shale Quarry, and as such consultation has not occurred with Blacktown City Council regarding this issue.

If potential impacts are identified during detailed design or construction, consultation would be undertaken with Council.

63

Issue

As stated in the EIS, the project is located within Petroleum Exploration Licence (PEL) 463 held by Macquarie Energy (a wholly owned subsidiary of Dart Energy Limited - the Operator). It is also located within a small portion of PEL 2 held by AGL Upstream Investments Pty Ltd. It is unclear whether the title holders have been consulted by the proponent.

Response

Section 8.4.4 of EIS 1 determined the potential impacts to petroleum tenures to be small to negligible and therefore, consultation was not undertaken with title holders.

If potential impacts are identified during detailed design or construction, consultation would be undertaken with the relevant title holder.

NSW Department of Primary Industries

Environment - Flora & Fauna

64

Issue

Several waterways designated as key fish habitat will be affected by works associated with this project, including Devlins Creek, Cattai Creek, Strangers Creek, Caddies Creek and Second Ponds Creek.

The proposed riparian buffer zone widths indicated in Technical Paper 5b are appropriate and it is recommended that all eroded portions of waterways in these zones are rehabilitated and stabilised appropriately. Ongoing maintenance of the rehabilitated sites is recommended to ensure stabilisation is successful and weeds are controlled.

Response

As stated in mitigation measure E17 (refer to Chapter 7): "Any creeks, core riparian zones and vegetated buffers disturbed by the project would be revegetated with the aim of maximising their ecological value."

As stated in mitigation measure SW18 (refer to Chapter 7): "Re-vegetating or stabilising disturbed areas would occur as soon as feasible."

Monitoring of mitigation measures has been reflected in the section 11.2 of the Construction Environmental Management Framework (refer to Appendix C).

65

Issue

Erosion and sediment control measures should be installed prior to any earth works or construction according to best practice. It is highly important that these measures are maintained in operational order during all stages of development until sedimentation risk is reduced through vegetative ground cover. In addition to the planned continual monitoring for operational effectiveness it is also recommended that further mitigation measures be installed where needed.

Response

Erosion and sediment control measures would be installed prior to any earthworks or construction works commencing.

Mitigation measure SW20 has been amended as follows (refer to Chapter 7):

"Prior to commencement of earthworks/construction appropriate erosion control measures would be installed such as sediment fencing, check dams, temporary ground stabilisation, diversion berms or site regrading."

Monitoring of mitigation measures have been reflected in section 11.2 of the Construction Environmental Management Framework (refer to Appendix C).

66

Issue

Weed species should be removed from cleared vegetation that is planned to be mulched and used for sediment and erosion control to avoid their potential spread through the riparian zone.

Response

Weed species would be removed from cleared vegetation and would not be used for mulch. As stated in mitigation measure E12 (refer to Chapter 7): *"Cleared weed material would be disposed of at a site licensed to receive green waste."*

67

Issue

Temporary waterway crossings within key fish habitat should be piped to avoid blocking fish passage and specific sediment and erosion controls should be implemented where required to ensure that no additional sediment or harmful run off enters the waterways from these. Any temporary structures should be removed as soon as possible after construction and the area should be restored through rehabilitation.

Furthermore, while it is noted that design of waterway crossings will be undertaken in accordance with the relevant Fisheries NSW guidelines (**http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0003/202692/Fish-friendly-waterwaycrossings-Policy-and-guidelines.pdf)**, it is preferred that footings and other related structures of the viaducts are not constructed within the waterway, and preferably outside the riparian buffer zone.

Response

Mitigation measure SW34 has been amended to include consideration of fish passage in the design on temporary waterway crossings (refer to Chapter 7).

EIS 1 (Section 18.5) detailed erosion and sediment control measures to prevent pollution of waterways. This includes measures relating to removal of temporary structures, restoration and rehabilitation of disturbed areas.

The design of the viaduct would aim to avoid footings and other structures within waterways and riparian areas. As stated in mitigation measure E19 (refer to Chapter 7):

"If feasible and reasonable, the proposed viaduct and bridge structural elements would be placed out of the creek(s) and away from the banks."

Environment - Waterways

68

Issue

The Office of Water supports the application of the Riparian Corridor Management Study (RCMS) methodology to assess the environmental value of watercourses potentially affected by the project. Surface works should be designed so as to minimise impacts on riparian areas, being the applicable Core Riparian Zone and Vegetated Buffer width (riparian buffer) relevant to the RCMS category of the reach as identified in the Riparian Assessment Report.

Response

Section 18.5 of the EIS presented a number of mitigation measures relating to riparian areas (Mitigation measures SW29 to SW37).

69

Issue

Permanent works, such as station footprints or car parks, should be located outside the defined riparian buffer. Works which must unavoidably be located within the riparian buffer, such as viaduct or bridge sections, should be designed and constructed so as to maintain or improve the hydrologic, geomorphic and ecological integrity of the waterway.

Response

The NWRL design would aim to avoid any permanent works within riparian areas.

Mitigation measure SW1 states (refer to Chapter 7):

"The need or extent of any obstructions required to be placed within waterway areas would be avoided in the first instance, and minimised if avoidance is not feasible or reasonable."

In the event that works are unavoidably required within riparian areas, the design would aim to maintain or improve the hydrologic, geomorphic and ecological integrity of the waterway.

70

Issue

Wherever possible, temporary works, including construction footprints, laydown areas, haul roads and water management works such as sediment basins, should be located outside the defined riparian buffer. Works must be designed to minimise potential impacts and all impacted riparian areas must be rehabilitated upon completion of works so as to maintain or improve the hydrologic, geomorphic and ecological integrity of the waterways.

Response

The NWRL design would aim to avoid any temporary works within riparian areas.

Mitigation measure SW1 states (refer to Chapter 7): *"The need or extent of any obstructions required to be placed within waterway areas would be avoided in the first instance, and minimised if avoidance is not feasible or reasonable."*

In the event that works are unavoidably required within riparian areas, the design would aim to maintain or improve the hydrologic, geomorphic and ecological integrity of the waterway.

71

Issue

All works taking place in, on or under waterfront land, as defined in the *Water Management Act 2000*, are considered controlled activities and should be conducted in accordance with the NSW Office of Water's Guidelines for Controlled Activities. While State Significant Infrastructure projects are exempt from the requirement to obtain and hold approvals for controlled activities (section 115ZG of the *Environmental Planning and Assessment Act 1979*), such activities should be conducted in accordance with the Office of Water's Guidelines for Controlled Activities.

Response

A Soil and Water Management Plan would be implemented as part of the construction stage of the project as detailed in Section 15.2 of the Construction Environmental Management Framework (refer to Appendix C).

Mitigation measure SW14 states (refer to Chapter 7) that water quality mitigation measures would be implemented in accordance with a number of relevant guidelines and legislation, including the NSW Office of Water's Guidelines for Controlled Activities.

72

Issue

Surface works must be designed to minimise potential impacts to waterways and riparian areas and all impacted areas must be rehabilitated so as to maintain or improve the hydrologic, geomorphic and ecological integrity of the waterways.

Response

A Soil and Water Management Plan would be implemented as part of the construction stage of the project as detailed in Section 15.2 of the Construction Environmental Management Framework (refer to Appendix C).

Additionally, Section 18.5 of EIS 1 presented a number of mitigation measures relating to riparian areas (mitigation measures SW29 to SW37).

Construction - Surface water and flooding

73

Issue

Surface water quality monitoring upstream and downstream of construction sites before and during the works, as well as after rainfall events is commended. It is recommended that if detrimental conditions are recorded that the source is identified and appropriate mitigation measures are employed.

Response

As outlined in mitigation measures SW42 (refer to Chapter 7): *"A surface water quality monitoring program for the construction period would be implemented to monitor water quality upstream and downstream of the construction areas. The monitoring programme would commence prior to commencement of any construction works and would build on available water quality data."*

Additional detail, regarding surface water quality monitoring would be included as part of the Construction Environmental Management Plan (CEMP) to be developed by the NWRL Principal Construction Contractors.

74

Issue

A Surface Water Management Plan should be developed to the satisfaction of the NSW Office of Water which outlines measures to mitigate potential impacts to surface water sources and incorporates monitoring, impact trigger, definition and response actions for all watercourses potentially impacted by the project including those proposed to be under-bored during tunnel construction.

Response

Surface water treatment during construction would be in accordance with a Soil and Water Management Plan to be developed by the NWRL Principal Construction Contractors, as described in Section 15.2 of the Construction Environmental Management Framework (refer to Appendix C). The NWRL Principle Construction Contractors would develop and implement progressive Erosion and Sediment Control Plans (ESCPs) for all active worksites in accordance with Managing Urban Stormwater: Soils & Construction Volume 1 (Landcom, 2004) (known as the "Blue Book").

The Soil and Water Management Plan would include details on surface water monitoring, impact trigger, definition and response actions for all watercourses potentially impacted by the project.

The Soil and Water Management Plan would be developed in consultation with NSW Office of Water.

Construction – Soils and groundwater

75

Issue

It is unclear from the EIS whether the underground stations and tunnels would be designed and constructed as drained/unlined or undrained/lined structures, with numerous references throughout to both options. This should be clarified so as to enable full assessment of the groundwater impacts of the project. The Office of Water's preference is for the underground works to be lined so as to minimise long-term dewatering requirements and mitigate potential impacts on the groundwater resource.

Response

The tunnels of the NWRL are to be constructed as undrained/lined structures to minimise groundwater ingress. References to the potential impacts from drained tunnels in EIS 1 should therefore be disregarded.

The design in relation to drained/unlined or undrained/lined construction for underground stations is yet to be confirmed.

76

◆ Issue

Expected dewatering requirements for the project need to be quantified and the proposed licensing arrangements outlined. The project is located within the Sydney Basin Central Groundwater Source under the Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources. The rules contained within the plan may have implications for the design of project components, for example, access licence management rules proposed to commence in year seven of the plan, which limit the extraction of water from works within forty metres of unregulated water sources dependent upon flows within the water source, may have implications for the design of bored tunnel components.

◆ Response

The NWRL Principal Construction Contractors would develop and implement a Groundwater Management Plan for their scope of works including dewatering. Detail of the requirements of the Groundwater Management Plan and the Groundwater Monitoring Plan are included in Section 7.2 of the Construction Environmental Management Framework (refer to Appendix C).

NSW Office of Water would be consulted during the development of the Groundwater Management Plan in relation to dewatering and licensing arrangements.

77

◆ Issue

The EIS also proposes the potential extraction of groundwater for use during the construction phase of the project. Details regarding required volumes and the proposed extraction regime should be provided to enable assessment of licensing requirements.

◆ Response

The reuse of captured groundwater would be undertaken in line with Mitigation measure SG26 (refer to Chapter 7):

"All feasible and reasonable opportunities for groundwater reuse for construction purposes or recycling nearby would be utilised in the first instance. However it is expected that groundwater inflows and required treatment volumes would outstrip potential for water reuse for construction purposes and some discharge would be required."

The extraction of groundwater for the purpose of use during the construction phase is not proposed.

78

◆ Issue

A water access licence with sufficient share component to cover expected volumes is required for all works which extract water, whether for dewatering or use within the project, prior to the works commencing. All opportunities for reuse of water should be explored to minimise extraction and disposal of groundwater. Such extraction must be in accordance with any relevant rules established under the Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources.

Response

Extraction would be in accordance with the relevant rules under the Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources.

NSW Office of Water would be consulted during the development of the Groundwater Management Plan in relation to dewatering and licensing arrangements.

The reuse of captured groundwater would be undertaken in line with mitigation measure SG26 (refer to Chapter 7):

"All feasible and reasonable opportunities for groundwater reuse for construction purposes or recycling nearby would be utilised in the first instance. However it is expected that groundwater inflows and required treatment volumes would outstrip potential for water reuse for construction purposes and some discharge would be required."

79

Issue

A Groundwater Management Plan should be developed to the satisfaction of the NSW Office of Water which outlines proposed extraction, use and disposal of groundwater and measures to mitigate potential impacts to groundwater sources, and incorporates monitoring, impact trigger definition and response actions for all groundwater sources potentially impacted by the project.

Response

The NWRL Principal Construction Contractors would develop and implement a Groundwater Management Plan for their scope of works. Details of the requirements of the Groundwater Management Plan and the Groundwater Monitoring Plan are included in Section 7.2 of the Construction Environmental Management Framework (refer to Appendix C).

The Groundwater Management Plan would be developed in consultation with NSW Office of Water.

Property – Property acquisition

80

Issue

Any construction within the bed of any watercourse, being Crown land, will require an appropriate tenure under the *Crown Lands Act 1989*.

Response

An appropriate tenure would be obtained for any works to be undertaken on crown land.

Office of Environment and Heritage (OEH)

Environment - Heritage (Indigenous)

81

Issue

In regards to indigenous cultural heritage, Condition of Approval 3.14 requires the impacts be considered in relation to the cumulative impacts from surrounding developments. The discussion of cumulative impacts in the EIS does not provide any assessment of the cumulative impacts of this and surrounding developments on the type of Aboriginal archaeological sites.

Response

The methodology undertaken to identify and assess cumulative impacts (Chapter 20 of EIS 1) included consideration of developments with potential to result in cumulative impacts on Aboriginal archaeological sites.

This assessment did not identify any known developments with the potential to result in significant cumulative impacts to Aboriginal archaeological sites.

82

Issue

The proposed management and mitigation measures for Aboriginal cultural heritage have not been discussed in terms of cumulative impacts.

Response

As no specific developments were identified with the potential to result in cumulative impacts to Aboriginal heritage items, no specific mitigation measures were deemed necessary.

The cumulative impacts section of EIS 1 (Chapter 20) includes the following management measure:

"As part of the Construction Environmental Management Plan *(CEMP) TfNSW would identify all other significant developments occurring in the vicinity of the construction sites and identify environmental impacts to be monitored during construction which have the potential for cumulative effects to occur. TfNSW would review environmental impacts every six months during the construction phase. Any new impacts identified during construction would be addressed appropriately to reduce the cumulative effects and reported."*

This would include identifying developments with the potential to result in cumulative Aboriginal cultural heritage impacts throughout the construction period.

83

Issue

Statement of condition 33 states that consultation with DECC will occur in relation to the development of the Indigenous Heritage protocol and methodology. OEH and EPA does not have a regulatory role in this process and does not require consultation.

Response

The Statement of Commitments are from the NWRL Concept Plan approval.

OEH's comment is noted that OEH and EPA have advised they do not require consultation in the development of the Indigenous Heritage protocol and methodology.

Environment – Heritage (Non-Indigenous)

84

Issue

Statement of commitments 31 and 32 relates to European heritage matters only which are addressed in Chapter 11 not Chapters 12 and 16 of the EIS as stated on pages 3-21

Response

OEH's comment on the chapter referencing error has been noted.

Environment - Flora and fauna

85

Issue

Strongly recommends DP&I encourage the proponent to consider and minimise impacts on areas for native vegetation and habitat when preparing final designs. This includes the Cumberland Plain Woodland and 112 tree hollows which will result in the loss habitat for hollow dependant fauna and nine threatened species. (Technical Paper 5 – Ecology).

Response

The minimisation of impacts on flora and fauna is an objective of the project, as stated in Section 11.1 of the Construction Environmental Management Framework (refer to Appendix C).

Additionally, as stated in Chapter 22 (Project Justification and Conclusion) of EIS 1 (Section 22.4.3): *"One of the key objectives of the project is to contribute to environmental and social sustainability by... minimising impacts on the environment (objective 5). The Sustainability Strategy also includes a biodiversity specific objective: to achieve a net improvement in ecological value at the project site. Conservation of biological diversity and ecological integrity has been considered throughout the project planning and design stages and where practical the project construction footprint has been set to avoid impact to areas of high ecological value. Detailed assessments carried out to identify flora and fauna impacts and impacts on riparian and instream ecology have identified a range of mitigation measures which would be contained within the CEMP, EMF and offset strategy (refer to EIS 1 Chapter 15 Ecology)."*

86

Issue

Noted that in the Ecological Assessment Shale-Sandstone Transition Forest (SSTF) is considered equivalent to the BioMetric Vegetation Type *"Red Bloodwood- Scribbly Gum Healthy Woodland on sandstone plateaux, Sydney Basin"*. SSTF is actually equivalent to the vegetation community "Narrow-leaved Ironbark-Broad-leaved Ironbark – Grey Gum Open Forest of the edges for the Cumberland Plain, Sydney Basin".

◆ Response

OEH's correction is noted.

87

◆ Issue

Recommendation that proposed ratios for the native vegetation offset strategy be amended to ensure consistency with the 2011 *NSW OEH Interim Policy on Assessing and Offsetting Biodiversity Impacts of Part 3A, State Development and State Significant Infrastructure Projects* which is currently being trialled with DP&I. Ideally a "tier 1: improve or maintain" standard should be the biodiversity outcome for the proposal with offsetting requirements calculated using BBAM.

◆ Response

The Ecological Assessment was required to comply with the Concept Plan Statement of Commitments which included (refer to Section 15.2 of EIS 1):

"#28. *'Improve and Maintain' assessment on biodiversity values will be undertaken to identify the potential impacts of the project and benefits from protection measures to be implemented. The methodology adopted for all parts of the project will be consistent with the draft Growth Centres Conservation Plan (GCC, 2007) and DEC's draft Guidelines for Biodiversity Certification of Environmental Planning Instruments (2007).*"

The Growth Centres Conservation Plan requirements were applied for all works within the North West Growth Centre. Outside of the North West Growth Centre, three sets of offset principles were considered including the DEC 2007 offset principles (refer to Appendix N, page 331 of the Ecological Assessment – Technical Paper 5a of EIS 1). With regards to the 2011 OEH Offset Policy a "tier 1: improve or maintain" standard cannot be delivered by the project because it is not possible to completely avoid red flag areas. It is proposed to offset the impacts of the project as identified in Appendix N of the Ecological Assessment, which is comparable to a "tier 2: no net loss" standard.

It is proposed that an offset package would be developed for the project and provided to both OEH and SEWPaC for review and comment. The package would identify proposed offset lands.

88

◆ Issue

Noted that vegetation management plans (VMPs) *"are to be prepared for reaches of riparian zones which intersect with the construction footprint as identified in the riparian assessment report"* and for three other sites (Epping, Cheltenham and Cherrybrook). This is contradicted by the Construction Environmental Management Framework which advises VMPs *"will be prepared for sites where vegetation is proposed to be retained"*.

◆ Response

Section 11.2 of the Construction Environmental Management Framework (refer to Appendix C) has been updated with the following: *"Vegetation Management Plan(s) will be prepared for sites where vegetation is proposed to be retained and for reaches of riparian zones which intersect with the construction footprint."*

89

◆ Issue

Offset sites should be identified and secured prior to the clearing of any vegetation and recommend this be included as a condition of agreement.

◆ Response

Due to uncertainties associated with procuring / securing land for offsetting, this recommendation could delay the entire project.

If the identification and securement of offset sites is included as a condition of approval this may result in a halt/delay to the entire project.

To avoid this major project risk, TfNSW recommends that the identification and securement of offset sites is not a condition of approval.

TfNSW would take all reasonable measures to identify and secure vegetation offset sites prior to the clearing of vegetation and has made a clear commitment to meet vegetation offset requirements.

90

◆ Issue

Recommendation that consent conditions which require preparation of VMPs for identified riparian areas and all areas of retained remnant native vegetation within 50m of the construction footprint to be implemented for a minimum of five to ten years following construction depending on the level of disturbance and rehabilitation required.

◆ Response

TfNSW does not own or have operational control over:

- ❖ all of the identified riparian areas
- ❖ all areas of retained remnant vegetation within 50 metres of the construction footprint.

Therefore, TfNSW cannot commit to manage areas outside of the construction footprint.

TfNSW intends that the Vegetation Management Plans include measures to ensure ongoing maintenance of vegetation within the construction footprint.

91

◆ Issue

It is not clear whether all the mitigation measures and ecological management procedures detailed in Chapter 5 have been endorsed by the proponent (e.g. measures regarding a monitoring program and the Green and Golden Bell Frog are in included in Section 15.6 of the EIS Volume 1B).

◆ Response

The mitigation measures and ecological management procedures detailed in Chapter 5 of the ecological and riparian assessment reports (Volume 4 of EIS 1) have been endorsed by TfNSW.

EIS 1 has been structured so that the Construction Environmental Management Framework describes the management process which would be implemented by the NWRL Principal Construction Contractors, while the mitigation measures describe the required mitigation outcomes.

Mitigation measures regarding a monitoring program (Table 25 of the Ecological Report) have been reflected in Section 11.2 of the Construction Environmental Management Framework (refer to Appendix C).

Some mitigation measures detailed in the ecological and riparian assessment reports (Table 26 of the Ecological Report Assessment) relate to the operational stage of the project and will be included as mitigation measures within EIS 2, which will assess the operational stage of the project.

92

◆ Issue

Regarding the mitigation measures for of *Epacris purpurascens* var. *purpurascens* (E3 and E14) OEH recommends that for the translocation:

- ❖ It be undertaken in accordance with the "Guidelines for the translocation for threatened plants in Australia: and,
- ❖ A "licence to harm or pick threatened species" in accordance with Section 91 of the *Threatened Species Conservation Act 1995*, would be more appropriate that a "scientific licence" in accordance with Section 132C of the *National Parks and Wildlife Act 1974*.

◆ Response

If translocation is identified as an appropriate management response during detailed construction planning it would be undertaken in accordance with the "*Guidelines for the translocation of threatened plants in Australia*" (Australian Network for Plant Conservation, 2004).

Mitigation measure E13 (refer to Chapter 7) has been amended to reflect the requirement for a "*licence to harm or pick threatened species*" as per Section 91 of the *Threatened Species Conservation Act 1995*.

93

◆ Issue

Any consultation or referral of reports or assessments required by any conditions of consent, statements of commitment or mitigation measures should be referred to DP&I.

◆ Response

The mitigation measure E3 has been amended accordingly, as follows (refer to Chapter 7): *"Prior to clearing of vegetation within the Cheltenham Services Facility construction footprint, additional targeted searches for the threatened flora species Epacris purpurascens var. purpurascens would be undertaken. The result of this survey would be submitted to DP&I, as well as the scope of any impact to Epacris purpurascens var. purpurascens and if necessary details of additional mitigation measures."*

The mitigation measure E6 has been amended accordingly, as follows (refer to Chapter 7): *"Trees containing hollows would be felled using "Slow drop" technique (or similar as agreed with DP&I). The slow-drop technique involves nudging and shaking the tree, followed by a controlled lowering of the tree to the ground."*

94

Issue

Referral of plans or other documents to OEH for consultation or endorsement should only be made with the written endorsement of OEH.

Response

Noted. See response to 95 below.

95

Issue

References to OEH in Mitigation Measures E3 and E6 should be removed.

Response

References to OEH in the mitigation measures E3 and E6 have been removed (refer to Chapter 7).

96

Issue

Subject to OEH's comments and recommendation being addressed, OEH recommends the mitigation measures detailed in EIS volume 1B (including the Environmental Management Framework at Appendix C), the ecological assessment report and riparian assessment report be amalgamated and included in any conditions of approval that may be granted.

Response

TfNSW does not recommend that the Ecological Assessment Report and Riparian Assessment Report be amalgamated and included in any conditions of approval that may be granted.

The mitigation measures and ecological management procedures detailed in Chapter 5 of the ecological and riparian assessment reports have been endorsed by TfNSW and reflected in the Construction Environmental Management Framework (refer to Appendix C) and the mitigation measures presented in EIS 1.

EIS 1 has been structured such that the Construction Environmental Management Framework describes the management process which would be implemented by the NWRL Principal Construction Contractors, while the mitigation measures describe the required mitigation outcomes.

Construction – Surface water and flooding

97

Issue

The EIS and Technical Paper 6 should be referred to the relevant local councils for comment.

Response

EIS 1 and Technical Paper 6 have been made available for comment as part of the public exhibition process. Comments have been received from Parramatta City Council, The Hills Shire Council, Blacktown City Council and Hornsby Shire Council.

98

◆ Issue

Although potential flood impacts are addressed against each key construction activity, it is considered inadequate to assess the ongoing performance of the proposal because the assessment is limited to the mainstream up to the 100 year ARI flood extent and level. The assessment should be based on a comprehensive understanding of the nature of the flood hazards and risks to people and property for the full range of flood up to the probable maximum flood (PMF) taking into consideration various flood hazard aspects such as flood depths, velocity, rate of rises, warning time, evacuation difficulties and potential isolation. Furthermore, impacts from local catchment overland flow paths can result in significant risks to people during construction phase and after completion of the project. Accordingly, EIS 2 should adequately address flood risks of both mainstream and overland flow path up to the PMF level in order to identify appropriate mitigation measures.

Technical Paper 6 suggests flood level impacts in areas that are currently sensitive to flooding and experience widespread flooding, could be offset by local mitigation works. It is essential, however, that any permanent mitigation works be assessed on an overall catchment basis in order to overcome any adverse impact to surrounding areas.

◆ Response

EIS 1 addresses major civil and construction works. EIS 2 will address flood risks for both mainstream and overland flows up to the Probable Maximum Flood (PMF).

Major civil works covered under EIS 1 include the viaduct that spans the Elizabeth Macarthur and Caddies Creek floodplains, and the bridge crossing of Second Ponds Creek. A 100 year ARI flood standard was adopted for the assessment and design of the viaduct and bridge waterway crossings. However, in accordance with the Floodplain Development Manual (FDM), consideration was also given to the full range of flood events up to and including the PMF. Where relevant the PMF has been modelled and is been documented in Technical Paper 6.

Construction related flood risks and impacts are outlined in EIS 1. In relation to the relevant guiding principles outlined in Section 2.7 of Technical Paper 6, flood risks and impacts during construction need to be evaluated in the context of the construction period in order to set requirements that are commensurate to the period of time that the risk exposure occurs. To this end, Technical Paper 6 identifies the risks and impacts associated with each construction practice such that informed decisions can be made on the flood risks and corresponding criteria that should be set. It is not considered appropriate that all construction activities be assessed for flooding up to the PMF. For relevant construction activities, such as tunnel entries, consideration has been made to impacts up to the PMF.

The ongoing performance of other aspects of the overall Project will be addressed in EIS 2 and will include the establishment of appropriate floodplain management measures and requirements to manage:

- ❖ flood risks to the rail infrastructure (above ground and below ground), station precincts and ancillary facilities such as substations, sectioning huts and tunnel servicing facilities.
- ❖ flood impacts on the surrounding environment at station precincts and ancillary facilities.

Issue

With regard to the impacts of the proposal on flow velocities, it is necessary to assess any increase in flow velocity in relation to its impacts on the provisional hazard (refer to Figure L2 in FDM). This approach comprises both depth and velocity and assists in quantifying flooding impact and its acceptability. It is also important to consider this approach when assessing the impacts for floods larger than the 100 year ARI.

Response

As noted in Technical Paper 6, there is the potential for localised impacts in areas that are currently sensitive to flooding in the 100 year ARI event. As impacts are localised, measures would be localised and therefore impacts on a catchment wide basis would be expected to be negligible.

As also noted in Technical Paper 6, the design of overbank works to offset impacts depends on the final location, size, shape and spacing of the viaduct piers. It is therefore not considered appropriate to carry out more detailed investigations at this point in time. However, any local flood mitigation works that may be required shall be designed to ensure impacts are not transferred to adjacent development.

99

Issue

While noting no significant impacts are expected in the 100 year ARI flood event within Site 13, the flood level impacts for larger flood events need to be addressed in EIS 2.

Response

Impacts of the proposed major civil works (viaducts / bridges and embankments) on flood levels and velocities are presented Sections 5.1.4 and 5.1.5 of EIS 1.

The viaduct proposed for Sites 10 to 15 would span the full extent of the floodplain. Consequently, changes in flood level and velocity are a function of localised impacts around viaduct columns.

The bridge crossing proposed for Site 16 spans the 100 year ARI flood extent, with abutments encroaching into the overall floodplain. However, the assessment shows that increase in flood depth in the PMF would be 0.11m or less. Velocities impacts would similarly be negligible.

In light of the above, the extent and magnitude of changes in flood depth and velocity due to the major civil works alone would be minor in the context of changes to provisional hazards. The cumulative impact of permanent civil works and station precinct works will be presented and assessed as part of EIS 2.

100

Issue

Any proposed temporary mitigation works should be assessed with regard to the potential for flood affectation on surrounding properties during the time of construction.

Response

In accordance with the scope of EIS 1, assessment has been made of major civil works including viaducts / bridges and embankments. At Site 13, viaduct would span the floodplains of Caddies

Creek Tributaries 3 and 4. The viaduct columns would result in localised impacts in the vicinity of the rail corridor for flooding up to the PMF.

In light of the above, the extent and magnitude of changes in flood behaviour due to the major civil works alone would be minor in the context of regional flooding in the PMF.

The cumulative impact of permanent civil works and station precinct works will be presented and assessed as part of EIS 2, for flood events up to the PMF.

101

◆ Issue

Technical Paper 6 states tunnel openings would be located outside the flood prone area. According to FDM, however, flood prone area are all those areas affected by flooding up to the PMF flood level considering both mainstream flooding and local overland flow paths.

◆ Response

Assessment has been made of preliminary construction arrangements of the haul road and working pads, to provide an indication of the order of magnitude of potential impacts and therefore the scale of mitigation measures required. This information has been provided to set a framework for flood assessment of construction layouts during detailed design. Once developed and finalised, site layouts and the associated flood risk assessments would be submitted by the contractor for approval of TfNSW as appropriate.

Any temporary mitigation works required would be subject to further development of construction layouts and construction staging. It is therefore not practical to undertake a detailed assessment of such mitigation measures at this stage, as they are likely to change.

Temporary mitigation works that may be required to offset potential flood affectation on surrounding properties during construction would be designed to minimise the potential to shift impacts onto adjoining properties.

102

◆ Issue

It is essential that during construction, the safety of construction personnel be adequately addressed. An Emergency Response Plan (ERP) should be in place to ensure risk to people and potential damage to works above the tunnel openings during flood events level is minimised. Relevant local councils and the State Emergency Service (SES) should also be consulted in the preparation of the ERP which would include a strategy to ensure safe evacuation can be achieved. In addition, the ERP needs to consider the potential failure of any proposed drainage pumping equipment, as such a scenario may result in an extreme hazards.

◆ Response

Under ultimate conditions tunnel openings are to be located outside flood prone areas and/or bunding provided to provide protection against the PMF and address local overland flows.

During construction, access for construction machinery and removal of spoil may require larger openings during particular stages that may be exposed to local overland flooding. As noted in Technical Paper 6, the flood standard adopted at each tunnel entry during construction will need to

be developed, taking into consideration the duration of construction, the magnitude of inflows and the potential risks to the project works and personal safety.

Section 15 of the Construction Environmental Management Framework (refer to Appendix C) details the development of Stormwater and Flooding Management Plans prior to the commencement of construction. These plans would include provisions for emergency response.

103

◆ Issue

Earthworks within the floodplain have the potential to alter the flood behaviour and impact the surrounding areas. Therefore, the flood impacts and risks of earthworks at Sites 8 to 11, 16 and 17 should be based on an understanding of staging construction and cumulative flood impacts up to the PMF level.

◆ Response

Section 15 of the Construction Environmental Management Framework (refer to Appendix C) details the development of Stormwater and Flooding Management Plans prior to the commencement of construction. These plans would include details on construction staging and the potential impacts.

104

◆ Issue

While noting that stockpiles located in the floodplain are likely to obstruct and alter flood behaviour, additional detail is required as to why stockpiles are located above the 20 year ARI flood extent. Ideally, stockpiles should be located above the 100 year ARI extent and an assessment should be carried out to address their temporary impacts on flood behaviour and the surrounding environment up to the PMF level.

◆ Response

Based on discussion in Section 5.1.3 of Technical Paper 6:

- ❖ Earthworks relating to fill embankment and cutting within Sites 8 to 10 are located outside the Elizabeth Macarthur Creek PMF floodplain and therefore, apart from local drainage and overland flow, no flood impacts or risks are expected with regards to the earthworks in these areas.
- ❖ Within Site 11, the rail corridor is located outside the Elizabeth Macarthur Creek floodplain. Earthworks within the floodplain would relate to modifications to the existing carpark and road layout as part of the station precinct design that falls under EIS 2. Accordingly, these works will be assessed as part of EIS 2.
- ❖ At Site 16 fill embankments would be constructed up to the abutments of the Second Ponds Creek Bridge. The embankments would be located outside the 100 year ARI flood extents. Impacts have been assessed under Section 5.1.5 of the Technical Paper, including assessment up to the PMF.
- ❖ Site 17 would be used to undertake earthworks associated with the construction of Cudgegong Road Station, Tallawong Stabling Facility and the rail alignment. The western edge of Site 17 bordering the First Ponds Creek tributary is partially flood affected. Earthworks within the floodplain would relate to the construction of the station and stabling facility, which falls under EIS 2. Accordingly, these works will be assessed as part of EIS 2.

105

Issue

The assessment of the concrete batch plant and pre-casting facility should assess any temporary impacts on flood behaviour and on the adjacent development for floods larger than the 100 year ARI up to the PMF.

Response

Given the indicative nature of construction site layouts, it is not feasible to carry out a detailed flood assessment at this stage of the project. Construction site layouts would be developed during detailed design, taking into consideration site operation requirements and environmental constraints (such as flooding). Construction site layouts would also evolve as the project progresses to suit the demands of different stages of the construction process.

The development of site layouts and provision of allocated stockpile areas would be based on an assessment of the flooding potential at each site. Ideally, stockpile sites would be located above the 100 year ARI extent. However, where this is impractical to the operation of the construction site then, as a minimum, stockpiles would be located above the 20 year ARI extent. In these instances, flood assessment would be required to ensure flood impacts on adjacent development are managed in the context of the nature of impacts and duration of risk exposure.

To facilitate the development of site layouts, flood modelling and assessment has been undertaken for the 20 year ARI, 100 year ARI and PMF at major waterways, and to identify local overland flow paths. This information has been provided to set a framework for planning and assessment of construction layouts during detailed design. Once developed and finalised, construction site layouts and the associated flood risk assessments would be submitted by the contractor for TfNSW approval as appropriate.

106

Issue

OEH recommends EIS 2 adequately address the existing flood behaviour within the project area for the full range of floods up to the PMF comprising mainstream and local over land flow. The assessment should satisfactorily address the potential flood impacts against each key construction activity and measures to offset the impacts detailed above.

Response

Given the indicative preliminary nature of construction site layouts it is not feasible to carry out a detailed flood assessment at this stage of the project. Construction site layouts would be developed during detailed design taking into consideration site operation requirements and environmental constraints (such as flooding). Construction site layouts would also evolve as the project progresses to suit the demands of different stages of the construction process.

To facilitate the development of site layouts, flood modelling and assessment has been undertaken for the 20 year ARI, 100 year ARI and PMF at major waterways, and to identify local overland flow paths. This information has been provided to set a framework for planning and assessment of construction layouts during detailed design. Once developed and finalised, site layouts and the associated flood risk assessments would be submitted by the contractor for TfNSW approval as appropriate.

107

Issue

The EIS has identified that areas of high salinity potential or with known salinity are present within the project area but limited further assessment of those areas is provided. Given the size and extent of the project, OEH considers it appropriate that additional soil salinity assessment is undertaken (Mitigation Measure SG9). This assessment would enable the development of management and mitigation measures to ensure that saline soils are managed appropriately, and damage to the environment as well as infrastructure is minimised.

Response

Mitigation measure SG9 (refer to Chapter 7) states that additional soil salinity assessment would be undertaken. This assessment would then be used to develop appropriate management and mitigation measures to minimise damage to the environment and infrastructure.

NSW EPA

Planning – Approval process

108

Issue

Environment Protection Licence
In accordance with Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act), this project will require an environment protection licence for construction and operation. The proponent will need to make a separate application to the EPA for this licence once project approval is granted.

Response

Section 2.2 of the Construction Environmental Management Framework (refer to Appendix C) identifies the requirement to obtain an Environment Protection Licence under the POEO Act.

Construction – Noise and vibration

109

Issue

The EPA has reviewed the *'Technical Paper 2 – Construction Noise and Vibration'* (CNVP) prepared by SLR dated 19 March 2012 (Rev 2.0) including the Construction Noise and Vibration Strategy (CNVS) prepared by SLR dated 16 February 2012 (Rev 1.0) and considers the assessment has been carried out properly and in accordance with the relevant guidelines.

The EPA notes that the project is predicted to have significant airborne noise, ground borne noise and vibration impacts on the surrounding community. Significant exceedances of the identified noise goals are predicted, even with noise mitigation measures in place.

The suite of noise and vibration mitigation and management measures to address the expected impacts will not, in many cases, be able to reduce the impacts from the works to a level even close to the relevant construction noise and vibration goals. Therefore effective communication with, and appropriate management responses to the concerns of, the affected community will be of paramount importance.

Response

The Construction Noise and Vibration Strategy details consultation and communication strategies to be implemented during construction.

110

Issue

The EPA also considers that temporary and, where possible, operational noise barriers should be erected as early as possible in construction of the project.

Response

Noise barriers would be erected around relevant construction sites as early as feasible during site establishment works.

The requirement for and timing of construction of operational noise barriers will be presented and assessed as part of EIS 2.

111

Issue

The EPA notes that standard hoardings of height 3m are proposed around most construction sites. The use of higher 6m hoardings is discussed for sites such as Cherrybrook where there are spoil truck movements. These higher hoardings should be considered, where feasible, at all construction sites, particularly where there is the potential for impacts from spoil truck movements on sensitive receivers.

Response

The proposed hoarding heights have been determined based on a feasible and reasonable assessment of mitigation measures. At Cherrybrook, two-storey residences are very close to the site and the higher wall is required. Acoustics sheds are proposed at all locations where night-time spoil removal activities have the potential to impact on residences.

112

Issue

The EIS identifies that blasting may be required if hard rock is encountered. If blasting is required, the proponent will need to carry out an assessment of the potential noise and vibration impacts from blasting, and a strategy to minimise and manage those impacts.

Other minor noise comments include:

- The distances between the receiver locations and the closest construction work locations presented in Sections 7.3 through to 7.13 of the CNVP should be checked. In some cases the distances seem improbable, eg. Table 7.3, Receiver area D (School) does not appear an equidistant 135m from both the Epping Decline and Epping Services Facility.
- In Sections 7.3 through to 7.13 of the CNVP, where an assessment of night−time LAmax truck noise concludes that the risk of sleep disturbance is low or moderate, this is explicitly stated in the text (eg. 2nd last paragraph on p46). Where the results of the assessment infers that the risk of sleep disturbance may be high (eg. Section 7.6.5 with access via Old Northern Road and Terminus Street or 7.7.6 or 7.8.6) this should likewise be explicitly stated in the text.

◆ Response

Section 10.6.4 of EIS 1 states that:

"should blasting be required, an assessment of the realistic worst-case noise and vibration levels would need to be undertaken and compared with noise and vibration criteria".

The two sites at Epping have been consolidated into an Expanded Epping Services Facility (refer to Chapter 6, Preferred Infrastructure Assessment). The relevant distances to receivers have been revised in the Preferred Infrastructure Assessment.

L_{Amax} truck noise is predicted for two different scenarios at each location, ie the scenario when the trucks are on the construction site, and a separate scenario when trucks are operating on public roads. Once trucks move onto the public road network the only feasible mitigation is to route trucks along arterial roads which already have night-time heavy vehicle movement. The risk of sleep disturbance is not explicitly stated in the text in these situations as it is anticipated that noise impacts would be similar to other heavy vehicle noise impacts on these roads.

Construction - Surface water and flooding

113

◆ Issue

The concerns raised by the EPA in relation to surface water and groundwater during review of the adequacy of the EIS (letter to DP&I dated 7 March 2012) have not been addressed.

The EPA considers that the EIS still does not contain sufficient information regarding groundwater or surface water treatment during the construction phase of the project. In particular, the EPA considers that the following issues have not been adequately addressed:

- The amount and quality of water to be discharged to local waterways;
- The location of discharge points; and
- The method of treating surface water and contaminated groundwater to a standard appropriate for the receiving environment.

The Conditions of Approval for the project require an assessment of existing groundwater quality (CoA 3.8a) as well as risks to surface water quality from contaminated groundwater (CoA 3.7). The SoC also state that detailed groundwater investigations will be undertaken to inform future design development. The EPA notes that the complete groundwater quality results have not been provided in the EIS but will be provided in the Submissions Report. Whilst the EIS provides some discussion of measures to avoid, manage, monitor and mitigate risks to surface water quality from contaminated groundwater, as the groundwater quality has not been adequately characterised, it is not possible to ascertain whether these measures will be effective. Once groundwater quality data is available, the proponent should determine appropriate water quality limits for discharge from site, and methods to treat the groundwater to achieve these limits.

Condition of Approval 3.8c requires consideration of options for the sustainable use and/or disposal of tunnel inflow. The EPA considers that this condition cannot be adequately met until an appropriate groundwater quality assessment has been undertaken, which will enable identification of the suitability of water for reuse on site in terms of environmental and human health impacts.

Recommendation
The EPA recommends that any approval issued by DP&I requires an assessment of groundwater and surface water quality, determination of appropriate water quality limits and an appropriate treatment method to achieve these limits and options for tunnel inflow reuse prior to the commencement of construction of the project.

◆ Response

The amount of water to be discharged to waterways will be determined by the rate of groundwater inflow into the tunnels (proposed to be undrained/lined to reduce inflows), the rate of groundwater inflow into underground stations (either drained or undrained in construction), captured surface water from sediment basins and diverted runoff, and the rate of treated groundwater and surface water reuse as part of construction. Estimates for the rate of inflow into drained tunnels and the station construction have been made as part of EIS 1, with additional detail on expected inflows provided within the clarifications section of this Submissions Report (refer to Chapter 2). Combined tunnel and station inflows requiring treatment and later disposal are estimated as: 0.35ML/day at end of stage 1 tunnelling (completion of Cherrybrook to Epping section), 0.6ML/day at end of tunnelling (max), reducing to 0.5ML/day long term.

The amount of water to be discharged to waterways both in construction and long term has been conservatively assessed as being equal to the expected groundwater inflows. However, reuse of treated groundwater and surface water would be encouraged to reduce the requirement to discharge to waterways as required by mitigation measures SG26 and SW16 (refer to Chapter 7).

The quality of water to be discharged to waterways is proposed to be governed by the applicable EPL as required by mitigation measure SG32 (refer to Chapter 7).

The location of discharge points during construction are to be determined as part of detailed design. Major waterway catchments and relevant construction sites are described in Table 18-2 of EIS 1.

Surface water treatment during construction would be in accordance with a Soil and Water Management Plan to be developed by the NWRL Principle Construction Contractors, as described in Chapter 15.2 of the Construction Environmental Management Framework (refer to Appendix C). The Principal Construction Contractors would develop and implement progressive Erosion and Sediment Control Plans (ESCPs) for all active worksites in accordance with Managing Urban Stormwater: Soils & Construction Volume 1 (Landcom, 2004) (known as the "Blue Book").

Mitigation measures SW14, SW15 and SW16 describe the water quality mitigation measures to be implemented in regards to surface water (refer to Chapter 7).

Groundwater treatment prior to any discharge to waterways would be in accordance with mitigation measures SG27, SG28, SG29, SG30, and SG31 (refer to Chapter 7).

Construction – Spoil and waste management

114

◆ Issue

The EPA considers that the EIS does not contain adequate information regarding contaminated soils within the project area, as contamination assessments have not been finalised. Assessment of the contamination status of soils to be disturbed or excavated during the project works should be undertaken prior to works disturbing soils being undertaken in a given area.

Recommendation
The EPA recommends that any approval issued by DP&I requires finalisation of the contamination assessments prior to commencement of construction of the project.

◆ Response

Additional assessment of contamination has occurred since the completion of EIS 1, with this information provided in the clarifications section of this Submissions Report (refer to Chapter 2).

Construction – Construction hours

115

◆ Issue

The EIS identifies the need for substantial work outside of standard construction hours including twenty four hour tunnelling, operation of tunnelling support sites and spoil removal by trucks. Table 3.1 on p9 of the CNVS outlines some proposed restrictions on works outside of standard construction hours including that 'no more than four consecutive nights of high noise and/or vibration generating work may be undertaken over any seven day period'. The EPA does not generally support more than two consecutive nights of such work per week. The EPA also considers that truck movements outside standard hours, and particularly at night time (10pm to 7am) should be minimised, to reduce the potential for sleep disturbance as much as possible.

Table 3.1 further indicates that work generating high noise should be scheduled nominally between 8am and 5pm with no work on Sundays or public holidays. The period 1pm and 5pm on Saturdays is also outside standard construction hours.

The EPA considers there is a need for clear justification and prior approval for individual works packages before any construction works is undertaken outside the recommended standard hours defined in Section 2.2 of the Interim Construction Noise Guideline.

Recommendation
The EPA recommends the conditions of any consent include the following: Construction work must:

a. only be undertaken on Monday to Friday between the hours of 7am and 6pm,

b. only be undertaken on Saturday between the hours of 8am and 1pm, and

c. not be undertaken on any Sunday or Public Holiday, except if approved by the EPA and expressly permitted in the Environment Protection Licence.

◆ Response

The construction methodology presented in EIS 1 is based on the ability to undertake tunnelling works 24 hours per day, seven days per week.

Without 24 hour tunnelling approval, the construction program would be severely impacted to a point where the project may not be viable.

These working hours have been presented in EIS 1 and the impacts have been assessed on this basis.

EIS 1 also presents a number of mitigation measures to manage the 24 hour works, specifically the development of a Construction Noise and Vibration Strategy detailing the management approach of out of hours works.

As such, TfNSW is seeking explicit approval for the construction hours detailed in Table 7.31 of EIS 1.

Construction – Cumulative impacts

116

◆ Issue

Chapter 20 of the EIS has qualitatively considered the cumulative noise impacts on sensitive receivers from construction works to be completed in Stage 1 and Stage 2 of the project and other projects being undertaken in the vicinity of the project. However, the Hills M2 Upgrade project has not been considered. Even if works associated with the M2 upgrade will be complete once North West Rail Link works are scheduled to begin, the EPA considers that project impacts on the community in this area should be considered with regard to the fact that this area was recently subject to a substantial period of works, both within and outside standard construction hours. Further, the EPA considers the proponent should commit to working with the proponents of any construction projects being undertaken concurrently in the vicinity of the project to coordinate works to minimise impacts on and maximise respite for the affected sensitive receivers.

Recommendation
The EPA recommends that any conditions of approval for the project require the proponent to coordinate works with other projects in the vicinity of the project to coordinate works to minimise impacts on and maximise respite for the affected sensitive receivers.

◆ Response

TfNSW would consult with proponents of adjacent development during the construction period.

The cumulative impacts section of EIS 1 (Chapter 20) includes the following management measure: *"As part of the CEMP TfNSW would identify all other significant developments occurring in the vicinity of the construction sites and identify environmental impacts to be monitored during construction which have the potential for cumulative effects to occur. TfNSW would review environmental impacts every six months during the construction phase. Any new impacts identified during construction would be addressed appropriately to reduce the cumulative effects and reported."*

Heritage Council of NSW

Environment – Heritage

117

Issue

It is noted that a number of heritage items listed on Local Environmental Plans and State Heritage Register will be affected by the proposed works.

Response

EIS 1 identifies a number of heritage items on Local Environmental Plans that would be affected by the proposed works. Mitigation measures to avoid or reduce these impacts are detailed in Section 11 of EIS 1. A revised set of mitigation measures is provided in Chapter 7 of this report.

118

Issue

1) The recommendations (including mitigation measures) included in section 4.0 (Vol 3 European Heritage Paper Final Draft for Review by Godden Mackay Logan) of the Draft EIS must be implemented to minimise the impact of the development proposal upon the identified Heritage Items (section 4.1.1) and archaeological sites and relics (section 4.1.2).

Response

The recommended mitigation measures outlined in the European Heritage report by Godden Mackay Logan (GML) have been included in the EIS mitigation measures in Section 11.6, Table 11.32.

119

Issue

2) Should any Aboriginal 'objects' be uncovered by the work, excavation or disturbance of the area is to stop immediately and the Office of Environment & Heritage is to be informed in accordance with Section 89A of the *National Parks and Wildlife Act 1974 (as amended)*.

Response

The Aboriginal Heritage Management Plan (AHMP) (referred to in Section 12.6 of EIS 1) would make provisions for unexpected Aboriginal Heritage finds and would determine a management strategy for Aboriginal objects recovered during construction.

In addition, the Construction Environmental Management Framework (refer to Appendix C) details the heritage management objectives to be included in the Heritage Management Plan. These objectives include procedures for unexpected heritage finds and stop work orders. This management plan would detail the requirement to inform the Office of Environment & Heritage in accordance with Section 89A of the *National Parks and Wildlife Act 1974* should any Aboriginal objects be uncovered.

120

◆ Issue

3) Design documentation team and the civil construction works team must include Heritage specialists to ensure that the recommended mitigation measures are implemented and impacts on heritage items are minimised.

◆ Response

Section 11.6 of EIS 1 states that: *"Heritage specialists would be involved in the design documentation phase and with the construction teams selected to carry out the civil construction works to ensure that the recommended mitigation measures are implemented and impacts on heritage items minimised."*

121

◆ Issue

4) Opportunities should be identified and explored at design documentation stage to enhance the significance of heritage items and archaeological sites.

◆ Response

Section 11.6 of EIS 1 states that: *"Heritage specialists would be involved in the design documentation phase….Heritage specialists would also be able to assist by identifying opportunities for enhancing the significance of heritage items and archaeological sites."*

122

◆ Issue

5) Archival recording of affected areas should be undertaken in accordance with the NSW Heritage Council guidelines.

◆ Response

The Construction Environmental Management Framework (refer to Appendix C) details the heritage management objectives to be included in the Heritage Management Plan. These objectives include procedures for archival recordings undertaken of any heritage item.

123

◆ Issue

6) In the event non-indigenous archaeological remains are encountered during excavation in areas other than those already identified as archaeologically sensitive in this report, the Heritage Branch must be advised and further works only be carried out in accordance with the Heritage Council guidelines for the management of archaeological remains.

◆ Response

Section 11.6 of EIS 1 states that: *"In the event that archaeological remains be encountered during excavation works in the areas of the designated route not specifically identified as archaeological sites or areas of archaeological potential, it is required that the Heritage Branch be advised and that the measures set out in the Heritage Act 1977 for the management of archaeological remains be implemented."*

RailCorp

Planning

124

Issue

RailCorp offers support for the project and considers that cumulative and operational impacts of the proposed railway are important aspects that would be addressed in EIS 2.

Response

TfNSW confirms that EIS 2 will provide an assessment of the potential impacts associated with the operation of the NWRL, including consideration of potential cumulative impacts of the project with other approved major projects.

125

Issue

Once EIS 1 is approved, the corridor would fall within Clause 86 of ISEPP meaning that certain developments would require concurrence from RailCorp. It is noted that a process would need to be developed given that concurrence will be from RailCorp but the project is managed by TfNSW.

Response

TfNSW would continue to work collaboratively with RailCorp in relation to Clause 86 of ISEPP.

Department of Education and Communities

Construction – Public safety

126

Issue

The planned route of the line requires a lengthy section of tunnel. This route passes beneath two primary schools, namely Epping Heights and West Pennant Hills Public Schools. The school communities would need to be reassured that the schools will be able to operate safely during this period.

Response

Epping Heights Public School (Kent Street Epping, near the corner of Wycombe St) is close to the tunnel alignment. Appendix A – Geological Long Section identifies that in the vicinity of Barombah Road, near the location of the school, the proposed track level is about 56 metres (AHD) and the existing surface level is 83.83 metres (AHD). This indicates that the rail level would be about 28 metres below the surface.

West Pennant Hills Public School (Church Street, to the east of Castle Hill Road and north of Pennant Hills Road) is relatively close to the alignment. Appendix A – Geological Long Section identifies that in the vicinity of Church Street, near the location of the school, the proposed track level is about 121 metres (AHD) and the existing surface level is 176.43 metres (AHD). This indicates that the rail level would be about 56 metres below the surface.

Geotechnical investigations are continuing and would be used to inform the detailed design, however it is not anticipated that the functionality of either of the schools would be affected.

Construction – Noise and vibration

127

◆ Issue

The Department are concerned that noise and vibration from construction works does not interrupt normal school activities or cause structural damage to these schools (Epping Heights and West Pennant Hills Public Schools).

◆ Response

For both Epping Heights Public School and West Pennant Hills Public School potential impacts may occur from ground-borne construction noise from tunnel excavation. Given the progression rate of the Tunnel Boring Machines (TBMs) of around 20 metres per day, it is anticipated that the worst case ground-borne noise impacts along the majority of the alignment would only be apparent for a short duration of time (ie several days for each TBM) while the tunnelling works are directly beneath the school. As the works move away, exposure to ground-borne noise would noticeably reduce. EIS 1 has developed mitigation measures to manage potential impacts (refer to Chapter 7).

Section 10.7.13 of EIS 1 discussed potential vibration levels associated with tunnelling works. According to the assessment, the vibration levels associated with tunnelling operations would lie below the threshold level associated with cosmetic damage.

Operational noise and vibration issues will be presented and addressed in EIS 2.

Construction – Land use

128

◆ Issue

The location of the above ground section after Bella Vista is not clear. The Department has two vacant sites in the Bella Vista area intended for future schools. If the location of this section is on or near these two sites, future planning of the new schools may be compromised.

◆ Response

The location of the alignment for the above ground section after Bella Vista Station is shown on various drawings provided within EIS 1.

The lands owned by the Department of Education and Communities (located on Fairway Drive, Baulkham Hills and Arnold Avenue, Baulkham Hills) are located some distance from the proposed NWRL rail line and, as such, direct impacts to these lands are not anticipated.

Operational impacts to land use will be presented and assessed as part of EIS 2.

Construction – Skytrain

129

Issue

The proposed Skytrain from Bella Vista to Rouse Hill railway station may also impact on two Department schools, lronbark Ridge Public School and Rouse Hill High School, which are situated close to Old Windsor Road. Again, noise, dust, vibration from construction equipment or above ground construction work/activity may disrupt normal school activities or cause some damage to these schools.

Response

Ironbark Ridge Public School and Rouse Hill High School (Withers Road, Rouse Hill) are approximately 1km to the north east of Rouse Hill Station site. Minimal construction impacts are anticipated from the NWRL at this location.

Design – Station design (outside of EIS 1 scope)

130

Issue

The Department is also discussing the proposed form of development around the new stations with the Department of Planning and Infrastructure. This will help with planning for additional capacity at our existing schools and the need for new schools in areas near this major transport route.

Response

The Department of Education and Communities comment is noted.

4.2.2 Local council submissions

Parramatta City Council

Heritage

131

Issue

Noted possible impacted sites are outside of the Parramatta LGA.

Response

TfNSW confirms that the NWRL project would not impact heritage sites within the Parramatta LGA.

132

Issue

Noted there is no evidence of impact on Aboriginal sites within the LGA.

Response

TfNSW confirms that the NWRL project would not impact Aboriginal sites within the Parramatta LGA.

Environment – Flora and Fauna

133

Issue

Noted there appears to be no direct environmental impacts within the Parramatta LGA.

Response

TfNSW confirms that the NWRL major civil construction works are unlikely to have direct environmental impacts within Parramatta LGA.

Operational – Noise and vibration

134

Issue

Indirect effects on the Parramatta LGA are possible due to the location of the Epping Services Facility, which is 100m outside the boundary of Parramatta LGA. There will be some additional vehicle traffic in the LGA resulting in increased noise and volatile fume disturbances to residents. There may need to be measures to moderate the effects depending on the likely scale and number of occurrences.

Response

The Epping Services Facility and the Epping Decline site proposed in EIS 1 have been amalgamated into one site (refer to Chapter 6, Preferred Infrastructure Assessment).

Construction activities at the combined Epping Services Facility and Epping Decline site would include the demolition of existing commercial buildings, excavation of shafts to the two tunnels below, excavation of the decline tunnel, and spoil removal associated with underground and road header tunnelling works. Truck access would be via Beecroft Road and Ray Road. Two acoustic sheds would be constructed as noise mitigation measures prior to the commencement of 24 hour per day spoil removal.

Construction Traffic Noise

Access to the expanded Epping Services Facility would be via Beecroft and Carlingford Roads (sub-arterial roads) as well as Ray Road (local road). These roads have existing traffic volumes significantly higher than traffic which would be generated by the site.

The *NSW Road Noise Policy* aims to protect sensitive receivers against excessive decreases in amenity as the result of a project by applying relevant noise increase criteria. In assessing feasible and reasonable mitigation measures, an increase of up to 2 dB represents a minor impact that is considered barely perceptible to the average person.

The noise modelling predicted the increase in noise levels associated with construction traffic on Carlingford Road and Beecroft Road would be within the 2 dB allowance, therefore sensitive receivers in Parramatta LGA are not likely to notice an increase in the average road traffic noise levels during construction.

The potential impact of night time movements, associated with spoil removal, on sleep disturbance was also assessed. It is predicted that noise levels would comply with the sleep disturbance criterion and, as such, the risk of sleep disturbance due to night-time on site truck movements is very low.

Construction Traffic Air Emissions

The movement of construction vehicles associated with the works at Epping may result in localised temporary increases in gaseous and particulate emissions (primarily from diesel combustion), however mitigation measures are routinely adopted to mitigate these impacts and significant long term adverse effects on air quality are not anticipated.

TfNSW has committed to a suite of mitigation measures to minimise the impacts on air quality during the major civil construction works. These mitigation measures relate to appropriate use and maintenance of vehicles and equipment, including maximising vehicle utilisation by ensuring full loading (refer to EIS 1, Section 19.1.6).

Construction – Traffic

135

◆ Issue

The construction sites on Beecroft Road, north of Carlingford Road are predicted to generate 50 vehicles per hour. This traffic would use the intersection of Carlingford Road and Beecroft Road which is already at capacity in peak periods. Approximately half the traffic would make the right turn from Beecroft Road to Carlingford Road. Council recommends that the project include the widening of Beecroft Road to allow the extension of the right turn bay from Beecroft Road (to at least 100m in length). The widening should also include a third land southbound in Beecroft Road for a distance of at least 100m approaching Carlingford Road.

◆ Response

The Carlingford Road / Beecroft Road signalised intersection experiences major traffic flows along Beecroft Road and Carlingford Road toward the Sydney CBD in the morning peak and the reverse movement in the afternoon peak.

The estimated increase of 50 vehicles per hour of construction traffic to Beecroft Road and the surrounding road network during peak periods will be predominantly light vehicles. The traffic assessment demonstrated that this additional traffic would result in no change to the degree of saturation or level of service at the existing Carlingford Road / Beecroft Road intersection, therefore widening works at the intersection are not required.

Site traffic would be managed wherever possible to avoid significant movements in the morning peak (6-10am) in the critical southbound direction and in the afternoon peak (3-7pm) in the critical northbound direction. It is not anticipated that there would be any traffic lane closures required on the surrounding network during the construction period.

Communication - Consultation

136

◆ Issue

The aerial photos should have been clearer by showing more street names and LGA boundaries.

◆ Response

Cadastral plans have been provided as part of this Submissions Report (refer to Appendix B). These plans provide more a detailed outline of the streets and localities surrounding the construction sites.

Design – Master Planning (Precinct Plans)

137

Issue

Parramatta City Council (PCC), jointly with Hornsby Shire Council and the Department of Planning and Infrastructure were involved in the preparation of a joint planning study for Epping. Parramatta City Council resolved not to endorse the study, nor place the study on public exhibition.

Response

Parramatta City Council's comment is noted.

138

Issue

A key issue was that PCC had undertaken significant work in relation to Epping as part of Council's Residential Development Strategy (RDS). The RDS identified Epping as an important centre within the LGA, particularly given the impending Parramatta to Epping Rail Link. The RDS identified opportunities for accommodating additional density within Epping, and heritage significance of the area was also considered, with existing heritage items and conservation areas to be retained, and for the inclusion of additional/extended heritage items and conservation areas.

Response

Consideration was undertaken of the interactions between the NWRL Project and the recommendations of the Epping Town Centre study (refer to Section 14.4.1 of EIS 1). Consultation with Parramatta City Council and Hornsby Shire Council has been undertaken to discuss the implications of the NWRL project on implementing the recommendations of the Epping Town Centre study (refer to Chapter 5 of EIS 1). Consultation would be ongoing with these councils during the development of EIS 2.

139

Issue

Parramatta Local Environmental Plan (LEP) 2011, includes the increased heights and densities identified within the RDS for Epping and will enable up to 762 additional dwellings within the Epping Town centre, comparable to the dwelling yields anticipated for the Epping town centre core by the Joint Study for PCC side (695-1090). The height and densities within Parramatta LEP 2011 as it relates to Epping town centre range from 4 to 12 storeys (15- 40 metres) and 2:1 to 4:1 and were applied to respond to the local topography; to minimise overshadowing impacts upon Boronia Park; and to provide suitable height transitions between existing low scale heritage conservation and residential precincts and new high density developments.

Response

Parramatta City Council's comment is noted.

140

Issue

Council emphasises the need for the precinct plans for Epping Railway Station in the NWRL, to reflect the zonings, heights and densities of the Parramatta LEP 2011, and Council's adopted extension of heritage areas.

Response

Consultation would be ongoing with Parramatta City Council during the development of EIS 2. Consultation with relevant councils, government agencies, utility providers, land owners and communities involved in the planning of precincts in the vicinity of the Epping Services site would be undertaken during the development of EIS 2.

141

Issue

Parramatta Council has written to the NSW State Government expressing its concerns and seeking a commitment from the State Government to undertake upgrades to the road network around Epping Town Centre and to alleviating the longer term traffic problems relating to through traffic, before any further increases in the density of development in the Epping Town Centre are proposed.

Given the current work being undertaken as part of the NWRL, Council would again seek the State Government commitment to resolve these matters.

Response

Parramatta City Council's comment is noted.

The Hills Shire Council

Communication – Consultation

142

Issue

Council recommends community reference groups be formed to meet regularly to allow the local community to be fully involved and help manage the construction impacts.

Response

Section 4 of the Construction Environmental Management Framework (refer to Appendix C) presents a detailed Communication and Consultation Strategy for the NWRL Project.

143

Issue

A community liaison group to cater and involve business operators in Castle Hill Town Centre should be established to help respond to issues relating to traffic, access and parking during construction.

Response

Section 4 of the Construction Environmental Management Framework (refer to Appendix C) identifies a range of measures that would be implemented to liaise with and minimise impacts to business operators. The precise details of this consultation would be identified as part of detailed construction planning.

144

Issue

Transport NSW must also ensure consultation is carried out with residents and owners, including Kindalin Child Care Centre on The Hills Shire side of Old Castle Hill Road at West Pennant Hills (opposite Cherrybrook station).

Response

Local residents and operators of community facilities would be consulted throughout the construction period as identified in Section 4 of the Construction Environmental Management Framework (refer to Appendix C).

Construction – Business impacts

145

Issue

A study is required into the structural adjustment and support required for specific small businesses directly affected by the construction work.

Response

TfNSW would undertake appropriate consultation and investigation in subsequent project planning and design stages, around minimisation of impacts to small businesses.

Construction - Traffic

146

Issue

There are no conditions in the EIS relating to the potential traffic impacts associated with the condition of the road network during construction.

A dilapidation report is to be prepared prior to work commencing to ascertain the current condition of the affected local roads and a form of Contributions Plan must be established to collect contributions which will assist with the cost of maintenance, repair and reconstruction as a result of damage caused by trucks.

Response

A dilapidation report would be prepared prior to construction for all local roads from the access / egress point to the arterial road. This has been added as an additional Traffic and Transport mitigation measure T18 (refer to Chapter 7).

TfNSW would ensure that the road pavements are maintained to a suitable standard throughout construction. Damage caused by construction traffic would be repaired in accordance with the relevant Construction Traffic Management and Control Plan.

147

Issue

Traffic volumes along Glenhope Road and Glenridge Avenue will be over their environmental capacity of 250 movements in peak hour, and LATM treatment will be needed along the full length of the connection to Coonara Avenue. Public consultation and funding of any LATM Scheme along Glenhope Road and Glenridge Avenue will be the responsibility of NWRL.

The LATM scheme will need to include Parking restrictions in Glenhope Road to control contractors vehicles during construction and these restrictions will remain to control commuter parking.

Response

The location of the access driveways to the Cherrybrook construction site would be such that additional construction traffic would not be generated along Glenhope Road. The right turn bay on Castle Hill Road for access into Glenhope Road would facilitate safe access into Glenhope Road but would not result in increased traffic activity along this road. Accordingly, LATM arrangements are unlikely to be required in Glenhope Road.

There may be the need for signposted on-street car parking restrictions along the section of Glenhope Road near the Castle Hill Road intersection in order to prevent use by NWRL construction workers. This would be agreed in consultation with The Hills Shire Council Officers in accordance with the Construction Traffic Management and Control Plans.

148

Issue

Peak travel time access through the Business Park must not be affected by the Norwest Station construction. As a result, four traffic lanes must be available in Norwest Boulevard every work day from 7am to 9am, and 4.30pm to 6.30pm. Brookhollow Avenue must not become a defacto bypass for Norwest Boulevard.

Response

The location of the station box at Norwest Station construction site has been realigned outside of Norwest Boulevard footprint (refer to Chapter 6 of this report for details). As such, there would not be direct construction impacts to Norwest Boulevard and the existing road capacity would be maintained. It is noted however that Norwest Boulevard would still be required as a heavy vehicle access and egress point to and from the construction site.

There may be times outside the peak periods when through capacity would be impacted for short periods of time. Brookhollow Avenue would not perform a diversion route for through traffic.

149

Issue

The EIS does not recognise that the national headquarters of IBM Australia is also located in Coonara Avenue. It employs more than 2,000 people, most of whom would drive to work. Therefore increased truck movements and any resulting traffic delays around the construction site could have some impact on those employees travelling to and from work.

Response

It is acknowledged that increased truck movements associated with the Cherrybrook site may have some impact on IBM employees travelling to and from work.

The existing mitigation measures presented in Chapter 9 of the EIS are considered appropriate to manage any impacts on IBM employees.

Construction – Heavy vehicle movements

150

Issue

Restricted truck access on Council's local roads will be enforced in accordance with weight restrictions within the Shire. The weight restricted routes that are near the station construction precincts include Gilbert Road, Highs Road, Taylor St, Aiken Road, Oakes Road, Jenkins Road, Glenhaven Road, Commercial Road, Withers Road, Hezlett Road, Annangrove Road and Kenthurst Road.

Response

TfNSW would consult with The Hills Shire Council regarding the use of any weight restricted road if required.

151

Issue

Council also has several sub-arterial roads near the station construction sites that do not have weight restrictions. These roads include Samantha Riley Drive, Green Road, Sanctuary Drive, Carrington Road and Victoria Avenue. These unrestricted sub-arterial roads should not be used for truck movements to and from the station construction areas - Any conditions of consent issued for the construction of the NWRL by the NSW Government should restrict truck access on these roads.

Response

The section of Samantha Riley Drive between the proposed site access and Old Windsor Road would need to be used by construction vehicles to enter and exit the construction site. The section of Sanctuary Drive between the proposed site access and Windsor Road would need to be used by construction vehicles to enter and exit the construction site. The section of Carrington Road between Doran Drive and Showground Road would need to be used by construction vehicles (primarily light vehicles) to enter and exit the construction site. It is unlikely that Green Road or Victoria Avenue would be impacted by NWRL construction vehicles.

152

Issue

Most truck movements will head to the west along Norwest Boulevard (Old Windsor Road) This will place a further burden on the roundabout at Lexington Avenue which performs at level of service "F" every morning and afternoon. Either a signalised intersection to replace the roundabout is needed ($8M) or the roundabout itself must be signalised ($0.3M).

Response

The Norwest site is forecast to generate about 45 heavy vehicles in and 45 heavy vehicles out across an average workday. This amounts to about 4 or 6 heavy vehicles in and out every hour assuming trucking is reduced in the peak periods. Accordingly, further deterioration of what is an existing intersection problem is not anticipated and the costs of any remedial works would not be met by the NWRL project.

153

Issue

No trucks will be permitted to exit/enter the Business Park except via the eastern end of Norwest Boulevard at Windsor Road, or via Celebration Drive at the western end of the Business Park at Old Windsor Road. None of the local roads leading off Norwest Boulevard will be used for truck traffic.

Response

The routes detailed are not proposed to be utilised as truck routes for the NWRL.

154

Issue

No truck movements are to be permitted from the construction site along Lexington Avenue or through the residential area to the east.

Response

The routes detailed are not proposed to be utilised as truck routes for the NWRL.

Construction – Noise and vibration

155

Issue

Acoustic treatment must be provided to ensure that the Skytrain does not cause offensive noise pollution to the surrounding area.

Response

Operational noise impacts would be presented and assessed, and appropriate mitigation measures identified, as part of EIS 2.

156

◆ Issue

While the criteria used to determine acceptable noise impacts is supported, that criteria predicts that there will be significant noise impacts and more investigation around the major construction sites is required.

◆ Response

It is acknowledged that further investigation would be required with regard to construction noise. This is reflected in Section 9 of the Construction Environmental Management Framework (refer to Appendix C).

157

◆ Issue

Any amendment to construction methodologies and associated mitigation measures should be required to improve or maintain those impacts anticipated by this EIS.

◆ Response

Detailed construction planning would identify opportunities to reduce impacts identified in EIS 1. While unlikely, it is possible that construction issues may arise in some circumstances that would result in higher noise levels. In this case, additional mitigation measure would be considered in accordance with the Construction Noise and Vibration Strategy.

158

◆ Issue

Further background measurements should be undertaken to assure the accuracy of the background noise levels and resultant modelling of the impacts on receivers where the background noise is lower than that modelled.

◆ Response

Additional background noise modelling can be undertaken in the detailed design stage during preparation of the site-specific Construction Noise and Vibration Impact Statements and should focus on sites with 24 hour construction activity.

In most locations, even if there is a difference, it is not likely to alter the feasible and reasonable assessment for daytime works. This is because, even with all feasible and reasonable mitigation measures in place, construction of a project of this nature would have noise impacts, and all efforts are made to restrict noisy works to the daytime period.

159

◆ Issue

While it is proposed to "primarily" conduct site establishment works during the daytime, the duration of these works and occasional evening and night time works during this period will inevitably lead to some level of community dissatisfaction and complaints. Further consideration should be given to mitigation measures at individual receiver's premises to reduce these impacts.

Response

The noise impacts and mitigation measures would be reviewed in the detailed design phase during development of the site-specific Construction Noise and Vibration Impact Statements. TfNSW is committed to implementing all feasible and reasonable mitigation measures to minimise potential impacts.

160

Issue

Further consideration and commitment to reducing truck movements to and from constructions sites along Carrington Road and Norwest during the night time hours should be included in the Construction Noise and Vibration Strategy for the project.

Response

Detailed construction planning for the project would include consideration of reducing truck movements. This would be documented where relevant in the project's Construction Noise and Vibration Strategy.

161

Issue

In relation to the prediction that on-site truck movements causing awakening reactions (or sleep disturbance) at nearby residences. At each of the underground station sites, including the Bella Vista TBM support site, during night time periods, further consideration of mitigation measures either at the construction site and/or at sensitive or residential receivers to reduce these impacts should be included.

Response

The potential impact of night time works is acknowledged. Additional mitigation opportunities would be considered during detailed construction planning.

162

Issue

Where blasting is required (presumably as a last resort), in addition to the proposed assessment of the realistic worst-case noise and vibration levels being undertaken and compared with noise and vibration criteria, a comprehensive community information program should be undertaken to advise potential receivers of; the need for the activity, the days and times proposed and the expected noise impacts associated with the activity.

Response

Any blasting would be accompanied by an appropriate community information program.

163

Issue

Acoustic treatment should be offered for the dwellings of those residents most affected by the ongoing construction noise. Such treatment measures may include additional acoustic insulation of walls and ceilings, installation of double glazing, installation of air conditioning units etc. These measures should

be considered particularly around the Hills Centre, Castle Hill & Bella Vista stations. Particular residential receivers of concern include, Carrington Road, Showground Road, residents to the east of Bella Vista Station & Precast Yards including Celebration Drive, Sharrock Avenue.

◆ Response

The Construction Noise and Vibration Strategy includes the option to consider other mitigation measures including double-glazed windows. Mitigation measures at specific sites would be determined during the detailed design stage when preparing Construction Noise and Vibration Impact Statements.

164

◆ Issue

A commitment to upgrade the acoustic treatment of the acoustic enclosure at the Bella Vista station and pre-cast yard acoustic sheds is required. The modelled impacts on residential receivers for the duration of this project are unreasonably high based on standard acoustic shed construction.

◆ Response

The detailed design of the acoustic shed would be the responsibility of the NWRL Principal Construction Contractors. The contractor would need to design the shed to meet the night-time noise management levels at residential receivers. Further treatments would be considered if there are residual exceedances of the night-time noise management levels.

165

◆ Issue

An ongoing commitment to complaint management and community liaison is required to manage and resolve future issues.

◆ Response

Section 4 of the Construction Environmental Management Framework (refer to Appendix C) details TfNSW's commitment to stakeholder and community liaison during construction.

166

◆ Issue

The construction methodology and proposed mitigation measures for the construction of the viaduct require review. The modelled impact of the construction of the viaduct are unacceptable as the prediction indicates significant exceedance of the NMLs for the entirety of the construction works on the residences described as:

"Residences East of Old Windsor Road from the North section of Arnold Avenue to the North border of the Celebration Drive shopping centre".

"Residences East of Old Windsor Road and South of Samantha Riley Drive".

"Residences East of Old Windsor Road, between the group of residences North East of Windsor Road/Old Windsor Road junction and Samantha Riley Drive".

"Residences East of Windsor Road, between Bellcast Road and Sanctuary Drive".

Response

Exceedances of the magnitude predicted are common during construction works. The predicted exceedances during viaduct construction would be restricted to the daytime. The works would move along the alignment, and would include noise sources elevated above ground level. It is not feasible or reasonable to mitigate noise impacts. The noise impacts predicted are a worst case and would only occur at any one receiver for a limited period of time.

167

Issue

The reflectivity of acoustic sheds and site buildings is an additional measure that should be considered.

Response

The Hills Shire Councils comment is noted.

Construction – Public Safety

168

Issue

Street lighting issues are likely to arise at each construction site because of the extensive excavations. Interrupted power supply and light pole relocations will occur at various stages and the construction management plans will need to detail how these issues are continuously monitored and resolved. This issue will be critical at Castle Hill and Norwest Stations in particular because of pedestrian movements, and site modifications will be required for street lighting at each area to ensure continued operation.

Response

Modifications to street lighting, from the point of view of pedestrians and vehicle users, would be a consideration during detailed construction planning.

Construction – Cumulative impacts

169

Issue

Major developments in the area are proposed to be undertaken with the potential to coincide with NWRL construction. The identification and management of the cumulative impacts of these projects would need to be taken during the development of Traffic Management Plans.

Response

Traffic generation from other major developments would be taken into account during preparation of Construction Traffic Management and Control Plans for each site.

The cumulative impacts section of EIS 1 (Chapter 20) includes the following measure: *"As part of the CEMP TfNSW would identify all other significant developments occurring in the vicinity of the construction sites and identify environmental impacts to be monitored during construction which have the potential for cumulative effects to occur. TfNSW would review environmental impacts every six months during the construction phase. Any new impacts identified during construction would be addressed appropriately to reduce the cumulative effects and reported."*

Construction – Access

170

Issue

The proposed major truck access for The Hills Centre Station goes direct to Showground Road through the dog show area adjacent to the Cattai Creek bridge. It is unlikely that this proposed access arrangement will be approved on safety grounds because of the steep gradients of Showground Road. A better location is through the Showground upper precinct at the existing signals for Gilbert Road. A fourth leg of this intersection would provide for construction access as well as supporting functions at the Showground during construction of the station.

Response

Access and egress from Showground Road would largely follow an existing road (to be upgraded) with the Showground complex, located towards the western boundary adjacent to Cattai Creek. This alignment was chosen to minimise impacts to the Showground.

This would be subject to an appropriate road safety audit, an assessment of traffic flow implications and an assessment of the feasibility of reducing posted speeds limits along Showground Road for the period of its use. Subject to outcomes associated with the above, alternative access arrangements would be investigated in consultation with RMS.

A potentially reasonable alternative has been identified on Showground Road, approximately 250 metres to the north of the Showground Road / Carrington Road intersection (or the mid-point between Carrington Road and Gilbert Avenue). This would require a new signalised intersection. This alternative would facilitate effective and safe construction access on a dedicated construction truck access. It would require the use of additional land to the north of the Council Chambers, reducing the area available for Showground activities at this location. However, this would be offset by removal of the location identified in EIS 1.

Potential impacts associated with traffic on Showground Road would be consistent with those described in EIS 1.

Potential impacts associated with noise from truck movements would be consistent with those described in EIS 1, noting that Showground Road is an arterial road and the risk of sleep disturbance is low.

A construction access road would not be created at the intersection of Showground Road and Gilbert Avenue due to significant impacts on the Showground precinct including demolition of additional buildings and facilities.

171

Issue

No truck movements will be permitted onto Carrington Road. Secondary access for contractors is from Carrington Road at Doran Drive. No improvements are proposed but some form of intersection control such as a roundabout or traffic signals will be needed.

Response

Truck access along Carrington Road would be required as part of the NWRL project. TfNSW would undertake further consultation with The Hills Shire Council regarding the use of Carrington Road.

Design – Alignment

172

Issue

The alignment ignores Council's previous advice including an increase in the length of the viaduct (the "Skytrain" and the diversion of the corridor away from Box Hill and the connection to the Richmond rail line at Vineyard.

Response

As described in Section 6.3 of the EIS, the vertical alignment modification between Bella Vista and Rouse Hill would provide better environmental and land use outcomes as well as value for money.

As the NWRL has been developed options for extending transport beyond Rouse Hill Town Centre into the North West Growth Centre have also been investigated. The assessment of extension options concluded that there is merit in extending the NWRL beyond the Rouse Hill Town Centre to provide a new station with a park and ride facility west of Windsor Road.

TfNSW is also investigation long term transport corridors beyond Area 20.

173

Issue

It is essential that NWRL connects to the Richmond line to accommodate Richmond RAAF base and future growth in the Box Hill area.

Response

TfNSW is currently investigating potential transport corridor extensions. This would form a separate project to the NWRL project.

174

Issue

To cater for future growth in the Hills, it is vital that this rail infrastructure project is provided alongside a range of strategic transport options.

Response

Strategic transport planning for the future station precincts would occur as part of EIS 2 in consultation with Council(s) and other transport operators.

175

Issue

Council supports the retention of the tunnel stubs to support a future Parramatta to Epping linkage at Epping.

Response

The NWRL alignment would allow for any future Parramatta to Epping Rail Link to join the tunnels approximately 800m north of Epping.

176

Issue

Council would prefer the entire NWRL to be constructed entirely underground.

Response

The NSW Government is committed to funding a project that would provide the best outcome for the local community and for the State as a whole. In doing so it has to balance costs for the whole State against benefits that may be relatively local. The NSW Government has looked at many options some of which are more expensive but which have lower local impacts and others which are cheaper but may have greater impacts. The present proposal is seen as having the right balance between these factors.

177

Issue

The route of NWRL should be as exhibited in the 2006 growth centres structure plan so as to serve future populations north of Windsor Road at Box Hill.

Response

The 2006 Growth Centres Structures Plan presented a depiction of what the growth centres may be like. Since then, numerous options have been considered and studies undertaken to determine the final alignment of the NWRL project.

Design – Community facilities

178

Issue

Negotiations should continue with Council and the RSL Sub-Branch with regard to the temporary relocation of the war memorial during construction of the Castle Hill station.

Response

TfNSW would continue to liaise with Hills Shire Council and the RSL Sub-Branch regarding the appropriate management of the Castle Hill war memorial. Mitigation measure EH6 has been amended to include consultation with Council (refer to Chapter 7).

179

Issue

Expert technical advice should be obtained on the feasibility of transplanting the 'lone pine' located adjacent to the war memorial to an alternate site to the satisfaction of Council and the RSL sub-branch.

Response

TfNSW would continue to liaise with Hills Shire Council and the RSL Sub-Branch regarding the appropriate management of Lone Pine. This would include seeking expert arboricultural advice as appropriate. Mitigation measure EH6 has been amended to include consultation with Council (Refer to Chapter 7).

180

Issue

Consideration should also be given to the collection of seeds or cuttings from the 'lone pine' by the RSL Sub-Branch to enable propagation should transplanting of the tree not be considered feasible or is unsuccessful.

Response

TfNSW would continue to liaise with The Hills Shire Council and the RSL Sub-Branch regarding the appropriate management of Lone Pine. This would include seeking expert arboricultural advice as appropriate regarding seed collection and propagation. Mitigation measure EH6 has been amended to include consultation with Council (Refer to Chapter 7).

181

Issue

Transport NSW should consult with the Hills District Historical Society with regard to the railway heritage and monument within the Arthur Whitling Park and future inclusion of railway heritage into the future station and open space.

Response

TfNSW would consider incorporating the Castle Hill site's rail heritage into the future design. This would be undertaken in consultation with The Hills Shire Council and the Hills District Historical Society. Mitigation measure EH6 has been amended to include consultation with Hills District Historical Society (refer to Chapter 7).

Environment – Visual impact

182

Issue

The design of the elevated viaduct that supports the Skytrain must incorporate design elements including artistic features to make the structure more visually attractive and contribute positively to its surroundings. The ultimate design is to incorporate measures to reduce its visual impact and where possible use engineering art to decorate, provide visual interests where landscaping cannot be adequately provided.

Response

The design of the viaduct will be presented and assessed as part of EIS 2.

183

Issue

If possible, the 6m hoarding proposed on Castle Hill Road (Cherrybrook Station) should be reduced in height if it will not reduce the amenity of residents / child care centre on the opposite side of Castle Hill Road.

Response

The height of the proposed hoarding on Castle Hill Road is based on noise mitigation requirements. The height could only reasonably be reduced if detailed construction planning suggested that noise levels were going to be significantly lower than predicted in EIS 1, or if alternative mitigation was identified. EIS 1 identifies the potential for this hoarding to serve as a visual feature, for example through its use for artworks.

184

Issue

The possible use of the viaduct structure for advertising is an ongoing concern for Council and should be addressed in EIS2.

Response

The potential for the use of the viaduct for advertising will be addressed as part of EIS 2.

Environment – Soils and geology

185

Issue

While ground movement is estimated to be small and unlikely to cause major distress to nearby surface and underground structures along the route, appropriate design requirements and management measures will be required to avoid unacceptable impacts.

Response

Chapter 8 of EIS 1 identifies mitigation measure associated with potential ground movement. Revised mitigation measure tables are provided in Chapter 7 of this report.

186

Issue

The EIS does not contain information as to the extent of geotechnical investigation in relation to the potential for land slip.

Response

Further geotechnical investigations have been undertaken during the public exhibition phase of EIS 1. Clarifications to the geotechnical investigation in relation to land slip are provided in Chapter 2 of this report.

187

Issue

Geotechnical experts to investigate the potential risk to land, Council's LEP maps, as a result of the construction and operation of the NWRL.

Response

Geotechnical investigations are ongoing and would inform the detailed design and construction methodologies for the NWRL project.

Environment – Heritage

188

Issue

Views to Mungerie House from Windsor Road must also be considered in the design and placement of the viaduct and its piers.

Response

View corridors to Mungerie House would be considered during subsequent design phases.

Mitigation measure EH10 (refer to Chapter 7) details elements which would be considered during the development of the design of the viaduct adjacent to Mungerie House.

189

Issue

During the detailed design of the viaduct and consideration of view corridors, Transport NSW should consult the Mungerie House Conservation Management Plan (2007) prepared for Lend Lease by Tanner Architects and endorsed by Council as it contains important information regarding view corridors and the setting of Mungerie House.

Response

View corridors to Mungerie House would be considered during subsequent design phases.

Mitigation measure EH10 (refer to Chapter 7) details elements which would be considered during the development of the design of the viaduct adjacent to Mungerie House.

190

Issue

The proposed mitigation measures in relation to indigenous heritage impacts are considered appropriate.

Response

The Hills Shire Council's comment is noted.

Environment – Flora and fauna

191

Issue

Offset sites should be identified and procured prior to works commencing that involve the removal of ecology.

Response

It is intended that offset sites would be identified prior to construction. There may be some sites for which the procurement process is not complete at the start of construction. It would not be appropriate to delay construction of this important project to allow for finalisation of offset acquisition.

192

Issue

It is requested that specific priority be given to securing offset sites as near to the location of the impact/loss as possible to assist with the preservation of the specific endemic community of the area and assure that the ecological and amenity benefits of retaining endemic vegetation remain within the Local Government Area.

Response

While the desirability of offset sites being close to the area of impact is appreciated, there will be a number of factors that determine their ultimate location. Performance measures in the Offset Strategy (Section 5.4 of Technical Paper 5a - Ecology) include offsets being identified on a like for like principle, and being provided within the Sydney Metropolitan and Hawkesbury Nepean Metropolitan Catchment Management Authority regions.

193

Issue

The management of off-set sites could be secured through the registration of land as Biobank Sites with the Biobank Trust funding the in perpetuity maintenance of the vegetation. This could be achieved without the need to purchase the land, rather the purchase and surrender of credits under the Biobanking scheme.

Response

Offsets are proposed to be undertaken in accordance with relevant State and Local Government guidance and policies as listed in Section 5.4 of Technical Paper 5a – Ecology. TfNSW's preferred approach is to establish direct offsets rather than purchasing credits under the Biobanking scheme.

194

Issue

Three distinct patches of Cumberland Plain vegetation within the Balmoral Road Release area seem particularly appropriate which are 21.6ha, 13.7ha & 6.1ha respectively located on Balmoral Road and Fairway Drive. Additional smaller patches are also mapped within the immediate area.

Consideration should be given to securing these sites to offset the loss of vegetation.

Response

The Hills Shire Council's suggested offset sites are noted and will be considered. TfNSW welcome the opportunity to work with Council in the selection of sites.

Environment – Sustainability

195

Issue

The 20% electricity offset target should be increased.

Response

EIS 1 makes a commitment to offset a minimum of 20% of electricity needs for the NWRL project.

196

Issue

Further offset options associated with revegetation projects and biodiversity offset requirements should also be included.

Response

Biodiversity offsets are proposed. The projects biodiversity offset strategy is described in Section 15.6.1 of EIS 1.

Operation – Noise and vibration

197

Issue

As there has been a decrease in the depth of alignment, the Skytrain will need to be carefully treated to address the operational noise.

Response

Appropriate mitigation measures associated with the Skytrain / viaduct section of the Project will be described in EIS 2.

198

Issue

Acoustic treatments must be provided to ensure that the Skytrain does not cause offensive noise pollution to the surrounding area.

Response

Appropriate mitigation measures associated with the Skytrain / viaduct section of the Project will be described in EIS 2.

Property – Property damage

199

Issue

Council requests before and after dilapidation surveys of buildings in the vicinity of stations, works and construction sites.

Response

Building condition surveys would be undertaken as detailed in the mitigation measures (refer to Chapter 7).

Transport – Bus integration

200

Issue

The West Pennant Hills Bus Link may be needed as an alternative to Castle Hill Road as buses are likely to use Glenhope Road as a major connection between the residential areas and Cherrybrook station. The proposed Bus Link will need to be re-evaluated as part of a general review of bus services integrating with the Station precinct.

Response

Station precinct planning, including effective bus links and transport interchanges, will be presented and assessed as part of EIS 2.

Blacktown City Council

Construction – Noise and vibration

202

Issue

Acoustic assessment identifies number of potential significant exceedances above noise management levels for the project. Mitigation measures such as acoustic sheds and noise barriers are recommended, and noise monitoring, to ensure mitigation has been successful.

Response

EIS 1 (Section 10.8, Table 10.33) detailed the noise and vibration mitigation measures to be implemented during construction. This included the use of acoustic shed and barriers where relevant. Revised mitigation measures are provided in Chapter 7 of this report.

The Construction Environmental Management Framework (refer to Appendix C) details the Construction Noise and Vibration Management Plan which would include measures for noise and vibration monitoring, as specified in the Construction Noise and Vibration Strategy and the Environment Protection Licence. Compliance records would be kept by the NWRL Principal Construction Contractors which would include noise and vibration monitoring results against appropriate NMLs and vibration criteria.

Construction - Traffic

203

Issue

EIS indicates that the Tallawong Stabling Facility will be the main generator of construction traffic within the Blacktown LGA. Extra care is needed to manage truck movements at this site.

Response

Construction traffic and transport mitigation measures for the Tallawong Stabling Facility are detailed in Table 9.15 of EIS 1. Revised mitigation measures are provided in Chapter 7 of this report.

204

Issue

Council supports the heavy vehicle routes identified in the EIS.

Response

Blacktown City Councils support for the heavy vehicle routes in EIS 1 is noted.

Construction – surface water and flooding

205

Issue

Council has some concerns re surface water and flooding conditions in Second Ponds Creek.

In particular Technical Paper 6 indicates Stage 1 works could increase the 100 yr ARI flood levels by up to 0.9m immediately upstream of the proposed bridge using a haul road at 0.5m typically above existing ground levels. The impact of this on the adjoining property has not been addressed and proposed mitigation measures or compensation arrangements will need to be included in the project application assessment.

Response

A bridge is proposed to span Second Ponds Creek with temporary access roads and working pads required to facilitate construction. Based on a detailed flood risk assessment, the bridge is not predicted to have an adverse flooding impact on Schofields Road. The temporary access road would have the potential for significant flood impacts.

Potential flood impacts from temporary works are proposed to be mitigated according to mitigation measure SW4 (refer to Chapter 7):

"Temporary levees or bunds would be strategically placed to contain potential flooding impacts resulting from any temporary works on the floodplain and minimise the risk to surrounding properties which might otherwise be affected."

Other mitigation measures regarding flooding impacts are detailed in SW1-SW13. This includes removal of temporary embankments, haul road and working pads as soon as feasible after serving their purpose.

Section 15 of the Construction Environmental Management Framework (refer to Appendix C) details the development of Stormwater and Flooding Management Plans prior to the commencement of construction.

206

◆ Issue

Stage 2 impacts indicated in the EIS of 0.48m will also impact design planning levels for adjoining land development requiring additional fill. This increase in design flood levels would need to be approved by Sydney Water.

◆ Response

Table 18.4 of EIS 1 details the potential flood impacts to Second Ponds Creek from the permanent bridge structure.

An impact of +0.48m on the ARI 100 flood level upstream of the permanent bridge is predicted. Approval for modification of this flood level is sought as part of EIS 1.

207

◆ Issue

The proposed works should be configured to minimise adverse flooding, water quality and riparian impacts, and take into account the proposed Stage 2 works to avoid the need for rework and associated impacts.

◆ Response

Stage 2 works would be designed to minimise the impact on riparian areas and floodplain areas. Any cumulative impacts of Stage 2 works on flooding, water quality and riparian impacts with the proposed works of Stage 1 will be presented and assessed as part of EIS 2.

Environment - Heritage

208

◆ Issue

Concerns that Construction Site 13 may impact on section of Old Windsor Road, north of Samantha Riley Drive and listed on the State Heritage Register, both during construction and after due to visual impact of the viaduct.

◆ Response

An assessment of the impact of Site 13 on sections of Old Windsor Road is provided in Table 11.25 of EIS 1. It was concluded that: *"As the proposed construction works site is located adjacent to one of the identified historic precincts along Old Windsor Road, there may be some impacts upon this historic roadway precinct. Since there have been numerous physical changes to this part of Windsor Road in recent times, any negative heritage impacts are likely to be of a relatively minor adverse nature."*

Mitigation measures identified for this area include the re-establishment of planted vegetation along the eastern side of the North-west T-way following completion of the construction works (refer to Chapter 7).

Design - Viaduct

209

Issue

The 4km viaduct has potential to result in poor visual aesthetic for nearby properties. Careful consideration needs to be given to its design and treatment.

Response

The design of the viaduct will be presented and assessed as part of EIS 2.

210

Issue

Recommend anti-graffiti finishes be used on viaduct.

Response

The design of the viaduct will be presented and assessed as part of EIS 2.

211

Issue

Recommend public art features be used to soften or improve appearance of track/structure.

Response

The design of the viaduct will be presented and assessed as part of EIS 2.

212

Issue

Strongly recommend that no advertising signs be permitted in, on or over the viaduct and land underneath. Only directional, traffic or ancillary signage should be allowed.

Response

The design of the viaduct, including signage, will be presented and assessed as part of EIS 2.

Design - Alignment

213

Issue

New road bridges required at Cudgegong Road and Tallawong Road (indicated in EIS 1), over rail line at Construction Site 17 – should be constructed as part of NWRL project at no cost to Council or community, as part of s94 contributions for adjacent residential release precincts.

Response

New road bridges required at Cudgegong Road and Tallawong Road form part of the NWRL project, therefore the costs incurred would be met by TfNSW.

Project – Need for project

214

Issue

Council strongly supports the Government's initiative to progress the planning and delivery of the NWRL. Such significant investment in public transport infrastructure is vital to service the rapidly expanding Western/North Western Sydney Region, which is predicted to grow by an additional population of 3 million people by 2036.

Response

Blacktown City Council's support for the NWRL is noted.

Property – Property acquisition

215

Issue

Location of future pedestrian overpasses at Bella Vista and Kellyville (needed to provide access from western side of Old Windsor Road) needs to be considered to ensure any requirements for land acquisitions are identified and met at an early stage.

Response

Pedestrian access, including overpasses, will be presented and assessed in EIS 2 as part of the station and precinct design.

Transport – Pedestrian and bicycle access

216

Issue

Location of future pedestrian overpasses at Bella Vista and Kellyville (needed to provide access from western side of Old Windsor Road) needs to be considered to ensure impacts on surrounding properties are minimal.

Response

Pedestrian access, including overpasses, will be presented and assessed in EIS 2 as part of the station and precinct design.

Design - station/station facility

217

Issue

Not possible to comment on whether there is sufficient space been allowed in the design for appropriate water treatment facilities. Comment that the water quality and management needs to be consistent with Growth Centres Development Code and DCP requirements.

Response

As stated in mitigation measure SW14 (refer to Chapter 7),*"water quality and management measures would be implemented in accordance with the 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.

These guidelines supersede any DCP and Development Code requirements.

Hornsby Shire Council

Environment – Soils and geology

218

Issue

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. NB: Council has 17 years of water quality data for the Devlin's and Terry's 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.

Response

It is noted that Hornsby Shire Council has water quality monitoring results for some creeklines. This data would be sourced for future planning and design stages.

Environment – Contamination

219

Issue

Residents have advised Council and Department of Planning & Infrastructure 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.

Response

EIS 1 undertook a search of the EPA contaminated land register and a review of previous reports undertaken for the project site (refer to section 8.3.8 of EIS 1). This background research did not identify any areas of concern at or nearby to the proposed Cheltenham Services Facility.

However, a revised Geotechnical Interpretative Report (GIR) has been prepared since the exhibition of EIS 1, which notes that there is visual evidence of filling in the southern and western parts of Cheltenham Oval and is considered likely cut to fill was undertaken on the site. The netball courts were also observed to be elevated on a fill platform that may have been constructed after the Oval. If the courts were constructed after the Oval, it is considered likely that the fill used to elevate the courts was imported. Anecdotal evidence provided to TfNSW indicates that there may be asbestos in the fill beneath the netball courts. It is considered that further assessment and / or waste classification may be required if excavation and offsite disposal of soil is to take place in this area, during the construction of the Cheltenham Services Facility.

In the event that previously unidentified contamination is discovered during construction works, an unexpected contamination find procedure would be implemented (to be developed by the construction contractor/s) in accordance with mitigation measure SG14 (refer to Chapter 7).

Construction – Traffic and Transport

220

◆ Issue

Comprehensive Construction Access Management Plans will be required for each site to manage heavy vehicle access, staff parking and local traffic, including pedestrians and cyclists, during the construction phase.

◆ Response

Section 8.2 of the Construction Environmental Management Framework (refer to Appendix C) identifies the proposed hierarchy of Traffic Management Plans. This includes a Traffic Control Plan for each construction site.

221

◆ Issue

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.

◆ Response

A dilapidation report would be prepared prior to construction for all local roads from the access / egress point to the arterial road. This has been added as an additional Traffic and Transport mitigation measure T18 (refer to Chapter 7).

NWRL would ensure that the road pavements are maintained to a suitable standard throughout construction. Damage caused by construction traffic would be repaired in accordance with the relevant Construction Traffic Management and Control Plans.

222

◆ Issue

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.

Response

Construction access routes have been developed around the principle of construction traffic using local roads to the minimum extent that is feasible and reasonable.

Construction – Noise and Vibration

223

Issue

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.

Response

Predicted exceedances are common during construction works. For example, the ICNG includes a case study calculating noise impacts during rock-breaking in close proximity to residential receivers. In the case study, the predicted level of 91 dBA represents a 34 dB exceedance of the NML.

It is not possible to construct a project such as this without noise impacts. Noise intensive works would be restricted to the daytime wherever possible, and all feasible and reasonable noise mitigation measures would be implemented as described in the EIS and Construction Noise and Vibration Strategy.

Economic – Local Business Impacts

224

Issue

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.

Response

Consideration of the interactions between the NWRL project and the recommendations of the Epping Town Centre study (refer to Section 14.4.1 of EIS 1). Consultation with Hornsby Shire Council and Parramatta City Council has been undertaken to discuss the implications of the NWRL project on implementing the recommendations of the Epping Town Centre study (refer to Chapter 5 of EIS 1). Consultation would be ongoing with these councils during the development of EIS 2.

225

Issue

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.

Response

The properties at 242-244 Beecroft Rd are now part of an Expanded Epping Services Facility Site and would therefore be subject to direct impacts from the Project (refer to Chapter 6, Preferred Infrastructure Assessment)

Construction – Land Use and Community Facilities

226

Issue

There is uncertainty about the route through the site that will be used for the haulage of spoil removed at the site during construction.

Response

The final arrangements for access and egress to and from this site would be developed in consultation with the RMS, The Hills Motorway Limited and Hornsby Shire Council, taking into consideration the range of potential impacts and benefits associated with each option.

227

Issue

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.

Response

The final arrangements for access and egress to and from this site would be developed in consultation with the RMS, The Hills Motorway Limited and Hornsby Shire Council, taking into consideration the range of potential impacts and benefits associated with each option.

228

Issue

Based on available information, a direct link from the construction site to the M2 is not supported.

Response

The final arrangements for access and egress to and from this site would be developed in consultation with the RMS, The Hills Motorway Limited and Hornsby Shire Council, taking into consideration the range of potential impacts and benefits associated with each option.

229

It appears that the 'end state' of surface facilities for the NWRL at Cheltenham will comprise of one building, probably small in size.

◆ Response

The end state of the Cheltenham Services Facility will be presented and assessed as part of EIS 2.

Ecology

230

◆ Issue

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.

◆ Response

The proposed project changes around the Expanded Epping Services Facility Site would mean that no heritage listed bushland at Epping would be cleared (refer to Chapter 6, Preferred Infrastructure Assessment).

231

◆ Issue

The EIS states that the *Cheltenham Services Facility* would have a minor adverse impact upon the heritage listed item - *"Roadside/Park Trees (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.

◆ Response

The significance of this bushland is acknowledged by TfNSW, with potential impacts described in the Ecology, European Heritage and Visual Amenity chapters of EIS 1.

232

◆ Issue

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.

◆ Response

The restoration of bushland at the Cheltenham Services Facility site would be a focus of post-construction management at the site. Opportunities to minimise the clearance of native vegetation would be sought through optimisation of the construction site layout.

233

◆ Issue

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. 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.

◆ Response

The final arrangements for access and egress to and from this site would be developed in consultation with the RMS, The Hills Motorway Limited and Hornsby Shire Council, taking into consideration the range of potential impacts and benefits associated with each option.

234

◆ Issue

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.

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.

Response

A hollow bearing tree survey was not completed over the western portion of the Cheltenham site due to time constraints (these lands were marked being 'additional lands' in the Flora and Fauna Assessment). Hollow bearing tree survey of these lands would be completed prior to construction.

As identified in *Technical Paper 5a - Ecology*, the loss of hollow bearing trees is generally expected to be compensated for through the delivery of vegetation community offsets.

235

Issue

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.
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.

Response

Ecology mitigation measure E3 (refer to Chapter 7) provides commitments in relation to undertaking further targeted surveys for *Epacris* prior to the commencement of construction at Cheltenham Services Facility.

If translocation is identified as an appropriate management response during detailed construction planning it would be undertaken in accordance with the "*Guidelines for the translocation of threatened plants in Australia*" (Australian Network for Plant Conservation, 2004).

Mitigation measure E13 (refer to Chapter 7) details the potential collection of *Epacris* seeds for propagation.

236

Issue

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. It is important that effective offsets be provided within the Hornsby Shire as per Table 34, Offset Strategy, Appendix N, Technical Paper 5a.

Response

While the desirability of offset sites being close to the area of impact is appreciated, there will be a number of factors that determine their ultimate location. Performance measures in the Offset Strategy (Section 5.4 of Technical Paper 5a - Ecology) include offsets being identified on a like for like principle, and being provided within the Sydney Metropolitan and Hawkesbury Nepean Metropolitan Catchment Management Authority regions.

237

◆ Issue

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.

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.

◆ Response

The Smith and Smith 2008 study was a regional study of the entire Hornsby Shire, and does not appear to have included plots at these particular locations. For the NWRL project more detailed vegetation mapping of project sites has been conducted, supported by vegetation plots.

The area of native vegetation within the construction boundary at Cheltenham is 1.13 ha, and was included in the proposed ecological offsets. The slight difference in the footprints (1.13 versus 1.16 ha) may be due to slight differences in digitised construction footprints. No change to the technical paper or offsets is proposed as these impacts have already been considered and assessed.

238

◆ Issue

Under *Table 15.3* (p15-16), the EIS lists the Eastern Bent-wing Bat as 'likely' to occur within the site. The Eastern Bent-wing Bat has regularly been observed in the culverts adjoining Cheltenham Oval and Beecroft Reserve.

◆ Response

Hornsby Shire Council's comment regarding observations of Eastern Bent-Wing Bat at Cheltenham is noted. Potential impacts on this species would be addressed and mitigated in detailed construction planning.

239

◆ Issue

Under *Indirect Impacts* (p. 15-37), EIS notes that vegetation clearance may increase the potential for weed incursion into adjacent retained vegetation. 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.

The calculation of areas of indirect impacts is a broad approximation and can be considered as a potential area of impact. The extent of this area would be aimed to being reduced through the various mitigation measures proposed in EIS 1.

◆ Response

The method of defining the proposed offsets is consistent with the relevant government policies and guidance.

240

◆ Issue

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. Site specific bushland surveys should be undertaken prior to commencement of work to enable an appropriate baseline to be achieved post construction.

◆ Response

The specific aims and performance targets associated with reinstating bushland would be identified during detailed construction planning and in consultation with Hornsby Shire Council. At this point it would be appropriate to determine if additional ecological baseline information is required.

241

◆ Issue

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. 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.

◆ Response

TfNSW agrees that the avoidance of weeds spreading into adjacent bushland is an important issue. There are a number of mitigation measures listed in EIS 1 and in the revised mitigation measures tables in this report that address this (refer to Chapter 7).

242

◆ Issue

Mitigation Measure E8 discusses wash down areas. Consideration should be given to include appropriate protocols for Phytophthora and Myrtle Rust management.

◆ Response

An additional ecology mitigation measure E21 has been added as follows (refer to Chapter 7)*"The potential spread of pathogens such as Phytophthora and Myrtle Rust would be addressed with appropriate mitigation during detailed construction planning."*

243

Issue

Under Mitigation Measure E11 discusses the revegetation of the Cheltenham site. Revegetation of the site should be done in consultation with Hornsby Shire Council

Response

TfNSW agrees that consultation with Hornsby Shire Council will be important in the successful revegetation of this site. The mitigation measure E11 has been modified accordingly (refer to Chapter 7).

244

Issue

Under *Technical Paper 5a, 5.2 Vegetation Management Plans* (p77), notes that the Epping, Cheltenham and Cherrybrook sites will have VMP's prepared for them. In particular the Cheltenham VMP needs to be prepared in consultation with Hornsby Shire Council.

Response

Hornsby Shire Council would be consulted in the preparation of the VMP for the Cheltenham Services Facility site.

245

Issue

Offset Options: Council would prefer offsets to be made generally in accordance with the Hornsby Shire Council's Offsets Code and implemented within the Hornsby Shire as opposed to Biobanking Credits

Response

Offsets are proposed to be undertaken with reference to State and Local Government guidance and policies as listed in Section 5.4 of Technical Paper 5a – Ecology. Use of biobanking credits is not TfNSW's preferred approach.

246

Issue

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. 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.

Response

Mitigation measure LC5 (refer to Chapter 7) includes a commitment to identify appropriate adjustments and enhancements to the trail network in Beecroft Reserve.

TfNSW would, during detailed construction planning, consult with Council and any other relevant parties such as Transurban and bushcare groups regarding management of any impact on areas subject to current restoration works. TfNSW may consider support to existing programs depending on the nature of specific impacts.

Environment – Visual Impact

247

◆ Issue

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.

◆ Response

Hornsby Shire Council's comments with regard to the setting of construction sites are noted.

Refer also Chapter 6, Preferred Infrastructure Assessment for a revised assessment of construction sites at Epping.

248

◆ Issue

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.

Response

Hornsby Shire Council's comment regarding visual mitigation is largely consistent with the visual mitigation measures listed in Chapter 16 of EIS 1 and Chapter 7 of this report.

Construction – Spoil and waste management

249

Issue

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 accordance with the Waste Classification Guidelines (DECC, 2008).

Response

Hornsby Shire Council's comment is noted.

250

Issue

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.

Response

EIS 1 (Section 19.2.7, Table 19.10) contains a number of mitigation measures relating the transport and disposal of waste material (including contaminated waste). These mitigation measures include:

- W2 – *All waste materials removed from the sites would only be directed to a waste management facility lawfully permitted to accept the materials.*
- W12 – *Trucks transporting wastes off site would be appropriately licensed to carry the material to appropriately licensed waste facilities.*

Revised mitigation measure tables are provided in Chapter 7 of this report.

251

Issue

Hornsby Shire 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.

Response

Any disposal of spoil as a result of the project would be undertaken under appropriate authorisation.

252

◆ **Issue**

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.

◆ **Response**

Appropriate controls would be implemented to ensure that sediment entering sediment controls is not contaminated.

253

◆ **Issue**

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.

◆ **Response**

The potential for Hornsby Quarry as a spoil disposal site will be incorporated into subsequent project planning and design stages.

254

◆ **Issue**

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 at authorised sites.

◆ **Response**

All contractors (including sub-contractors) are strictly bound by the project's environmental management requirements as detailed in the Construction Environmental Management Framework (refer to Appendix C)

4.2.3 Key non-Government stakeholder submissions

GPT Group

GPT Group provided a detailed submission to the NWRL EIS 1. In order to provide a context to the detail of this submission, a brief overview of the key issues is provided below.

The submission by the GPT Group states that it does not oppose the NWRL project, however, to the extent that NWRL may have an adverse impact upon GPT or the Rouse Hill Town Centre (RHTC), the submission should be read as an objection to the NWRL project.

The submission covers a wide range of issues which are set out in the table below. Many of these issues can be addressed by reference to the procedures set out in the Construction Environmental Management Framework (refer to Appendix C), in particular the commitments to prepare Business Management Plans as well as site specific Traffic Management Plans. A number of key issues fall outside the CEMF, and can be summarised as follows (responses to these issues can be found in the table below):

1. **Planning Approval Process**
   - GPT state that the Concept Plan modification application should not be assessed until such time as EIS 2 has been exhibited and assessed, otherwise it will result in an incomplete assessment of the modification application. This will limit the ability to fully understand the implications of the modification application.
   - GPT state that determination of the Concept Plan modification application should be informed by public input, including input to EIS 2.

2. **Impact on Existing Planning Approvals at Rouse Hill**
   - GPT state that the Concept Plan modification may require a modification to the approved Level 2 Precinct Plan DA for the Town Centre Core Precinct Plan. Any associated costs should be met by TfNSW.
   - GPT state that the modification application, resulting in above ground construction works at Rouse Hill, will result in greater loss of car parking during construction. GPT has certain legal obligations which flow from existing development approvals. The existing Level 3 consent for RHTC requires a minimum number of car parking spaces to be provided. GPT also has a legal obligation to some of its retailers to provide a minimum number of parking spaces which may be breached should the parking spaces not be replaced.

3. **Governance**
   - GPT's submission asserts a role for GPT in the planning and design process as well as construction management. This ranges from requests for consultation on key planning, design and construction issues to an approval role on certain issues (for example, GPT request that the Principal Contractor provide a 1:100 scale map of the construction site to GPT for their approval).

4. **Business Impacts/Compensation**
   - The GPT submission refers in broad terms to the impact of construction activities on businesses within RHTC as a result of loss of parking, general construction disturbance, and reduced visitation. It asks for a more robust assessment of business impacts, costs and mitigation options.
   - Specific mention is made of the need for more stringent parking controls in RHTC, for example, use of a number plate recognition system to deter construction related vehicles from parking in RHTC. The costs of such additional controls would be met by TfNSW.
   - The GPT submission requests that a mechanism be agreed by which compensation could be sought should there be adverse impacts to the RHTC business and businesses with RHTC as a consequence of NWRL.

5. **Loss of Parking**
   - The GPT submission requests that the 560 car parking spaces lost as a result of Construction sites 14 and 15 are replaced by NWRL during the construction period.

6. **Environmental Impact Issues and the Unique Character of Rouse Hill**
   - The majority of environmental issues raised in the GPT submission relate to noise and vibration impacts and disruption due to construction traffic. The submission states that the assessment hasn't taken into account the unique trading environment of Rouse Hill, specifically, its outdoor retail/dining areas and extended trading hours.

GPT

Planning – Approval process

255

◆ Issue

The SSI Concept Plan modification application should not be determined until such time as EIS 2 has been exhibited and assessed. The staged EIS process will result in an incomplete assessment of the SSI Concept Plan modification application.

The modification to the approved concept (change from underground to viaduct) will introduce significant new impacts during construction and operation. The bulk of these impacts have not yet been addressed. The impacts of the SSI Concept Plan modification cannot be properly understood by stakeholders, or indeed the consent authority, in the absence of detailed studies relating to both Stage 2 works and the operational phase.

◆ Response

A Concept Plan approval (MP 06_0157) for NWRL was provided in 2008, under Part 3A of the *Environmental Planning & Assessment Act 1979* (EP&A Act). With the repeal and replacement of Part 3A, clause 5 of Schedule 6A of the EP&A Act sets out savings and transitional provisions in respect of Part 3A and operates to make the Concept Plan Approval issued under Part 3A an approval for Staged Infrastructure under Part 5.1 of the EP&A Act.

The Staged Infrastructure Approval, however, does not permit the carrying out of works and a separate detailed environmental assessment and approval is required for the project, or each part of the project, before construction can commence. The staging of State Significant Infrastructure is provided for under the EP&A Act. EIS 1 represents the first stage.

While the Staged SSI Modification relates to the entire project, it does not authorise the carrying out of any particular aspect of the project. Accordingly, elements that would be part of EIS 2 will nevertheless need to be fully assessed in EIS 2 before those elements may be carried out. The purpose of a staged infrastructure application generally is to outline broad concepts for development which can be the subject of further assessment.

The Department of Planning and Infrastructure (DP&I) has, as one of its roles, the function of issuing environmental assessment requirements for EISs and staged infrastructure approvals. These requirements indicate the matters which DP&I requires to be addressed. DP&I has issued supplementary environmental assessment requirements in respect of the application to modify the staged SSI approval.

One of the requirements is:

"Consideration of any changed or additional impacts as a result of the proposed modifications to the Staged SSI approval including those that are related to the proposed Construction and Operation of Stations, Rail Infrastructure and Systems stage, at a conceptual level."

Chapter 6 of EIS 1 provides an assessment, at a conceptual level, of the changes to environmental impacts as a result of the proposed modifications. This meets the requirements of the supplementary environmental assessment requirements and provides the basis to determine the SSI Concept Plan modification application.

256

Issue

EIS 1 purports to be a combined assessment prepared for both the SSI Concept Plan modification and the Stage 1 civil works. However, EIS 1 only assesses the impact of Stage 1 civil works ie the first stage of construction and does not assess the impact of Stage 2 works or of the operational phase (both being components of the SSI modification).

The failure to assess the impacts of Stage 2 works or the completed structure in EIS 1 represents a major flaw in the process. The impacts of the SSI Concept Plan modification cannot be properly understood by GPT, Government authorities, councils, the community or indeed the consent authority, in the absence of detailed studies relating to Stage 2 works and relating to the operational phase.

The Minister's determination of the SSI Concept Plan modification application should be based on a full assessment of all the impacts of the modification, including public input into EIS 2 (Stage 2 works, the completed structure and to the operational phase).

Response

Section 6.5 of EIS 1 provides an assessment, at a conceptual level, of the changes to environmental impacts as a result of the proposed modifications. This assessment summarises the main construction and operational environmental impacts identified in the Concept Plan approval as well as the main construction and operational environmental impacts relevant to the Concept Plan modification application. A summary of the main changes to impacts is provided. This assessment is provided under a number of assessment headings consistent with the presentation of environmental impacts in EIS 1 supporting the Concept Plan approval.

Section 6.4 and Chapter 5 of EIS 1 provides a description of consultation undertaken in relation to the modification.

Impact on Existing Planning Approvals at Rouse Hill

257

Issue

Modifications to the approved Level 2 Precinct Plan DA for the Town Centre Core Precinct Plan that may be required as a result of the SSI Concept Plan modification should be obtained at the cost to TfNSW. Modifications to existing approvals must not adversely affect existing Project Approvals.

Response

Modifications of approved developments occur on a regular basis and are provided for under planning legislation.

258

Issue

The EIS 1 contemplates the eradication of approximately 400 formal and 160 informal car parking spaces as a result of the construction worksites. This will have significant implications for the staff and visitors of RHTC (including financial and safety implications) and will generate a breach of the existing development consents and legal obligations for RHTC.

Response

GPT would need to seek their own advice in relation to existing consents.

259

Issue

In relation to breaches of existing consents, the existing Level 3 consent for the RHTC, referred to as "DA 3", requires a minimum number of car parking spaces to be provided. The total number of spaces includes all of the spaces to be lost during construction, including those spaces which are presently informal.

While the DA3 consent recognised that 400 spaces would be lost when the rail line commenced operation, it remains silent as to any loss of spaces during construction. As such, any loss of spaces would represent a breach of the development consent.

It should be noted that at the time the consent was granted, the intention was for an underground railway line and station. Therefore, it was never envisaged that 560 spaces would be lost for the designated period of time.

Response

GPT would need to seek their own advice in relation to existing consents.

260

Issue

GPT also has legal obligations to some of its retailers to provide a minimum number of carparking spaces which may be breached should the parking spaces not be replaced.

Response

GPT would need to seek their own advice in relation to provision of parking to retailers.

Governance

261

Issue

GPT wishes to collaborate with TfNSW to efficiently and seamlessly deliver, operate and manage the public realm, linking Rouse Hill station to the wider community amenity.

Response

TfNSW is committed to continuing to work with key stakeholders such as GPT in integrating the NWRL project with land use and public realm and coordination of construction activities.

262

Issue

A clear governance structure such as possible inclusion in the existing Publicly Accessible Areas Management Plan (PAAMP) and Town Centre and Community Management Schemes could enable effective and successful ongoing management that will ensure customer's experience and their expectations of the precinct are not only met but aspire to be exceeded.

Response

The Construction Environmental Management Framework (refer to Appendix C) describes the approach to community and stakeholder engagement. Throughout construction, TfNSW and the NWRL Principal Construction Contractors would work closely with stakeholders and the community to ensure they are well informed regarding the construction works. A Communication and Consultation Strategy would be put in place along with a plan to manage impacts on adjacent properties and businesses.

263

Issue

GPT appreciates the current dialogues with the North West Rail Link design team and welcomes the opportunity to provide feedback to NWRL EIS 1. GPT wishes to continue the ongoing discussions and consultations with the relevant agencies to facilitate the coordination of the planning and construction of the NWRL and the Rouse Hill Regional Centre, including the preparation of future staged Traffic Management Plans and NWRL EIS 2.

Response

TfNSW is committed to continuing to work with key stakeholders such as GPT in integrating the NWRL project with land use and public realm and coordination of construction activities.

264

Issue

Continued engagement by TfNSW with GPT is requested with the purpose of agreeing the detailed design of the viaduct, station building and station precinct for RHTC, prior to the release of the EIS 2 designs, for RHTC.

Response

TfNSW is committed to continuing to work with key stakeholders such as GPT in integrating the NWRL project with land use and public realm. TfNSW will take into account the input of stakeholders in arriving at final project plans and designs.

265

Issue

As a major stakeholder RHTC should have regular meetings with representatives of the TFNSW and the Principal Contractor, so as RHTC can be aware of all upcoming matters, prior to their retailers, tenants as well as their residents , this will allow RHTC input into the public relations of their business.

All complaints from the retailers should be channelled through RHTC or Centre Management through to NWRL & the Principal Contractor.

Response

The Construction Environmental Management Framework (refer to Appendix C) sets an approach to stakeholder and community involvement which confirms that TfNSW and the NWRL Principal Construction Contractors would work closely with stakeholders and the community to ensure they are well informed regarding the construction works.

The Construction Environmental Management Framework also describes the approach to complaint handling, which is focused on providing a timely response to complainants. Dealing directly with complainants is the best means of achieving this.

266

Issue

Request for the Principal Contractor to issue for approval by RHTC a detailed 1:100 scale site plan showing location of all the elements that will be contained within the compound prior to commencement.

Response

TfNSW, as contracting entity, would be responsible for all aspects of contract administration in relation to the NWRL Principal Construction Contractors. Further details on construction site layouts and methodologies can be provided to stakeholders for information as part of the stakeholder and community involvement process described in the Construction Environmental Management Framework (refer to Appendix C).

267

Issue

Question raised if RHTC management have a role in reviewing the Principal Contractor's CEMP. The CEMP should be a live document and as such RHTC should have a say in the review and improvement of the CEMP.

Response

TfNSW would be responsible for the environmental performance of the NWRL Principal Construction Contractors and would engage independent Environmental Representatives (ERs) to review the Construction Environmental Management Plan. The Contractor would undertake regular reviews of the CEMP with the aim of continual improvement of the Plan. This would take into account any issues raised during environmental monitoring, inspections and audits

268

◆ Issue

RHTC to have an input into the creation / approval of the Register of Hold Points

◆ Response

Responsibility for the development and approval of the Register of Hold Points rests with TfNSW and the NWRL Principal Construction Contractors.

269

◆ Issue

RHTC to receive copies of Environmental monitoring and audits

◆ Response

As indicated in the Construction Environmental Management Framework (refer to Appendix C), the results of any monitoring undertaken as a requirement of an Environment Protection Licence would be published on the NWRL Principal Construction Contractor's or a project specific website within 14 days of obtaining the results.

270

◆ Issue

RHTC to be provided a copy of all Environmental Non Conformances within a reasonable time

◆ Response

Reports of Environmental Non-Conformance would be provided by the Principal Construction Contractor to TfNSW. In addition, see response above (269).

271

◆ Issue

All urban design of temporary works and signage by the Principal Contractor / NWRL to be approved by RHTC and at all times, signage around the construction site, hoardings and surrounding environs to be of RHTC approvals, in order that the site is not disadvantaged, during the 36 month construction phase.

◆ Response

The Construction Environmental Management Framework (refer to Appendix C) indicates that the NWRL Principal Construction Contractor would ensure temporary construction works including site hoardings and acoustic sheds consider urban design and visual impacts, including:

- ❖ Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations.
- ❖ Project information to raise awareness of the NWRL and its benefits, explain the proposed works at each site and provide updates on construction progress.
- ❖ Community information, including contact numbers for enquiries / complaints.
- ❖ Signage and information to mitigate impacts on local businesses which may be obscured by the construction site.

Impacts on Business and Compensation

272

◆ Issue

EIS 1 does not appropriately consider the extended trading hours of the shopping centre, its peak trading periods and the approved uses of the RHTC, Northern Precinct and Sleeve Sites.

◆ Response

As indicated in the Construction Environmental Management Framework (refer to Appendix C), the majority of the station and above ground construction activities would be undertaken between 7am and 6pm on weekdays and 8am-1pm on Saturdays. Some activities would need to be undertaken outside of these hours – these are described in the Construction Environmental Management Framework. The Framework also indicates:

"with the exception of emergency and tunneling works, activities will not take place outside standard hours without prior discussion with and/or notification of local residents, businesses and OEH."

The Construction Environmental Management Framework also indicates that the NWRL Principal Construction Contractors would develop and implement a Business Management Plan (BMP), which would document key issues by locality with a particular focus on proactive consultation with affected businesses.

273

◆ Issue

Impact on business and property by the works performed by the NWRL is not to disadvantage the RHTC and its tenants, and the Principal Contractor is to take all precautions to mitigate any impact on the businesses.

◆ Response

The Construction Environmental Management Framework (refer to Appendix C) indicates that the Principal Contractor would develop and implement a Business Management Plan (BMP), which would document key issues by locality with a particular focus on proactive consultation with affected businesses.

In addition, it should be noted that the construction of NWRL is expected to benefit food and retail outlets as a result of demand from construction workers. In the longer term, NWRL would significantly add to the visibility and patronage of Rouse Hill to the benefit of businesses and property owners.

274

◆ Issue

Impact on sensitive businesses - where certain businesses carry out medical, dental or a business of another sensitive nature, NWRL must ensure that the works do not interfere with these businesses and must take all precautionary means of consultation with RHTC / Centre Management as well as the business in question Business Disturbances; all businesses have the right to operate with a minimum of disturbances

Response

The Construction Environmental Management Framework (refer to Appendix C) indicates that the NWRL Principal Construction Contractors would develop and implement a Business Management Plan (BMP), which would document key issues by locality with a particular focus on proactive consultation with affected businesses. The BMP would include:

- Identification of specific businesses which are sensitive to construction activity disturbances.
- Summary of the commercial character of the locality, its general trading profile (daily and annually) and information gained from the business profiling such as:
  - Operating hours.
  - Main delivery times.
  - Reliance on foot traffic.
  - Any signage or advertising that may be impacted.
  - Customer origin.
  - Other information specific to the business that will need to be considered in construction planning.
- Define the roles and responsibilities in relation to the control and monitoring of business disturbances.
- Identification of locality specific standard business mitigation measures which would be implemented.
- Maps and diagrams to illustrate the information for easy identification of measures which would be implemented.
- Description of the monitoring, auditing and reporting procedures.
- Procedure for reviewing performance and implementing corrective actions.
- Description of the complaints handling process.
- Procedure of community consultation and liaison

275

Issue

During the lengthy construction period, the impact on RHTC, the businesses within the existing RHTC, future stages of the RHTC and the planned Rouse Hill Northern Precinct may be dire in regards to loss of income, increased operational costs and potential reputational damage

Agree with GPT a mechanism by which compensation could be sought should there be adverse impacts to the RHTC business and businesses within RHTC as a consequence of the NWRL.

Response

The Construction Environmental Management Framework (refer to Appendix C)indicates that the NWRL Principal Construction Contractors would develop and implement a Business Management Plan (BMP), which would document key issues by locality with a particular focus on proactive consultation with affected businesses. The BMP would include:

- Identification of specific businesses which are sensitive to construction activity disturbances.
- Summary of the commercial character of the locality, its general trading profile (daily and annually) and information gained from the business profiling such as:

  - Operating hours.
  - Main delivery times.
  - Reliance on foot traffic.
  - Any signage or advertising that may be impacted.
  - Customer origin.
  - Other information specific to the business that will need to be considered in construction planning.
- ❖ Define the roles and responsibilities in relation to the control and monitoring of business disturbances.
- ❖ Identification of locality specific standard business mitigation measures which would be implemented.
- ❖ Maps and diagrams to illustrate the information for easy identification of measures which would be implemented.
- ❖ Description of the monitoring, auditing and reporting procedures.
- ❖ Procedure for reviewing performance and implementing corrective actions.
- ❖ Description of the complaints handling process.
- ❖ Procedure of community consultation and liaison.

As indicated in the Construction Environmental Management Framework, the NWRL Principal Construction Contractors would develop and implement a hierarchy of traffic management documentation including:

1. A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction.
2. A Construction Traffic Control Plan setting out the specific traffic and transport management arrangements to be implemented at specific locations during construction.

The Construction Environmental Management Framework also indicates that TfNSW and its Principle Construction Contractors would undertake liaison with agencies and the community regarding traffic management. This would involve:

- ❖ Establishment of a Traffic and Transport Liaison Group likely to consist of representatives from NWRL Contractors, TfNSW, RMS, NSW Police and bus operators. The group would review Road Occupancy Licence Application to monitor potential cumulative impacts from multiple Road Occupancy Licences operating concurrently in one area.
- ❖ Establishment of a Central Project Coordination Committee which will seek to coordinate NWRL works with other major developments. The committee will also take a strategic approach to longer term traffic and transport management and review permanent arrangements including network integration with NWRL facilities.

276

Issue

The impact on many businesses is likely to be negative, for a number of years. No attempt has been made to quantify the impacts.

Response

Impacts on local business are addressed in Chapter 13 of EIS 1.

The Construction Environmental Management Framework (refer to Appendix C) indicates that the NWRL Principal Construction Contractors would develop and implement a Business Management Plan (BMP), which would document key issues by locality with a particular focus on proactive consultation with affected businesses.

In addition, it should be noted that the construction of NWRL is expected to benefit food and retail outlets as a result of demand from construction workers. In the longer term, NWRL would significantly add to the visibility and patronage of Rouse Hill to the benefit of businesses and property owners.

277

Furthermore, EIS 1 only considers business impacts on immediately adjoining tenants. The works will impact the entire RHTC, with traffic, noise, dust and worksite hoarding significantly reducing the attractiveness of RHTC as a destination.

Response

The Construction Environmental Management Framework (refer to Appendix C) indicates that the NWRL Principal Construction Contractor would develop and implement a Business Management Plan (BMP), which would document key issues by locality with a particular focus on proactive consultation with affected businesses.

In addition, it should be noted that the construction of NWRL is expected to benefit food and retail outlets as a result of demand from construction workers. In the longer term, NWRL would significantly add to the visibility and patronage of Rouse Hill to the benefit of businesses and property owners.

278

Issue

A number of potential business costs which have generally not been identified in the EIS 1, include:

- Additional costs associated with increased cleaning, security, car park operation, resourcing, maintenance to roads, maintenance to landscaping, maintenance to air conditioning equipment, ncreased insurances, and increase resourcing to manage stakeholder engagement and complaints.
- Reduced visitation leading to claims for rent abatements/rent reductions due to visual amenity impacts, lack of passing trade, traffic redirection, and problems accessing the centre.

◆ Response

The Construction Environmental Management Framework (refer to Appendix C) indicates that the NWRL Principal Construction Contractors would develop and implement a Business Management Plan (BMP), which would document key issues by locality with a particular focus on proactive consultation with affected businesses.

In addition, it should be noted that the construction of NWRL is expected to benefit food and retail outlets as a result of demand from construction workers. In the longer term, NWRL would significantly add to the visibility and patronage of Rouse Hill to the benefit of businesses and property owners.

Car Parking

279

◆ Issue

Parking is not indicated in the site layout for the proposed works at Old Windsor Road to White Hart Drive (Construction Site 13). Considering its location (just south of RHTC), this is likely to place pressure on existing parking provisions.

Furthermore, if parking availability on either the Rouse Hill Station or Windsor Road Viaduct sites is insufficient, increased parking demand is likely to be borne by RHTC. Lack of available carparking will discourage visitation by customers. This in turn may have a detrimental impact on the continued commercial success of RHTC.

◆ Response

Chapter 9 of EIS 1 describes impacts associated with Construction Traffic and Transport. Mitigation measure T10 (refer to Chapter 7) indicates:

"The need for, and provision of, alternative remote parking locations and shuttle bus transfers for daytime and night time construction staff would be considered for all construction sites during detailed construction planning."

The Construction Environmental Management Framework (refer to Appendix C) details the development of Construction Traffic Management and Control Plans. Where relevant, these plans would include a car parking management plan.

In combination, these measures would limit the impact of construction works on parking capacity at RHTC, removing the need for any additional parking controls.

280

◆ Issue

Underground parking in RHTC is currently provided free for the first 3 hours for the use of visitors to the centre. Consideration of more stringent parking controls, such as a number plate recognition system, may be required to ensure that the car park is not used inappropriately by construction employees (e.g. to discourage entering / exiting the car park every 3 hours). There would be costs associated with such a system upgrade and these costs should be met by TfNSW.

◆ Response

Traffic and car parking management measures would substantially minimise the impact of construction activities on car park demand at Rouse Hill Town Centre, avoiding the need to put in place additional RHTC car parking controls to deal specifically with NWRL construction traffic.

281

◆ Issue

There is likely to be a significant number of construction worker vehicles wanting to park on the Rouse Hill station site. There is little detail within EIS 1 as to how the project might co-ordinate construction workers car travel to minimise the impact on RHTC (for instance parking remotely and traveling to the site on a bus/minibus.)

◆ Response

Chapter 9 of the EIS describes impacts associated with Construction Traffic and Transport. Mitigation measure T10 indicates (refer to Chapter 7): *"The need for, and provision of, alternative remote parking locations and shuttle bus transfers for daytime and night time construction staff would be considered for all construction sites during detailed construction planning."*

The Construction Environmental Management Framework (refer to Appendix C) details the development of Construction Traffic Management and Control Plans. Where relevant, these plans would include a car parking management plan.

In combination, these measures would limit the impact of construction works on parking capacity at RHTC, removing the need for any additional parking controls.

282

◆ Issue

Appropriate carpark measures will need to be in place to ensure queuing for traffic

entering the worksites during peak periods does not occur. This could potentially affect the accessibility to the centre and compromise pedestrian safety if queuing occurs over intersections.

◆ Response

The Construction Environmental Management Framework (refer to Appendix C), details the development of Construction Traffic Management and Control Plans. Where relevant, these plans would include a car parking management plan.

283

◆ Issue

During construction, all parking adjacent to Windsor Road is likely to be displaced. This includes:

- ❖ approximately 130 barrier restricted spaces at the corner of Windsor Rd and White Hart Drive, which largely cater for staff;
- ❖ approximately 40 on street spaces between Windsor Road and the town centre, which cater for a range of casual users;

- approximately 240 parking spaces located north of Rouse Hill Drive adjacent to Windsor Road, which cater for staff, special events and peak periods; and
- approximately 160 informal spaces on grass available for peak periods and special events, located to the immediate north of the 240 spaces and south of Commercial Road.

No details have been given as to how and where lost car parking would be replaced. The loss of 400 formal parking spaces would have a significant detrimental impact on the operation of the town centre. The inevitable increase in demand on the basement car park may increase operational costs and reduce the level of amenity which visitors have become accustomed to at RHTC. This loss of amenity could potentially deter visitation. In turn, this may have a detrimental impact on the continued commercial success of RHTC. Therefore it is essential that the car parking is provided elsewhere by TfNSW.

Response

Consistent with existing agreements, TfNSW would not replace this car parking.

Construction Environmental Management

284

Issue

Condition / Dilapidation Surveys. RHTC insist that the Principal Contractor has prepared a Condition / Dilapidation Survey by an agreed independent consultant

Response

As indicated in the Construction Environmental Management Framework (refer to Appendix C), the NWRL Principal Construction Contractors would offer condition surveys, in writing, to all relevant land and infrastructure owners (those where the works have potential to cause cosmetic or structural damage). If accepted, the Principal Construction Contractors must produce a comprehensive written and photographic condition report prior to relevant works commencing.

285

Issue

EIS 1 has stopped short in providing the stakeholders the assurances necessary that their tenants, residents and general public require, in addressing the pedestrian flow and safety, traffic congestion, parking, amenity of the residents, every day running of the RHTC and its employees, as well as a role in ensuring the document takes into account the stakeholders' issues.

Response

The Construction Environmental Management Framework (refer to Appendix C), provides for the development of Business Management Plans. These plans would include consultation with specific businesses to identify individual risks and develop appropriate mitigation measures.

286

Issue

RHTC require a collaborative and consultative approach by NWRL & the Principal Contractor in the event that the RHTC commence construction works on the Northern Precinct during the NWRL time table. RHTC will be looking to access and operate their site without being a) delayed by the NWRL works . b) limited in the scope of the works c) incur any additional cost in design and construction of the works.

Response

The Construction Environmental Management Framework (refer to Appendix C) sets an approach to stakeholder and community involvement which confirms that TfNSW and the NWRL Principal Construction Contractors would work closely with stakeholders and the community to ensure they are well informed regarding the construction works.

In relation to RHTC, TfNSW has had a number of discussions with GPT about the interface between RHTC and NWRL. These discussions will continue as the project proceeds to procurement to and construction.

The Construction Environmental Management Framework also indicates that TfNSW and its Contractors would undertake liaison with agencies and the community regarding traffic management. This would involve:

- Establishment of a Traffic and Transport Liaison Group likely to consist of representatives from NWRL Contractors, TfNSW, RMS, NSW Police and bus operators. The group would review Road Occupancy Licence Applications to monitor potential cumulative impacts from multiple Road Occupancy Licences operating concurrently in one area.
- Establishment of a Central Project Coordination Committee which will seek to coordinate NWRL works with other major developments. The committee will also take a strategic approach to longer term traffic and transport management and review permanent arrangements including network integration with NWRL facilities.

287

Issue

RHTC is a Major Centre, being the nominated Regional Centre for the North West Sector. However, EIS 1 does not recognise Rouse Hill as one of the major centres which will be affected by the NWRL, nor is the RHTC or Northern Precinct depicted on the relevant map (mapping error).

Response

The Land Use and Community Facilities chapter of EIS 1 (Chapter 14) notes the designation of Rouse Hill as a Major Centre in the Metropolitan Plan for Sydney 2036 and refers to the planned development of the Northern Frame immediately north of the existing Rouse Hill Town Centre.

Rouse Hill Town Centre and the Northern Frame are depicted on Figures 14.9 and 14.10, part of the Land Use and Community Facilities chapter of EIS 1.

EIS 1 acknowledges the potential for construction sites to lead to reduced visibility for local businesses and therefore potential loss in passing trade. The Construction Environmental Management Framework (refer to Appendix C) indicates that the NWRL Principal Construction

Contractors would ensure temporary construction works including site hoardings and acoustic sheds consider urban design and visual impacts, including:

- Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations.
- Project information to raise awareness of the NWRL and its benefits, explain the proposed works at each site and provide updates on construction progress.
- Community information, including contact numbers for enquiries / complaints.
- Signage and information to mitigate impacts on local businesses which may be obscured by the construction site.
- NWRL advertising / public awareness campaigns.
- Logos / branding, including NWRL, NSW Government, and Contractor branding.

The design of all temporary works would be approved by TfNSW in relation to urban design and visual impacts.

288

Issue

Further, EIS 1 does not identify the important community facilities within RHTC, including the Library, internal community uses, and outdoor community spaces.

Response

The Land Use and Community Facilities chapter of EIS 1 (Chapter 14) notes that a number of community facilities are located within the Rouse Hill Town Centre.

290

Issue

Within the immediate proximity of the NWRL to the Town Centre, a series of major construction worksites will divide Rouse Hill from Windsor Road for a number of years, creating a visual and physical barrier.

Response

The impact of construction sites and vehicular and pedestrian traffic is addressed in Chapter 9 Construction Traffic and Transport chapter of EIS 1. Changes to the road network in the vicinity of RHTC during construction would be minimal with all general vehicle movements being retained.

Discussions have been held with RHTC with respect to retaining two way traffic movements on Tempus Street. This would be further elaborated in subsequent Traffic Management Plans as the construction program is further developed.

In relation to pedestrian movements, informal east-west pedestrian routes through the existing T-way interchange would be lost during the construction period. Pedestrians would be redirected via either Rouse Hill Drive or White Hart Drive, which would in a diversion of approximately 200 metres.

The cycle route on the western side of Old Windsor Road would be unaffected by construction.

EIS 1 acknowledges the potential for construction sites to lead to reduced visibility for local businesses and therefore potential loss in passing trade. The Construction Environmental Management Framework (refer to Appendix C) indicates that the NWRL Principal Construction Contractors would ensure temporary construction works including site hoardings and acoustic sheds consider urban design and visual impacts, including:

- Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations.
- Project information to raise awareness of the NWRL and its benefits, explain the proposed works at each site and provide updates on construction progress.
- Community information, including contact numbers for enquiries / complaints.
- Signage and information to mitigate impacts on local businesses which may be obscured by the construction site.
- NWRL advertising / public awareness campaigns.
- Logos / branding, including NWRL, NSW Government, and Contractor branding.

The design of all temporary works would be approved by TfNSW in relation to urban design and visual impacts.

291

Issue

Increased vehicular traffic through the centre (ie along Main Street) as a consequence of changes to the existing traffic patterns to the detriment of the open spaces and ambience of the centre:

- Diminished car park capacity resulting in reduced visitation
- Noise and dust reducing restaurants ability to trade in their licensed areas
- General construction traffic intimidating customers

Response

EIS 1 sets out extensive management measures aimed at reducing the impact of construction traffic on the amenity and business operations of RHTC as well as safety of customers. These measures provide an appropriate basis for managing the impacts of a major construction project and would be further elaborated by the NWRL Principal Construction Contractors.

292

Issue

There is no recognition of or assessment of impacts on future occupants of the Northern Precinct of RHTC. It is important to ensure that future businesses can be protected by the mitigation measures (eg business consultation groups and business impact register).

Response

As indicated in the Land Use and Community Facilities chapter of EIS 1 (Chapter 14), consultation with relevant stakeholders regarding the implications of NWRL on RHTC have been undertaken and would continue into the future.

293

◆ Issue

EIS 1 indicates that air quality is a non-core issue however, given the unique open air trading environment and the immediate proximity of a transport interchange, outdoor dining and public squares, reduced air quality will have a significant impact on RHTC.

It is noted that the DGRs include a supplementary requirement for the EIS 1 to assess the air quality impacts on sensitive receptors, however this is a very general requirement which does not specify how the air quality impacts should be assessed or identify or qualify sensitive receptors. Given the unique trading environment of RHTC, (the open air retail and dining areas and the residential component) it is considered a highly sensitive receptor and the impact on air quality is a key issue that must be adequately assessed and managed

◆ Response

Air quality is assessed as a non-key issue as construction related air quality issues can be adequately managed through an environmental management approach. This is described in the Construction Environmental Management Framework (refer to Appendix C) and would be further elaborated by the NWRL Principal Construction Contractors.

294

◆ Issue

Confirmation of the impacts of demolition of existing buildings and structures has not been incorporated, with an appropriate assessment of any hazardous materials.

Assessment of air quality impacts only considers human health impacts.

It is finally noted that the EIS 1 does not refer to spoil stockpiles at Construction Sites 14 and 15

◆ Response

Demolition work would be undertaken by licensed demolition contractors and would be controlled and undertaken in stages where possible. This could involve a hazardous materials analysis prior to stripping buildings and demolition of the main structure. Glass and metal items would be removed prior to the building being demolished using a tracked excavator or other conventional method. Materials such as bricks and tiles, timber, plastic and metals would be separated where practicable and sent to a waste facility with recycling capabilities. All services into the buildings would be made safe and redundant.

295

◆ Issue

Dust control and air filtration units to be used where necessary

◆ Response

The Construction Environmental Management Framework (refer to Appendix C) outlines an approach to the management of construction related air quality issues. This would be further elaborated by the NWRL Principal Construction Contractors.

Construction - Noise and vibration

296

◆ Issue

Establish appropriate working hours and noise criteria having regard to the existing and approved uses of the RHTC.

◆ Response

Noise impacts and criteria on the RHTC have been further investigated during the Public Exhibition phase of EIS 1. Details of this investigation are provided throughout the responses which follow.

297

◆ Issue

Excessive noise arising from Stage 2 construction will impact on Cinema operation. There is no indication of how this impact could be mitigated.

◆ Response

Impacts from Stage 2 construction will be assessed and presented as part of EIS 2.

It is noted that EIS 1 details potential impact to the Reading Cinema complex during Stage 1 construction works. Specifically the EIS states:

"The Reading cinema complex is located approximately 40 m from the proposed excavation works at the closest point. No rock breaking works are anticipated to be undertaken at this location and the highest ground-borne noise levels are anticipated to be associated with bored piling activity. On the basis of the large offset distance to the proposed works, ground-borne noise levels from the piling works are not anticipated to be audible within the cinemas.

298

◆ Issue

Noise and Vibration Issues Raised in Technical Appendix to GPT Submission

a. Retail premises within Rouse Hill Town Centre operate into the evening period and therefore should be considered for any proposed evening work.

b. Assessment to the approved Level 2 DA of RHTC, to be situated between Tempus St and the existing RHTC, has not been considered in the assessment.

c. Residential premises within the RHTC have also not been considered in the assessment. Assessment of construction noise to residential apartments within the Rouse Hill Town Centre is required as they are located closer than other identified residential receivers.

d. Stage 2 works, including station building and station precinct construction have also been deferred to EIS2. Consideration of these other construction phases will either extend the duration of the construction works or compound noise impact as additional equipment will be operating in the vicinity.

e. The number of each plant item to be expected at each site during each phase of works, or that assumed in the noise assessment, needs to be provided to ensure an appropriate noise assessment has been carried out. It is noted that Table 7.32 of the Main Report [Chapter 7,

p.7-50] sets out Indicative Plant and Equipment but no reference is made to this in the noise assessment. Noise level data of all typical road construction equipment are not included within the report or Construction Noise and Vibration Impact Strategy in Appendix E. Detail of the assumed equipment and number of each plant item is required to clarify why predicted noise levels differ.

f. Clarification required as to the assumptions for piling activities and assessment onto the Rouse Hill Town Centre.

g. The EIS should clarify whether the specific 3m hoardings are to be provided around Rouse Hill Station. It is considered reasonable given the 10dB(A) predicted exceedance. If not, justification as to why noise barriers have not been considered should be discussed. Consideration of feasible and reasonable noise mitigation should be considered for the RHTC.

h. There is a discrepancy between the 'Safe Working Distances' quoted for vibration generating equipment between Table 3.3 [p.13] and Table 7.2 [p.40]. Table 7.2 indicates a conservative assessment, whilst Table 3.3 indicates assessment directly against the BS7385.2- 1993. However contrary to these statements, Table 7.2 permits working at distances closer than that specified in Table 3.3. Whilst construction work at the Rouse Hill Station is identified to be as close as 20m, Section 7.11.4 states that "vibration impacts are not anticipated to be appreciable at the nearest residential and commercial receivers." However this contradicts Section 7.13.5 [p.101] which stipulates that vibration monitoring will be required where structures are located closer than 50m to earthworks.

i. The internal ground borne noise NML of LAeq(15minute) 60dB(A) is considered too high, being only 10dB(A) below the external NML. Whilst a more stringent criteria and assessment is required for the Reading Cinema Complex (see Point 3.2), Assuming a conservatively low outside to inside noise reduction of 20dB(A) for a building with windows and doors closed, the NML should be no greater than 50dB(A). The screening test and potentially affected receivers should be revised on this basis.

j. The assessment of ground borne noise into the Reading Cinema [Section 7.11.4, p.89] has not presented any information detailing the procedure used to draw conclusions.

k. EIS 2 is also to contain assessment of the construction of the station building and station precinct. EIS2 should ensure that the cumulative impact of any construction work that may occur simultaneously with that addressed in EIS1 is covered. There is some concern that the deferral of these construction phases will delay identification of potential cumulative impacts.

◆ Response

a. Noise impacts on the RHTC have been revised to include the evening period for commercial receivers, including outdoor eating areas (assessed under passive recreation criteria). Earthworks and site establishment would occur during the daytime period with noise levels predicted to exceed the NMLs. While viaduct and station platform construction works may extend into the evening, the commercial evening criterion is the same as the daytime criterion. Compliance with the daytime and evening NMLs is predicted for commercial receivers during viaduct and station platform construction.

b. Details of the proposed Level 2 DA of RHTC, to be situated between Tempus Street and the existing RHTC have not been considered at this stage in the assessment. This development would be considered during preparation of the more detailed site-specific Construction Noise and Vibration Impact Statements during the detailed design stage.

c. Predicted noise impacts on RHTC residential receivers indicate that earthworks and site establishment would result in daytime exceedances of the NMLs. Compliance is predicted at these residences during viaduct and station platform construction works.

d. Stage 2 construction activities will be assessed in accordance with the ICNG as part of EIS 2. The construction phases would not overlap.

e. The assessment is based on a realistic worst case construction scenario. Consistent with other NWRL construction sites, detailed information relating to the precise equipment to be used on this site is not known. Further detail would become available in the detailed design phase.

f. At this stage it is assumed that all piling would be bored rather than driven.

g. Rouse Hill Station would be elevated and so noise barriers during construction are not likely to be feasible as a mitigation measure. Notwithstanding exceedances are predicted during the earthworks and site establishment phase which occurs prior to installation of site hoarding. Compliance with the NMLs is expected during Viaduct and Station Platform Construction.

h. The Construction Noise and Vibration Strategy is based on more conservative safe working distances. Section 7.13.5 [p.101] of the Noise and Vibration Technical Report states that attended vibration monitoring may be required (not will be required). This depends on the equipment proposed at any particular location. At RHTC, the impacts are as described in Section 7.11.4 of the Technical Report.

i. The proposed ground-borne noise management level of L_{Aeq} (15minute) 60dB(A) for commercial receivers is consistent with that adopted for the proposed CBD Metro Construction Noise Assessment. The ICNG does not provide ground-borne NMLs for Commercial receivers. At the RHTC site, the assessment indicates that ground-borne construction noise and vibration impacts are not anticipated to be appreciable at the nearest residential and commercial receivers. The Reading Cinema is typically 60 m from the nearest T-way bus interchange carriageway, and as such external noise levels are expected to be 60 dBA to 66 dBA from bus operations. Furthermore the cinema fronts main street and façade noise levels from heavy vehicles are likely to be up to 85 dBA. External NMLs for the cinema are therefore not required to be any lower than existing ambient noise levels.

j. Section 7.11.4 of the Noise and Vibration Technical paper states that ground-borne noise is not expected to be audible in the cinema. This will also be reviewed in the detailed design phase.

k. EIS1 and EIS2 are for distinct stages of the project. The construction phases would not overlap hence there would not be a compound noise impact.

299

◆ Issue

The noise & vibration assessment in EIS 1 does not satisfy GPT that the construction noise and vibration impacts are fully understood nor will they be property managed given the unique trading environment of RHTC.There is a lack of assessment of impact on retailers trading into the evening as well as residential premises within the RHTC.

There is inconsistency and a lack of detail in regards to assumptions associated with noise prediction levels.

Incorrect assessment of RHTC as a “commercial” premises and inadequate proposed mitigation strategies.

Inconsistency in regards to assumptions associated with safe working distances and vibration modelling.

The assessment criteria for noise borne vibration has been set too high which is unacceptable to GPT.

Clarification of assumptions of assessment findings particularly in regards to Cinema.

◆ Response

A comprehensive Noise and Vibration Technical Paper for major civil construction works has been presented as part of EIS 1.

300

◆ Issue

Assessment of "major roadworks" [Section 7.11.1, paragraph 2, p 86] associated with the temporary relocation and reinstatement of the Bus T-Way has not been carried out. This deficiency could alter the duration and proximity of works to the RHTC.

◆ Response

It is anticipated that the worst-case impacts of road works would not be greater than the worst-case daytime construction noise impacts assessed under the 'Earthworks and Site Establishment Scenario'. The impacts of these works will be considered further during preparation of the more detailed site specific Construction Noise and Vibration Impact Statements during the detailed design stage.

Construction - Traffic

301

◆ Issue

Bicycle racks and bicycle lockers are currently provided in the bus interchange – although bike racks are provided throughout the town centre, this is the only location where lockers are provided. The EIS 1 does not indicate whether or not these facilities will be re-located during construction.

◆ Response

As part of the Construction Traffic Management and Control Plans to be prepared by the NWRL Principal Construction Contractors, arrangements for the relocation of bicycle racks and lockers will be agreed.

302

◆ Issue

Safety and risks to pedestrians and cyclists during construction -

NWRL EIS 1 states that at the Rouse Hill construction site, pedestrians from Windsor Road would be redirected via either Rouse Hill Drive or White Hart Drive during construction and that there would be a minor impact. It also states that the key cycle route in the area would be unaffected by the construction and that cycle facilities currently at the bus interchange will be relocated. There is no mention how pedestrian and cyclist safety will be managed during the construction of the

NWRL. This is an issue that needs to be addressed (as part of the further staged Traffic Management Plans) due to the nature of the Rouse Hill being a pedestrian friendly regional centre.

◆ Response

This issue would be addressed as part of the development of the Construction Traffic Management and Control Plans by NWRL Principal Construction Contractors, as described in the Construction Environmental Management Framework (refer to Appendix C).

303

◆ Issue

The EIS 1 does not recognise that the relocation of bus stops to the eastern side of Tempus Street will impact on pedestrian movements along the existing footpath. The footpath is less than 4m wide and would be constrained by bus stop shelters, which would be required due to a lack of existing bus shelters along Tempus Street.

◆ Response

Additional details in relation to multi modal arrangements at Rouse Hill during construction have been communicated to GPT officers in various meetings subsequent to the exhibition of EIS 1. This is continuing. Additionally, further details will be provided in the Traffic Management Plans.

304

◆ Issue

Develop a site specific Traffic Management Plan addressing issues such as pedestrian, cyclists, buses and motorists, entry end exits of heavy vehicles and the effect on RHTC pedestrians and vehicle traffic should be developed in consultation with GPT that details;

- ❖ Changes to Tempus Street and to the potential adjustment of the Windsor / Schofields Rd intersection.
- ❖ Information about the management of access to Construction Site 14 from White Hart Drive as there is potential for substantial queuing impacts. There is also the potential to impact on existing intersections on White Hart Drive, which have not been identified.
- ❖ Appropriate communication procedures to consult with GPT and advise of any temporary or permanent road diversions or amendments.
- ❖ A traffic minimisation plan should also be in the forefront of any TMP.

◆ Response

As indicated in the Construction Environmental Management Framework (refer to Appendix C), NWRL Principal Construction Contractors would develop and implement a hierarchy of traffic management documentation including

1. A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction.
2. A Construction Traffic Control Plan setting out the specific traffic and transport management arrangements to be implemented at specific locations during construction.

The Construction Environmental Management Framework also indicates that TfNSW and its Contractors would undertake liaison with agencies and the community regarding traffic management. This would involve:

- Establishment of a Traffic and Transport Liaison Group likely to consist of representatives from NWRL Contractors, TfNSW, RMS, NSW Police and bus operators. The group would review Road Occupancy Licence Applications to monitor potential cumulative impacts from multiple Road Occupancy Licences operating concurrently in one area.
- Establishment of a Central Project Coordination Committee which will seek to coordinate NWRL works with other major developments. The committee will also take a strategic approach to longer term traffic and transport management and review permanent arrangements including network integration with NWRL facilities.

305

Issue

A transparent and robust methodology for the assessment of traffic impacts needs to be developed by TfNSW, and must have regard to;

- The cumulative traffic impact of other major developments including the Rouse Hill Northern Precinct.
- The cumulative traffic impact of other major infrastructure projects including the Schofields Road upgrade.
- The quantitative impact assessment of vehicles on all affected local roads, with potential impact on the safety and amenity of local residents.
- The likely significant impact on the level of service at Windsor Road and Schofields Road, given that this intersection is the 'gateway' to the RHTC. Cumulative assessment of this intersection in conjunction with the network impacts of the Windsor Road / White Hart Drive intersection is required.
- The cumulative impacts of the NWRL as a whole as a result of the wider access routes of vehicles attending Construction Sites 13 to 17.

Response

The Construction Environmental Management Framework (refer to Appendix C) indicates that TfNSW and its Contractors would undertake liaison with agencies and the community regarding traffic management. This would involve:

- Establishment of a Traffic and Transport Liaison Group likely to consist of representatives from NWRL Contractors, TfNSW, RMS, NSW Police and bus operators. The group would review Road Occupancy Licence Application to monitor potential cumulative impacts from multiple Road Occupancy Licences operating concurrently in one area.
- Establishment of a Central Project Coordination Committee which will seek to coordinate NWRL works with other major developments. The committee will also take a strategic approach to longer term traffic and transport management and review permanent arrangements including network integration with NWRL facilities.

Chapter 9 Construction Traffic and Transport of EIS 1 and the supporting Technical Paper 1 – Construction Traffic and Transport Management, provides a quantitative analysis of the impact of construction traffic on intersection performance, using criteria of Degree of Saturation (DOS) and

Level of Service (LOS). The documents also quantify daily vehicle movements by access route for each construction site.

Additional analysis and intersection traffic modeling of certain locations may be required to assess the combined impacts on adjacent intersections. This would be determined during detailed construction planning.

The NWRL team would continue to consult with GPT and co-ordinate activities across the two projects as details of the anticipated timing and construction methodology for expansion of the Rouse Hill Town Centre are developed.

306

◆ Issue

Ongoing engagement with GPT for the purposes of agreeing the bus interchange relocation, kiss and ride and taxi relocation, pedestrian access arrangements; pedestrian amenity, impacts of bus re-rerouting, and impact on key intersections particularly when combined with the construction access / egress driveways.

◆ Response

TfNSW is committed to engaging with stakeholders, including GPT to manage the impact of NWRL. Through this engagement the measures set out in the Construction Environmental Management Framework (refer to Appendix C), including the development and implementation of a hierarchy of traffic management documentation, these issues can be effectively addressed.

307

◆ Issue

Develop a Pedestrian and Cyclist Management Plan in consultation with GPT that stipulates how pedestrian movements and pedestrian safety is to be managed, to ensure safe movements around the construction worksites and modified transport facilities. These measures should have regard to the highly pedestrian-focused nature of the RHTC. The management plan will also need to consider relocation of bicycle racks and lockers displaced as a result of the works.

◆ Response

As indicated in the Construction Environmental Management Framework (refer to Appendix C), NWRL Principal Construction Contractors would develop and implement a hierarchy of traffic management documentation

308

◆ Issue

Construction traffic and transport assessment methodology -

It is considered that NWRL EIS 1 does not provide a transparent and robust methodology for the assessment of traffic impacts that would be expected to be included as part of an Environmental Impact Statement in order to gain approval for major civil construction works. In comparison to the traffic modelling and assessment approach requested by the Roads and Maritime Services (RMS) and

Transport for NSW (TfNSW) for the RHNP, GPT would like to see the following items to be considered / included in the assessment.

- Existing traffic count data used in the assessment and sources of data;
- A future year assessment (at least up to 2016 when the majority of the construction activities are expected to be completed) or justification as to why no future year assessment has been undertaken;
- Trip generation or distribution of construction activities;
- Existing and proposed intersection layouts of key intersections along all haulage routes;
- Cumulative impacts of construction activities of all NWRL construction sites to key intersections along all haulage routes;
- Cumulative impacts of other known or planned government sponsored construction activities generated by other major projects such as Schofields Road upgrade; and
- Network assessment of coordinated intersections to understand the network impacts of affected intersections.

Response

Intersection modelling using the SIDRA package was undertaken to assess the construction-related impacts and develop appropriate mitigation. This is an accepted approach in environmental impact assessments of this type.

Prior to undertaking any activity NWRL Principal Construction Contractors would prepare Construction Traffic Management Plans that identify overarching and detailed procedures and techniques to ensure effective management and delivery of the work.

The NWRL team would continue to consult with GPT and co-ordinate activities across the two projects as details of the anticipated timing and construction methodology for expansion of the Rouse Hill Town Centre are developed.

309

Issue

General details of construction activities - NWRL EIS 1 provides generic details only of construction activities at each site individually. No detailed information is provided on construction activities to be undertaken, estimation of construction plant required and associated movements and impacts throughout the construction period to justify the determination of the nominated truck numbers in the EIS. Estimation on the workforce required, associated movements and parking allocation are also not provided to justify the determination of the number of general vehicles that will be generated at each site. These construction activity details are required to be provided (as part of the further staged Traffic Management Plans) in order to understand the full extent of the construction activities surrounding the Rouse Hill Regional Centre.

Response

As indicated in the Construction Environmental Management Framework (refer to Appendix C), the NWRL Principal Construction Contractor would develop and implement a hierarchy of traffic management documentation including:

1. A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction.
2. A Construction Traffic Control Plan setting out the specific traffic and transport management arrangements to be implemented at specific locations during construction.

310

◆ Issue

Construction impacts to roads and intersections - NWRL EIS 1 provides information on the number of likely construction vehicles per day using the arterial roads and some local roads (along the access routes only). However the quantitative impact of these vehicles on these roads is not provided.

Other local roads that might be impacted such as Caddies Boulevard and Sanctuary Drive at Rouse Hill have also not been identified or assessed in NWRL EIS 1 and could be impacted adversely in terms of capacity and efficiency as well as safety and amenity of local residents.

Further details on the tender construction traffic management plans in residential areas as well as demonstration of vehicle turning paths are required.

◆ Response

The quantitative impacts have been documented in EIS 1 Chapter 9 Construction Traffic. Technical Paper 1 – Construction Traffic and Transport Management lists the outputs of SIDRA analysis of multiple intersections across the project.

EIS 1 does highlight the need for construction vehicles to use White Hart Drive, Caddies Boulevard and Commercial Road to access the Rouse Hill construction site. EIS 1 also proposed to use Rouse Hill Drive for construction vehicle access, however, discussions with GPT are ongoing as to whether Rouse Hill Drive would be available for NWRL use during construction.

The volumes of heavy vehicles movements at the Rouse Hill site would be such that adverse impacts upon these roads would be avoided.

The Rouse Hill site is forecast to generate about 25 heavy vehicles in and 25 heavy vehicles out across an average workday. This amounts to about 2 heavy vehicles in and out every hour assuming trucking is reduced in the peak periods.

As indicated in the Construction Environmental Management Framework (refer to Appendix C), NWRL Principal Construction Contractors would develop and implement a hierarchy of traffic management documentation including:

1. A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction.
2. A Construction Traffic Control Plan setting out the specific traffic and transport management arrangements to be implemented at specific locations during construction.

Construction Traffic Control Plans for each traffic or road occupancy stage at each construction site including specific details of the traffic control arrangements and extent of road occupancy required.

311

Issue

NWRL EIS 1 also states that there would be changes to Tempus Street. GPT are discussing these arrangements with the NWRL design team. The outcomes of this discussion will need to inform the further staged Traffic Management Plans regarding changes to Tempus Street.

The intersection of Windsor Road / Schofields Road is of great importance to GPT as it is the gateway to the Rouse Hill Town Centre. It is documented in the EIS this intersection is performing at LoS D and close to capacity (DoS>0.95) in the existing situation with and without NWRL construction traffic. If a future year was to be assessed, with cumulative NWRL construction traffic as well as cumulative major development and infrastructure projects construction traffic, it is potential that further delays will be experienced at the intersection and subsequent mitigation measures would need to be implemented. It is suggested that certain enabling works at the intersection should be considered from the outset of construction to accommodate all construction traffic and ensure pedestrian safety during the construction period.

Further cumulative assessment of this intersection in conjunction with the network impacts of Windsor Road / White Hart Drive is required.

Dialogue is also required with regard to the potential adjustment of the Windsor Road / Schofields Road intersection. Both Tempus Street and the Windsor Road / Schofields Road intersection directly affect the Rouse Hill Regional Centre in terms of access into the centre and vehicle movements around the centre.

Response

TfNSW would continue to undertake consultation with GPT regarding traffic management around the RHTC.

Additional analysis and intersection traffic modeling of certain location may be required to assess the combined impacts on adjacent intersections.

As indicated in the Construction Environmental Management Framework (refer to Appendix C), NWRL Principal Construction Contractors would develop and implement a hierarchy of traffic management documentation including:

1. A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction.
2. A Construction Traffic Control Plan setting out the specific traffic and transport management arrangements to be implemented at specific locations during construction.

Construction Traffic Control Plans for each traffic or road occupancy stage at each construction site including specific details of the traffic control arrangements and extent of road occupancy required.

312

Issue

Consideration has also not been given to the proximity of the proposed construction access and existing intersection locations along White Hart Drive which might have safety implications for users of Rouse Hill Regional Centre. Further coordination of the construction access at Rouse Hill in consultation with GPT is required.

Response

The exact location of the proposed access driveways in White Hart Drive would be detailed in the Construction Traffic Management and Control Plans after detailed construction planning and in consultation with GPT.

313

Issue

The ability to provide safe and efficient vehicular movements in and out of proposed construction accesses has not demonstrated in EIS 1 and would be required to dispel any concerns of vehicle conflict along Tempus Street at the Rouse Hill site. In addition to this there is no mention of the impact to the quality of the pedestrian environment or mitigation measures required during construction works. During construction pedestrians will need to be protected from noise, dust and dirt created by the construction works. More detail on how this will be achieved in required.

Response

As indicated in the Construction Environmental Management Framework (refer to Appendix C), NWRL Principal Construction Contractors would develop and implement a hierarchy of traffic management documentation including:

1. A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction.
2. A Construction Traffic Control Plan setting out the specific traffic and transport management arrangements to be implemented at specific locations during construction.

314

Issue

NWRL EIS 1 states that access to construction sites would be via major arterial roads and provides a high level description of the proposed route to each construction site. The document however does not provide details of the access route in the wider area of the construction sites, nor does it provide details on how many construction vehicles are expected at each key intersection along the access routes to be generated by each site in a cumulative fashion. For example up to 862 HV movements per day and 842 LV movements per day can be generated by the construction sites 13 to 17, which a significant proportion of these vehicles can have impacts to the intersection of Windsor Road / Schofields Road during construction. GPT requires further information with regard to the wider access routes and associated construction vehicle numbers at each key intersection in the vicinity of Rouse Hill Regional Centre to fully understand the cumulative impacts of all construction sites of NWRL works.

Response

EIS 1 provides detailed traffic generation information for each proposed construction site across the project. EIS 1 also details proposed heavy vehicle routes external to the sites and the anticipated impacts upon key traffic signal locations.

An assessment of the wider access routes and associated construction vehicle numbers at each key intersection in the vicinity of Rouse Hill Regional Centre is not proposed to be undertaken.

315

Issue

GPT have been in consultation with the NSW government agencies including the NWRL team with regards to the construction and development of the RHNP through the development of the traffic and transport assessment over the last 15 months. Further coordination of the methodology of the assessment of the construction of the NWRL and other major developments (including RHNP) is required.

Response

The Construction Environmental Management Framework (refer to Appendix C) indicates that TfNSW and NWRL Principle Construction Contractors would undertake liaison with agencies and the community regarding traffic management. This would involve:

- Establishment of a Traffic and Transport Liaison Group likely to consist of representatives from NWRL Contractors, TfNSW, RMS, NSW Police and bus operators. The group would review Road Occupancy Licence Applications to monitor potential cumulative impacts from multiple Road Occupancy Licences operating concurrently in one area.
- Establishment of a Central Project Coordination Committee which will seek to coordinate NWRL works with other major developments. The committee will also take a strategic approach to longer term traffic and transport management and review permanent arrangements including network integration with NWRL facilities.

316

Issue

Information about the management of the access to the construction site at Rouse Hill (site 14) on White Hart Drive is not provided. If the construction site access located on White Hart Drive is gated this has the potential to create queuing which will cause delays to vehicles on White Hart Drive (vehicles accessing the shopping centre and residential areas) as well as potentially queuing back to Windsor Road and adversely affecting the efficiency of the Windsor Road / White Hart Drive intersection. Further information is required (as part of the further staged Traffic Management Plans) with regard to the management of construction site access.

Response

Further details on proposed access arrangements and traffic management in the vicinity of Rouse Hill would be provided in the Construction Traffic Management and Control Plans to be developed by the NWRL Principle Construction Contractors after detailed construction planning.

317

Issue

Changes to public transport and bus interchange operations during construction -

NWRL EIS 1 states that the existing bus interchange (bus stops, layover areas) would be relocated for the duration of the construction of the Rouse Hill station and makes reference to proposed changes in bus operations and access routes for buses for the duration of station construction. However, no details are provided for the relocation of kiss and ride and taxi facilities currently located at the Rouse Hill bus interchange.

Further details are also required for bus route diversion, bus access and bus interchange arrangements (including kiss and ride and taxis) during construction of the NWRL as this will directly affect how customer arrival experience at the Rouse Hill Regional Centre and the safety of bus interchange users. In particular, further detail is required of the relocated interchange arrangement, bus route diversion due to the proposed closure of the interchange and T-Way, particularly at the intersections of existing T-Way / White Hart Drive and Tempus Street / White Hart Drive.

Consideration should also be given to the feasibility of rerouting buses and relocating the bus interchange. Consultation and coordination with GPT is therefore required to ensure safety and efficiency of bus passengers and that customers are not compromised during the construction of the NWRL.

◆ Response

Consultation is ongoing with GPT regarding additional detail in relation to multi modal arrangements at Rouse Hill during construction.

Additionally, further details would be provided in the Construction Traffic Management and Control Plans to be developed by the NWRL Principal Construction Contractors after detailed construction planning.

318

◆ Issue

EIS 1's intention is to retain two-way traffic movement on Tempus Street, however details are still to be released as to how this will be achieved. The access to Main Street from Tempus Street needs to be clarified as there are likely to be a considerable number of buses and bus stops along Tempus Street which will probably make access less attractive/effective.

EIS 1 states that the management of buses at the interchange is to be reviewed during detailed construction planning to minimise impacts on existing services. As the bus interchange is a vital component of the North West public transport infrastructure any reduction in services would impact visitor numbers to RHTC.

Should the above issues not be suitably addressed, RHTC will be adversely impacted as a result of;

- ❖ diminished arrival experience to RHTC for visitors
- ❖ pedestrian accessibility to public transport modes being compromised
- ❖ pedestrian and cyclist safety not being maintained
- ❖ flow- on impacts to the RHTC internal road network

◆ Response

Consultation is ongoing with GPT regarding additional detail in relation to multi modal arrangements at Rouse Hill during construction.

◆ Response

Additionally, further details would be provided in the Construction Traffic Management and Control Plans to be developed by the NWRL Principal Construction Contractors after detailed construction planning.

319

Issue

Question raised how the issue of pedestrian movement from the western side of Old Windsor Road as a result of the dislodgement by the construction works e.g. is the construction of a temporary pedestrian footbridge a feasible option, when you consider the peak hour traffic movements and the number of bus commuters, additional workforce etc? Request to consider a pedestrian footbridge.

Response

Pedestrians would continue to cross Windsor Road at grade via the existing intersections at the Rouse Hill Drive and White Hart Drive intersections.

320

Issue

Ongoing engagement with GPT for the purposes of agreeing the bus interchange relocation, kiss and ride and taxi relocation, pedestrian access arrangements; pedestrian amenity, impacts of bus re-rerouting, and impact on key intersections particularly when combined with the construction access / egress driveways.

Response

TfNSW is committed to engaging with stakeholders, including GPT to manage the impact of NWRL. Through this engagement the measures set out in the Construction Environmental Management Framework (refer to Appendix C), including the development and implementation of a hierarchy of traffic management documentation, these issues can be effectively addressed.

Construction – Public safety

321

Issue

As a town centre station, the area surrounding the Rouse Hill worksite generates a higher level of pedestrian activity relative to other worksites, and Rouse Hill prides itself on being pedestrian friendly. Maintaining pedestrian and cyclist connectivity, safety and facilities during construction is vital.

Response

This would be addressed as part of the development of the Construction Traffic Management and Control Plans, as indicated in the Construction Environmental Management Framework (refer to Appendix C).

322

Issue

The EIS 1 does not address the way in which pedestrian and cyclist safety will be managed during the construction of the NWRL. This is an issue that needs to be addressed to protect the pedestrian focused nature of the RHTC.

◆ Response

This would be addressed as part of the development of the Construction Traffic Management and Control Plans, as indicated in the Construction Environmental Management Framework (refer to Appendix C).

Construction – Sites and compounds

323

◆ Issue

Assessment of land use impacts has generally been deferred to EIS 2 which is unreasonable given that its construction is proposed as part of EIS 1. Once EIS 1 is approved, work can and will commence on the construction of the viaduct and the decision becomes a fait accompli which is unacceptable to GPT.

The issue of land use impacts encompasses a range of concerns as follows:

The EIS 1 does not specify the extent of the construction site impacts on existing RHTC land use and infrastructure other than relocation of the bus station and layover area.

While indicative details have been provided in respect of construction sites, facilities and layouts, EIS 1 includes provision for the selection of additional construction sites and/ or alteration of the exact locations currently proposed. The criteria provided for selection of these new areas make selection of existing cleared open space the primary focus areas for any such additional sites. No subsequent review, assessment, consultation or approval process is identified as being applicable to any such additional sites, and while the CEMF does envisage some additional assessments for a range of works, construction site establishment is not expressly identified. This should be included as a Statement of Commitment in the EIS 1.

No specific mitigation measures are identified, except for continued liaison and consultation with statutory organisations, councils, the community, and key stakeholders.

There is potential for conflict of land use interests between RHTC's short – medium term development plans, RHTC's existing operational environment and NWRL's dynamic construction site environment. These should be clearly resolved at an early stage of the process, prior to commencement of construction.

◆ Response

EIS 1 assesses the impact of major civil construction works on existing and future land use in the vicinity of NWRL.

The Construction Environmental Management Framework (refer to Appendix C) indicates that Business Management Plans (BMP) would be developed by the NWRL Principal Construction Contractor to manage impacts on businesses and property. The Business Management Plan would include

- ❖ Identification of specific businesses which are sensitive to construction activity disturbances.
- ❖ Summary of the commercial character of the locality, its general trading profile (daily and annually) and information gained from the business profiling such as:
  - Operating hours.
  - Main delivery times.

- Reliance on foot traffic.
- Any signage or advertising that may be impacted.
- Customer origin.
- Other information specific to the business that will need to be considered in construction planning.

❖ Define the roles and responsibilities in relation to the control and monitoring of business disturbances.

❖ Identification of locality specific standard business mitigation measures which would be implemented.

❖ Maps and diagrams to illustrate the information for easy identification of measures which would be implemented.

❖ Description of the monitoring, auditing and reporting procedures.

❖ Procedure for reviewing performance and implementing corrective actions.

❖ Description of the complaints handling process.

❖ Procedure of community consultation and liaison.

Construction – Cumulative impacts

324

◆ Issue

The construction period for the enabling works, Stage 1 and Stage 2 works are not clearly detailed in the EIS 1 for the specific sites nor is sufficient detail provided in regards to the specific construction activities that will be undertaken. The assessment of impacts should be based on the total construction period, including enabling works and should include a cumulative impact assessment over the period.

◆ Response

This is assessed in Chapter 20 Cumulative Impacts of EIS 1 and will be updated in EIS 2.

325

◆ Issue

The Cumulative Impact Assessment is very brief and fails to address the compounding impacts of the NWRL during construction and whilst in operation.

'External' cumulative impacts -

Section 20 outlines, in very general terms, the expected 'external' cumulative impacts of the construction of the NRWL with other construction projects likely to occur in the vicinity, including the Northern Precinct works.

No consideration is provided as to the likely scale of the cumulative impacts (noise, vibration, traffic, visual and water quality) nor are any particular mitigation measures proposed to deal with cumulative impacts.

The assessment fails to take into account the possible construction of buildings within the RHTC – i.e. sleeve sites.

'Internal' cumulative impacts – noise impacts of Stage 2 works and operation -

Section 20 also considers, generally, the expected 'internal' cumulative impacts arising from the full construction process for the NWRL. However, the sole impact considered is noise and vibration because, according to EIS 1, this is the only issue in EIS 2 which has been substantially completed at the time of writing EIS 1.

'Internal' cumulative impacts – other impacts "associated with Stage 2

railway operations" -

EIS 1 lists additional potential impacts associated with Stage 2 works and/or operation include:

- Visual: Permanent impact of lighting and overhead wiring;
- Traffic: Commuter traffic to and from stations
- Local business opportunities: resulting from passenger demand
- Hydrology: Potential impacts on watercourses resulting from stage 2 construction works.

The 'internal' impact assessment merely serves to expose the flaws associated with separating the works into two staged EIS's. A single EIS which includes all works and a comprehensive assessment of the SSI Concept Plan modification would eliminate the need for such a limited, insufficient cumulative impact assessment.

◆ Response

As indicated in the Chapter 20 Cumulative Impacts of EIS 1 chapter on Cumulative Impacts (Chapter 20), as part of the CEMP, TfNSW would identify all other significant developments occurring in the vicinity of the construction sites and identify environmental impacts to be monitored during construction which have the potential for cumulative effects to occur. TfNSW would review environmental impacts every six months during the construction phase. Any new impacts identified during construction would be addressed appropriately to reduce the cumulative effects and reported.

The Construction Environmental Management Framework (refer to Appendix C) also identifies the establishment of a Central Project Coordination Committee which would seek to coordinate NWRL works with other major developments. The committee would also take a strategic approach to longer term traffic and transport management and review permanent arrangements including network integration with NWRL facilities.

The Cumulative Impacts Assessment identifies projects in the vicinity of NWRL and the broad range of cumulative impacts which may occur. Measures to manage these impacts are described in Chapter 20 Cumulative Impacts of EIS 1 and the Construction Environmental Management Framework (refer to Appendix C) as above.

The Noise and Vibration assessment had advanced to a detailed level at the time of preparation of EIS 1. In an effort to be open and forthcoming with available environmental information, the Noise and Vibration assessment was summarised in EIS 1. A detailed environmental assessment of all issues relating to stage 2 construction and operation is under preparation.

326

Issue

As well as not taking into account the cumulative impacts of major surrounding developments, NWRL EIS 1 does not consider the external cumulative impacts of committed / planned infrastructure projects for example the Schofields Road upgrade. Cumulative impacts for Schofields Road upgrade will have significant impacts to the intersection of Rouse Hill Drive / Windsor Road for a significant period of time and no assessment has been undertaken to confirm this with mitigation measures. Therefore further assessment to consider the cumulative impacts of committed / planned infrastructure projects of this is required.

Response

Schofields Road upgrade is identified as a project with potential cumulative impacts with NWRL in Chapter 20 Cumulative Impacts of EIS 1. Measures to manage potential cumulative impacts between Schofields Road upgrade and NWRL are described in the cumulative impacts chapter (Chapter 20) and the Construction Environmental Management Framework (refer to Appendix C of this report).

327

Issue

NWRL EIS 1 does not take into consideration the cumulative impacts of the construction of other major developments including the Rouse Hill Northern Precinct. NWRL EIS 1 acknowledges that RHNP would generate cumulative traffic impacts however the report states that the possible major developments proposed to coincide with the NWRL construction are at the early stages of planning and that little information is currently available on timing or scope of construction activities. The coordination of construction of the NWRL at Rouse Hill and RHNP are vital as both construction sites would be in proximity to each other and have the potential to occur at the same time leading to increased impact on the local road network and key intersections.

Response

Rouse Hill Town Centre North Frame is identified as a project with potential cumulative impacts with NWRL in Chapter 20 Cumulative Impacts of EIS 1.

Measures to manage potential cumulative impacts between are described in the cumulative impacts chapter (Chapter 20) and the Construction Environmental Management Framework (refer to Appendix C of this report).

Construction – Surface water and flooding

328

Issue

Potential impacts on the surrounding environment include altered flood behaviour, drainage patterns, and impact on water quality arising from works and sediment basin overflow. There must be the ability to clearly identify the responsible party in the event of any incident, and further design and management details are required.

While the majority of impacts are expected to be on the Construction Sites, some potential impacts to the broader surrounding environment have been identified including:

- The potential for works within the floodplain to alter existing flood behaviour and adversely impact the surrounding environment through altered drainage patterns.
- The potential for works to result in exposed soil which could result in erosion and adversely impact downstream water quality.

Response

The Construction Environmental Management Framework (refer to Appendix C) sets out the requirements of the NWRL Principal Construction Contractor in respect of Surface Water and Flooding. This includes the development of a Soil and Water Management Plan and Stormwater and Flooding Management Plans, as well as Erosion and Sedimentation Control Plans.

329

Issue

Surface water must be controlled and restricted to the work site, therefore adequate drainage to be provided, connection to the RHTC drainage system must be with the approval of RHTC.

Response

The Construction Environmental Management Framework (refer to Appendix C) sets out the requirements of the NWRL Principal Construction Contractor in respect of Surface Water and Flooding. This includes the development of a Soil and Water Management Plan and Stormwater and Flooding Management Plans, as well as Erosion and Sedimentation Control Plans.

If a connection is required to a drainage system, the Principal Construction Contractor would consult with and seek the approval of the relevant owner of that system.

330

Issue

The Principal Contractor must mitigate against surface water flooding from the site

Response

The Construction Environmental Management Framework (refer to Appendix C) sets out the requirements of the NWRL Principal Construction Contractor in respect of Surface Water and Flooding. This includes the development of a Soil and Water Management Plan and Stormwater and Flooding Management Plans, as well as Erosion and Sedimentation Control Plans.

Project - Timing

331

Issue

TfNSW to develop a site specific detailed construction programme in consultation with GPT that identifies;

a. Total construction timeframe for Stage 1 and Stage 2 works.

b. The various construction activities and their proposed timeframes.

c. Staging implications that accommodate as best as possible the operational needs of RHTC and future development of the Northern Precinct and Sleeve Sites

◆ Response

An indicative construction program for major civil construction works and stations, rail infrastructure and systems is provided in Chapter 7 Project Description of EIS 1. Further details on program will be provided in EIS 2 and further elaborated by contractors.

332

◆ Issue

The lack of detail and coordination of the works from station to station warrants the NWRL to put together a sequential programme showing the progressive completion of all the works at the varying completion dates in order that the stakeholders can assess the real impact on their developments.

◆ Response

Chapter 7 Project Description of EIS 1 provides an indicative construction program for each construction site.

333

◆ Issue

Draft construction staging and draft program for each construction site is not provided in the document. Estimation or when the construction activities would occur (including the months/years of construction activity for each site) are not provided and are required in order to understand the length and intensity of construction.

Daily construction hours are provided for each site however these have been based on whether the construction activity is above or below ground and does not take into consideration site specific constraints such as operating hours of the Town Centre. Further information on expected construction staging, timing and daily hours is required (as part of the further staged Traffic Management Plans).

◆ Response

An indicative program for each construction site for major civil construction works is provided in Chapter 7 Project Description of EIS 1. In addition, an indicative construction program for major civil construction works and stations, rail infrastructure and systems is also provided in Chapter 7 of EIS 1.

As indicated in the Construction Environmental Management Framework (refer to Appendix C), NWRL Principal Contractors would develop and implement a hierarchy of traffic management documentation including:

- A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction.
- A Construction Traffic Control Plan setting out the specific traffic and transport management arrangements to be implemented at specific locations during construction.

Construction Traffic Control Plans for each traffic or road occupancy stage at each construction site including specific details of the traffic control arrangements and extent of road occupancy required.

Design (general)

334

Issue

It is understood that a separate EIS (EIS 2) is currently being prepared for Stage 2: Stations, Rail Infrastructure and Systems. In this document it is understood that the station design, railway operating systems and project operations as well as a detailed description of construction works will be provided.

The following is a list of information with regard to the NWRL at Rouse Hill that GPT expects in NWRL EIS 2. This information would aid in the coordination of the construction and development of both the NWRL and the RHNP.

- The NWRL alignment at Rouse Hill. A detailed concept design of the NWRL alignment including location of the viaduct structures, proposed road crossing and intersections and amendments are required.
- The NWRL Rouse Hill station box location. A detailed concept design of the Rouse Hill station box and location along the NWRL alignment is required.
- The NWRL Rouse Hill station platform configuration. A detailed concept design of the Rouse Hill station including number and location of platforms as well as platform details (inward or outward platforms) is required.
- Pedestrian access arrangements at the Rouse Hill station. Details on the connection between platforms, concourses, bus interchange and associated facilities (kiss and ride, taxis), street level and integration with the Rouse Hill Town Centre is required.
- Bus interchange arrangements at the Rouse Hill station. Details on bus interchange location and configuration, facilities (number of bus stops, layovers, kiss and ride, taxi, bike racks etc), future bus routes and frequencies and access arrangements is required.
- Details of the future pedestrian and cyclist connections and facilities between Rouse Hill station, the bus interchange, the Rouse Hill Town Centre and the proposed Area 20 precinct as part of the NWRL design is required.
- Details on the future train operations, train numbers, train frequencies, type of service (freight, passenger), future patronage forecasts and mode of arrival at the Rouse Hill station is required.
- Details on the access/easement requirements for maintenance and maintenance / ownership of area underneath the elevated track along the alignment at Rouse Hill is required.
- Details on the future consultation process with stakeholders with regards to the NWRL is required. - Details of how noise and other pollutants arising from the elevated rail line will be managed and mitigated.

GPT will continue discussions with the NSWRL team and TfNSW to obtain the above information prior to the release of EIS 2 such that innovative solutions can be embedded into the design process as early as possible to ensure an optimal design solution can be achieved for NWRL and Rouse Hill Station.

Response

The outline scope of EIS 2 is provided in Chapter 7 Project Description of EIS 1.

TfNSW is committed to continuing to work with RHTC to integrate the construction and operation of NWRL with RHTC.

335

Issue

Ground water management is a crucial element to the centre and a detailed GMP is required by NWRL.

Response

As indicated in the Construction Environmental Management Framework (refer to Appendix C), a Groundwater Management Plan would be prepared by the NWRL Principal Construction Contractor.

Design - Viaduct

336

Issue

The Level 1 Masterplan DA, Level 2 Town Centre Core Precinct Plan (TCCPP) DA, and Level 3 DAs for Stage 1 of the Rouse Hill Town Centre, each envisaged an underground railway line and predominantly underground station precinct at Rouse Hill.The RHTC has been designed to reflect this outcome, and as such the SSI Concept Plan modification introduces many challenges in integrating the Skytrain and elevated station into the existing RHTC while retaining the pedestrian primacy of the precinct and a functional transport interchange.

Response

The NWRL viaduct and elevated station at Rouse Hill is consistent with the current design of the Rouse Hill Regional Centre, including proposed expansion within the Town Centre and development of the Northern Frame.

Design – Station design

337

Issue

There is currently no feasible solution for the transport interchange precinct which is unacceptable to GPT. It is likely that certain feasible solutions for the transport interchange precinct will be eliminated as a result of the Stage 1 approval which may lock in column location and configuration, type of station (island/platform), and size of the station building footprint.

Response

Station precinct master planning and urban design is currently being developed by TfNSW and will be reported in EIS 2.

Environment – Soils and geology

338

Issue

There has been an inadequate assessment of contamination risk as EIS 1 has dismissed this issue due to RHRC being "a relatively new development" despite the NWRL involving works on certain land which has never been substantially developed.

EIS 1 does not confirm if contamination assessments have been undertaken at Construction Sites 13, 14 and 15. EIS 1 states that there is considered to be little or no contamination risk in the vicinity of the RHTC. It would appear that no testing has or will occur in relation to any civil works within the RHRC site. This represents an unacceptable risk to GPT and other stakeholders.

Response

Chapter 8 Soils and Groundwater of EIS 1 sets out the approach to contamination. This involves a desktop study, including a review of previous site investigation reports. This identified areas of environmental concern and contaminants of potential concern which formed the basis of field and laboratory program.

Further details relating to contamination have been provided in the Clarifications Section of this report (Chapter 2).

Environment - Waterways

339

Issue

Water quality mitigation and management is proposed to adhere to the relevant Guidelines, and if properly implemented, the proposed mitigation measures are expected to provide a suitable level of risk mitigation. The two key risk elements identifiable for RHTC are the placement of as yet undefined construction sites for laydown/construction support and the ability to clearly define between downstream impacts on water quality if any adverse impact was identified.

There is no consolidated draft Statement of Commitments, these are provided subsequent to the identification of DGRs and Supplementary DGRs at the beginning of each section. The Statements of Commitment provided present no forward commitment to additional investigations, controls or mitigations.

The Framework Construction Environment Management Plan identifies generic considerations for preparation of CEMPs and soil erosion control plans (SECP) or soil and water management plans but does not identify specific controls to be implemented and affected for site specific conditions at the construction areas most likely to affect RHTC.

The precise location of sediment basins has not been defined. The location will have implications for access needs for construction and maintenance (to retain functionality and capacity) as well as for potential off-site discharge via an assumed spillway into a natural drainage line. The location may also influence the availability of land for RHTC activities and implications for current RHTC land use and access.

The EIS 1 notes the potential for significant rainfall events to result in sedimentation basins filling to capacity and overflowing, with higher quantities of sediment being discharged downstream. Although the EIS 1 indicates that an appropriate level of dilution is likely given the large volume of runoff associated with such events, there remains potential for downstream impacts and for these impacts to be attributed to RHTC work sites.

◆ Response

A consolidated Statement of Commitments, which relates to the 2008 Concept Plan Approval, is provided in Appendix A of EIS 1. Within each assessment chapter in EIS 1, specific mitigation measures are identified and a revised set of mitigation measures are presented in Chapter 7 of this report.

The Construction Environmental Management Framework (refer to Appendix C) sets out the requirements of the NWRL Principal Construction Contractor in respect of Surface Water and Flooding. This includes the development of a Soil and Water Management Plan and Stormwater and Flooding Management Plans, as well as Erosion and Sedimentation Control Plans. These Plans would identify site specification controls where appropriate.

The Construction Environmental Management Framework (refer to Appendix C) sets out an approach to soil and water monitoring.

Environment – Visual impact

340

◆ Issue

Despite design development being advanced, with a SSI Concept Plan modification being put forward for a Skytrain and above-ground station, a visual impact assessment of the completed structure has not occurred, nor has consideration been given to the urban design impacts of the proposal.

The Statements of Commitment attached to the approved SSI Concept Plan says that a visual impact assessment of the project would be undertaken as part of design development. Despite design development apparently being fairly advanced (ie the Skytrain structure has been put forward for approval), a visual impact assessment of the completed structure has apparently not occurred, as the issue is proposed to be dealt with in EIS 2.

No consideration has been given to the visual impact of the completed viaduct structure or the Rouse Hill Station building. This should be assessed now as it forms a critical element of the SSI Concept Plan modification.

Noise walls, earth mounding, retaining walls, viaduct and underpass detailed design are all proposed to l be addressed at EIS 2 stage. These elements have the potential to create significant visual impacts.

EIS 1 states that station design will occur as part of EIS 2 including access, car parking and urban design of the station precinct. This work needs to occur prior to approval of the SSI Concept Plan modification.

In Section 16.6.12 of EIS 1, it is mentioned in passing that the station building will be up to 20 metres in height. The bulk and scale of the station building will be further accentuated by the viaduct of 13 metres (or more) in width, adjoining the building at either end. Further, it could be

envisaged that noise barriers may be required in the vicinity of the station building to deal with the noise of braking, accelerating and idling trains, thereby further increasing the visual impact.

The built form implications are of substantial concern. EIS 1 does not recognise that the approved TCCPP DA envisaged a Transit Centre building of just 10 metre in height, above an underground railway platform. In addition, the Precinct Plan DA allows for a 16 metre high building on Market Square, directly across Tempus Drive from the future station building.

◆ Response

A visual impact assessment has been undertaken which includes the visual impact of the viaduct structure and related construction activities (refer to Chapter 16 of EIS 1). In EIS 2, a further visual assessment will be undertaken to consider the impact of the viaduct during the operational phase of the railway.

The visual impact of the structure is assessed in Chapter 16 Visual Amenity of EIS 1.

The visual impact of the viaduct structure is assessed in Chapter 16 of EIS 1. The visual impact of the structure during operation will be assessed in EIS 2. The impact of the Rouse Hill Station Building will be assessed in EIS 2. EIS 1 includes an assessment of the proposed modifications at a conceptual level.

These visual impacts will be presented and assessed as part of EIS 2.

An assessment of the proposed modifications has been undertaken at a conceptual level, and reported in Chapter 6 Modification of Staged Infrastructure of EIS 1.

The NWRL viaduct and elevated station at Rouse Hill is consistent with the current design of the Rouse Hill Regional Centre, including proposed expansion within the Town Centre and development of the Northern Frame.

Construction – Spoil and waste management

341

◆ Issue

Management policy for handling fuels / petrochemicals; for the running of equipment and machines that addresses the control, dispensing, storage, spillage, fire prevention and fire and life safety. This policy will require sanctioning by the appropriate authorities and should be prepared by the Principal Contractor.

◆ Response

A Construction Environmental Management Plan would be prepared by the NWRL Principal Construction Contractor, as detailed in the Construction Environmental Management Framework (refer to Appendix C). This would address issues such handling and storage of hazardous materials and fire and safety.

An Environment Protection Licence (EPL) would also be required under the provisions of the *Protection of the Environment Operations Act 1997.*

342

Issue

Rubbish removal, cleaning and maintaining a site free of rubbish must be the responsibility of the Principal Contractor.

Response

The Construction Environmental Management Framework (refer to Appendix C) outlines measures to manage construction site activities including the development by the NWRL Principal Construction Contractor of a Waste Management and Recycling Plan.

343

Issue

Vermin control on the work site must be controlled by the Principal Contractor in a manner that does not have a detrimental effect on the ecology of the surroundings and RHTC.

Response

This would be dealt with by the NWRL Principal Construction Contractor, as part of its responsibilities under the Construction Environmental Management Framework (refer to Appendix C).

344

Issue

Connection of onsite ablutions to sewer and potable water usage - if there is a requirement to obtain access of these facilities from the RHTC, all appropriate approvals and consultation between the Principal Contractor and RHTC and the engagement of any consultants to design the appropriate systems will be at the Principal Contractor's account.

Response

If a connection is required to a sewer and / or water systems, the NWRL Principal Construction Contractor would consult with and seek the approval of the relevant owner of that system.

345

Issue

Spoil removal traffic requires a Traffic Management Plan to be in accordance with RHTC policy requirements and to address elements such as; pedestrian access, car park traffic, public and tenant movement, loading dock deliveries to all tenants and bus way traffic.

Response

Construction Traffic Management and Control Plans would be prepared for each construction site by the NWRL Principal Construction Contractor for approval by TfNSW, as described in the Construction Environmental Management Framework (refer to Appendix C).

Property – Property condition surveys

346

Issue

Reinstatement and Make Good - all make good of the existing RHTC site is the responsibility of NWRL, all works required to reinstate the condition of the RHTC to its pre dilapidation survey requirements are the responsibility of NWRL.

Response

As described in the Construction Environmental Management Framework (refer to Appendix C):

"Principal Contractors will offer condition surveys, in writing, to all relevant land and infrastructure owners (those where the works have potential to cause cosmetic or structural damage). If accepted, the Principal Contractor must produce a comprehensive written and photographic condition report prior to relevant works commencing.

Mitigation measures for reinstatement will be produced in consultation with TfNSW, the community and stakeholders.

Mitigation measures required for reinstatement will be incorporated into the CEMP and will include as a minimum:

- *NWRL Contractors will clear and clean all working areas and accesses at project completion.*
- *At the completion of construction all plant, temporary buildings or vehicles not required for the subsequent stage of construction will be removed from the site.*
- *All land, including roadways, footpaths, loading facilities or other land having been occupied temporarily will be made good.*
- *Reinstatement of community spaces, infrastructure and services will occur as soon as possible after completion of construction."*

Operation – Noise and vibration

347

Issue

Excessive noise will arise due to the change in vertical alignment from underground to above ground.

Once operational, excessive noise will be an ongoing reality for uses in the vicinity of the rail line, which would not have been the case had the line remained underground.

Response

The cumulative impacts assessment of EIS 1 (Chapter 20) indicates:

"Marginal exceedances of the noise trigger levels are also predicted at several locations adjacent to the viaduct between Bella Vista Station and Rouse Hill Station. The design of the viaduct is being progressed in this area to incorporate noise mitigation measures where feasible and reasonable."

A detailed operational noise assessment will be provided in EIS 2.

Other

348

◆ Issue

EIS 1 contains insufficient consideration of the capability or capacity of existing services or mitigation strategies to ensure services to RHTC are not disrupted.

The services identified within EIS 1 as being required for construction include power, water, sewer and communications. Intermittent disruption to services could be expected during construction which could have catastrophic impacts to the operation of RHTC and its retailers.

The proposed power supply source is the Mungerie Park substation. The EIS 1 is silent on the potential impact of this power supply requirement on neighbouring users.

Construction works at the RHTC will require water for dust suppression and site amenity buildings. While recycled water would be maximised for dust suppression, the likely volume and proposed sources have not been identified. Similarly, the sewer provisions for site amenities have not been identified (e.g. use of portaloos in comparison to connection to the existing sewerage system).

EIS 2 will deal with the permanent station fit-out works, installation of permanent services and station precinct works.

In summary, there is no site specific assessment that provides quantification around the forecast requirements, loads or demands on existing utilities or that provides an assessment of the implications of loads, demands or disruptions to these services (intentional or unintentional) to surrounding land users. There is no assessment of the capability or capacity of existing utilities to support the additional needs of the development.

◆ Response

As indicated in Chapter 7 Project Description of EIS 1, various utility relocations and / or protection works are proposed to be undertaken as early enabling works in order to allow construction activities to proceed. These enabling works would be subject to more detailed assessment in consultation with asset owners and any affected stakeholders. Preliminary consultations have been held with Ausgrid, Endeavour Energy, Sydney Water, Jemena, NBN, RMS, Optus and Telstra. A program of ongoing consultation has been established to further assess the requirements for these enabling works.

349

◆ Issue

EIS 1 does not clarify if the development of, and impact to, the Northern Precinct is included within the boundary of the RHTC when considering the impact of civil works

◆ Response

EIS 1 considers the impact of the construction of NWRL on surrounding areas, and identifies future projects, including the Northern Precinct, where potential cumulative impacts may arise (Chapter 20).

350

Issue

The environmental assessment is such, that a significant portion of the assessment of site specific impacts have been dealt with in a whole of project generic fashion, and seems to have deferred actual assessment to an EIS – Stage 2. Due to the generic nature of the EIS, with no specific consolidated chapter for the RHTC zone, it is difficult to provide meaningful comment and therefore Cadence recommends GPT should seek a specific and consolidated EIS for their precinct and reserve their rights to respond and comment at that point

Response

EIS 1 provides a detailed description of the environmental impacts associated with major civil construction works. Environmental impacts associated with Stations, Rail Systems and Infrastructure will be provided in EIS 2, to be exhibited in the second half of 2012.

EIS 1 is organised around impact assessment issues (e.g. noise, ecology etc.) with the impacts at each of the 17 construction sites described in issue-specific chapters. An understanding of the impacts at any one location can be obtained from a review of the relevant section of each of the impact chapters.

It is not considered practical to organise an EIS for a 23 km linear infrastructure project by specific geographical area.

Lend Lease GPT (Rouse Hill) Pty Limited

Modification Related Issues

Noise and vibration (modification related)

351

Issue

The elevated nature of the Skytrain will create increased noise impacts on residents (current and future) and users of the Mungerie House community facilities.

Response

Chapter 6 of EIS 1, dealing with the Modification Assessment, notes the potential for the extended viaduct between Kellyville Station and Rouse Hill Station would lead to a change in construction noise impacts associated with piling and viaduct section placement.

During operation, Chapter 6 notes that the viaduct would result in the tracks being elevated relative to the majority of existing receivers, resulting in some shielding from the noise impacts viaduct structure even in the absence of noise barriers.

The amount of shielding depends on the detailed design of the viaduct structure. The noise predictions for existing receivers are highly sensitive to the detailed design of the viaduct structure, which is under development and not available at the time of EIS 1 and the Submissions Report production.

However, the design of the viaduct would enable the construction of noise barriers (if required) to mitigate potential exceedances of the noise trigger levels at existing proposed sensitive receivers.

352

Issue

Modification does not provide supporting evidence to suggest that noise impacts can be managed appropriately.

Response

The assessment of the change to environmental impacts associated with the Modification Assessment is carried out at a conceptual level, in accordance with the supplementary environmental assessment requirements set out by the Department of Planning & Infrastructure.

Further detail on construction related noise and vibration impacts and its management is provided in Chapter 9 of EIS 1. Operational noise and vibration impacts will be assessed as part of EIS 2.

The Construction Environmental Management Framework, provided as Appendix C of this report, describes the approach to management of construction noise and vibration issues.

353

Issue

Request for detailed consultation on operational noise management as it relates to the New Rouse Hill residential development, and this is carried out before exhibition of EIS 2.

Response

TfNSW will continue to engage with the community and stakeholders as part of the ongoing planning and design of NWRL and the preparation of EIS 2.

354

Issue

Request that more detailed noise impact drawings are made available as part of the finalisation of EIS 1.

Response

Operational noise and vibration will be assessed as part of EIS 2. An update to the operational noise and vibration impacts, based on currently available information, is also provided in the clarifications section of this report (Chapter 2).

355

Issue

Request that the viaduct structure be located in the most western section of the corridor as possible (taking advantage of the Old Windsor Road and T-Way road reserve) to minimise intrusion of noise into The New Rouse Hill area.

Response

The detailed planning and design of the viaduct is ongoing and would be the subject of community and stakeholder consultation as described above.

Environment – Visual impact

356

Issue

The elevated nature of the Skytrain will create increased visual impacts on residents of The New Rouse Hill and users of the Mungerie House community facilities.

Response

Chapter 6 of EIS 1, referring to the Modification Assessment, notes the potential for visual impacts to receptors as a result of the extended viaduct construction and operation beyond Old Windsor Road / Windsor Road junction to Rouse Hill. Given that the assessment of changes to environmental impact is at a conceptual level, individual receptor locations are not identified.

It notes that the design and architectural elements of the viaduct are still being developed. However, to mitigate visual impacts, clear design principles would be confirmed as part of the assessment of the stations, rail infrastructure and systems. Typical design principles would ensure that the viaduct would:

- be of exceptional architectural and engineering design.
- sit within a landscaped corridor.
- be part of a continuum of spatial experiences heightening the enjoyment of customers and enriching the journey.
- provide a positive contribution to the local landscape.
- optimise east / west connectivity across the corridor.
- strengthen and enhance the existing landscape patterns experienced along the route.
- use a consistent approach to engineering and architectural components to provide a unified design solution to enhance visual unity and clarity.
- use anti-graffiti finishes to all masonry surfaces.

Chapter 16 of EIS 1 describes the detailed visual impact assessment associated with the construction of NWRL, including the viaduct. EIS 2 will contain a further detailed assessment of the visual impacts of the viaduct during the operational stage, which reflect the architectural and urban design principles described here.

357

Issue

EIS 1 does not provide sufficient drawings to correctly assess the impact of this concept (e.g. elevated Skytrain). Request more detailed vertical alignment drawings are made available as part of the finalisation of EIS 1.

Response

The planning and design of the viaduct section of NWRL is ongoing. At Rouse Hill Station, the height of the viaduct platform is approximately 9 m to 12 m. The detailed design, including vertical alignment, will be presented and assessed as part of EIS 2.

358

Issue

Elevation of the deck approaching the Rouse Hill Town Centre appears to be particularly high possibly sitting higher than the built form envisaged adjacent to the corridor. Request more detailed vertical alignment drawings are made available as part of the finalisation of EIS 1.

Response

The planning and design of the viaduct section of NWRL is ongoing. At Rouse Hill Station, the height of the viaduct platform is approximately 9 m to 12 m. The detailed design, including vertical alignment, will be presented and assessed as part of EIS 2.

359

Issue

Request that detailed consultation on visual impacts as it relates to The New Rouse Hill residential development and this is carried out before exhibition of EIS 2.

Response

TfNSW will continue to engage with the community and stakeholders as part of the ongoing planning and design of NWRL and the preparation of EIS 2.

360

Issue

Consultation to include discussions on the design and artwork of any noise attenuation barriers required for the viaduct.

Response

Mitigation measure V9 in Chapter 7 of this report provides for:

"Designing hoarding as a feature would be considered at appropriate locations. This may include artworks or project information. These would be installed as early as feasible and reasonable in the construction process."

This principle can be extended to include noise barriers (subject to the acoustic performance of the barriers not be compromised) and form part of the ongoing consultation process.

Major Civil Construction Works Related Issues

Transport – Bus integration

361

Issue

EIS 1 indicates that T-Way bus services will not be interrupted in the construction phases. It is hard to envisage how the Sanctuary T-Way stop, adjacent to construction site 13, will not be interrupted by the construction process and plan set out.

Response

Chapter 9 of EIS 1, referring to Construction Traffic and Transport, indicates for construction site 13 (Old Windsor Road to White Hart Drive):

"It is expected that the T-Way would remain fully operational during the construction period including the "Merriville" T-Way Station. No services would need to be re-routed and therefore there should be negligible impact on travel times."

362

Issue

Request that detailed consultation on access to the Sanctuary T-Way stop is carried out prior to construction so that local residents can be advised of the new access arrangements.

Response

TfNSW is committed to ongoing consultation with the community and stakeholders on the detailed planning and design of NWRL, including how it impacts on existing public transport services.

Construction – Land use and community facilities

363

Issue

Chapter 14 – Land Use and Community Facilities – sets out potential impacts on community facilities but does not specifically address impacts on the Mungerie House community facilities.

Response

Chapter 14 of EIS 1, referring to Land Use and Community Facilities, identifies a number of facilities in the immediate vicinity of the construction footprint including Mungerie House Rouse Hill Visitor Information Centre.

Table 14.2 in Chapter 14 indicates:

"Nearby community facilities, including John XXIII Catholic Primary School and Mungerie House Rouse Hill Visitor Information Centre may experience reduced amenity during the construction period."

Further assessments of the impacts on Mungerie House are provided in Chapter 11 (European Heritage) and Chapter 16 (Visual Amenity) of EIS 1.

364

Issue

Request for detailed consultation on potential impacts to the Mungerie House community facilities is carried out prior to construction so that any specific impacts on this facility can be identified and managed. These issues may extend to management of the European heritage value and also existence of Cumberland Woodland (Endangered Ecological Community) in this area.

Response

TfNSW will continue to engage with the community and stakeholders as part of the ongoing planning and design of NWRL and the preparation of EIS 2.

365

Issue

Construction timeline (2014-2016) coincides with the commercial release of the land area adjacent to the rail corridor. As a result there is considerable risk that major construction activities will impact negatively on land sale prices in the vicinity creating negative economic outcomes for Lend Lease GPT (Rouse Hill) Pty Ltd. This impact is not recognised sufficiently in Section 13 addressing local business impacts.

Response

Chapter 14 of EIS 1, relating to Land Use and Community Facilities, describes the main land developments, existing and planned, which would interact with the construction and operation of NWRL.

Notwithstanding the long term positive outcomes of NWRL, the Construction Environmental Management Framework (refer to Appendix C) sets out procedures to manage the impacts of construction on neighbouring business and property (Section 4.5) as well as the establishment of a Central Project Coordination Committee (Section 8) which would seek to coordinate NWRL works with other major developments.

366

Issue

Request that a coordinated approach to construction programs (NWRL works and adjacent land development works) so that both projects can run concurrently as required. NWRL construction and site management methods used between Sanctuary Drive and White Hart Drive should not negatively impact commercial timelines already in place.

Response

Notwithstanding the long term positive outcomes of NWRL, the Construction Environmental Management Framework (refer to Appendix C) sets out procedures to manage the impacts of construction on neighbouring business and property (Section 4.5) as well as the establishment of a Central Project Coordination Committee (Section 8) which would seek to coordinate NWRL works with other major developments.

Construction – Noise and vibration

367

Issue

Request that hoarding and other fencing/barriers/signage intended for construction site 13 be design and considered in collaboration with Lend Lease GPT (Rouse Hill) Pty Ltd. Outcome to be positive messaging promoting the long term outcomes of the project in this prominent location.

Response

Section 4.4 of the Construction Environmental Management Framework (refer to Appendix C) describes the approach to urban design and visual amenity of temporary works. This includes provision for project information to raise awareness of NWRL and its benefits, as well as signage and information to mitigate impacts on local businesses.

Construction – Business impacts

368

Issue

The proposed area of construction site 13 may take in the location of various promotional signage for the New Rouse Hill project.

Response

Consistent with the conditions of consent for this signage, it would require removal prior to construction commencing.

369

Issue

Request that any signage is removed and replaced at the North West Rail Link project cost to an agreed location outside the construction area.

Response

The Construction Environmental Management Framework (refer to Appendix C) details the development of specific Business Management Plans (Section 4.5). The Business Management Plans would include consultation with relevant businesses to identify their specific risks and develop appropriate mitigation measures, including the relocation of any signage as necessary.

Communication - Consultation

370

Issue

Support for a tailored approach to mitigate impacts at each site, as described in the EIS. Request to be included in further detailed consultation on how to best mitigate the construction and operation impacts relevant to construction site 13.

Response

TfNSW will continue to engage with the community and stakeholders as part of the ongoing planning and design of NWRL and the preparation of EIS 2, as well as construction management.

Bus NSW

Communication – Consultation

371

Issue

It is important to ensure that sections of the community, including local bus operators (either through BusNSW or individual companies) are part of the planning process. Their local knowledge and part experience can provide valuable input which will reflect the operational environment.

Response

TfNSW will continue to consult with the community and stakeholders as part of the ongoing planning and design of NWRL and the preparation of EIS 2, as well as construction management.

Construction – Business Impacts

372

Issue

Government should ensure any proposal to build commuter car parks at rail stations on the North West line gives full consideration to the patronage impacts on local bus services to the rail station.

Response

Car parking at the station precincts identified as park and ride stations will be presented and assessed in EIS 2.

Operation – Traffic Impacts (OoS)

373

Issue

Government should ensure any proposal to build commuter car parks at rail stations on the North West line gives full consideration to the traffic impacts. Priority should be given to infrastructure that facilitates the use of public transport.

Response

Car parking at the station precincts identified as park and ride stations will be presented and assessed in EIS 2.

Planning – Approval Process

374

Issue

Developers and local councils need to play a key role in the planning and implementation process, not just the State Government.

Response

TfNSW would continue to consult with relevant stakeholders.

Project – Alternative (OoS)

375

Issue

A bus rapid transit (BRT) system would service the people of the north-west more efficiently than the proposed North West Rail Link while costing much less to implement. Buses are able to provide the most flexible and frequent services.

Response

A number of transport alternatives for the North West region were considered and assessed as part of the 2008 Concept Plan Approval. This process identified the NWRL as the best option.

The Project Justification and Conclusion (refer to EIS 1 Chapter 22) provides a thorough justification for the NWRL project.

376

Issue

The government should continue to invest in providing high frequency services and extend the hours of operation along the strategic bus corridors.

Response

TfNSW is currently working collaboratively with Bus NSW on bus network issues.

377

Issue

Requirement for the provision and installation of accessible bus stops (with supporting pedestrian infrastructure) and suitable turnaround locations that allows penetration into greenfield sites at each stage of development (or the early provision of multiple access points).

Response

Station precinct planning, including transport interchanges and pedestrian facilities, will be presented and assessed in EIS 2.

Project – Need for Project (OoS)

378

Issue

Without an alternative harbour crossing, the proposed North West Rail Link would not have merit as the north-west would continue to be backlogged and congested.

Response

TfNSW acknowledges that other upgrades to the rail network may be required.

These are outside the scope of the NWRL project and would be considered as part of long term master planning.

Transport – Bus Integration

379

Issue

Buses should be given priority on strategic corridors, including feeder services to and from the proposed North West Rail Link, to encourage more people to shift from car to public transport.

Response

Station precinct planning, including transport interchanges, will be presented and assessed in EIS 2.

380

Issue

The proposed NWRL requires investment in passenger facilities and researching the need for intermodal connection expansion. Investing in bus related infrastructure and service provision should be the first consideration of the NWRL design, in order to connect and service a greater number of people.

Response

Station precinct planning, including transport interchanges, will be presented and assessed in EIS 2.

381

Issue

For the NWRL to be effective, additional feeder services and suitable infrastructure for buses and commuters should be developed. This includes depots for greater bus networks and services, passenger facilities and intermodal connection areas. Priority should be given to expanding the BRT network linking Sydney's regional centres.

Response

Station precinct planning, including effective bus links and transport interchanges, will be presented and assessed in EIS 2.

TfNSW is currently working collaboratively with Bus NSW on bus network issues.

McDonald's

Construction – Business impacts

382

Issue

McDonald's own and operate a restaurant at 6 Celebration Drive, Bella Vista (Lot 7 DP 270243). The restaurant is directly adjacent to NWRL Site 8: Bella Vista Station (Site 8). The EIS indicates that Site 8 will accommodate one of the largest construction sites for the NWRL. The purpose of this submission is to outline McDonald's serious concerns and uncertainty regarding the impacts of the construction works and future Bella Vista Station on the restaurant's ability to operate in the short and longer term.

McDonald's understands that the NWRL is a necessary infrastructure project of regional significance, which will provide much needed public rail services to north-western Sydney. To facilitate the development of the NWRL, we understand that the Site 8 lands (Norwest Homemaker Centre, Lots 1 and 11 DP 270243) were compulsorily acquired by the State Government. The McDonald's site is located immediately adjacent to site 8 and should be allowed to continue to operate in a manner consistent with the terms of its development approval. The proposed impacts as

detailed will require careful management by NWRL to enable the restaurant's continued operations during the construction phase of the development.

◆ Response

Further consultation with McDonald's would be undertaken as design is further developed. TfNSW anticipates that McDonald's operation would not be significantly affected during construction, however does acknowledge the potential that some adverse impacts would be incurred. It is the intention of the consultation to minimise these impacts as far as feasible while still being viable for construction activities.

383

◆ Issue

McDonald's Existing Development Consent (DA 2807/2001)

Baulkham Hills Shire Council approved the development and use of Lot 3 DP 270243 at 6 Celebration Drive, Bella Vista, for the following:

- ❖ Development for the purpose of a dine-in, take away and drive-thru restaurant with a maximum seating capacity of 128 patrons;
- ❖ Provision and maintenance of 43 off-street car parking spaces within the proposed Lot 7 (now the legal description of the site).

It is noted that the consent does not restrict the restaurant's hours of operation. Consequently, and due to its prominent location, the restaurant operates 24 hours, 7 days a week.

◆ Response

The NWRL understands that the McDonald's restaurant operates 24 hours a day, 7 days a week and that access to the restaurant at all hours would be required. Consultation would be ongoing with McDonald's to ensure access is maintained at all times.

384

◆ Issue

Understanding of the Proposed Works at Site 8 – Bella Vista Station -

We understand Site 8 is proposed to occupy 63,000 sqm on land currently developed for the Norwest Homemaker Centre. It is understood that the proposed Site 8 works will include the following:

- ❖ Daytime site establishment works: occurring late 2013;
- ❖ Daytime station excavation: occurring 2013 – 2015;
- ❖ Assembly and commission of tunnel boring machines (TBM) 3 and 4, and tunnelling drive to Hills Centre Station: occurring 2014 – 2015. The TBMs and the associated servicing will operate continuously once commissioned.

We understand that these works will be supported by a range of construction services. Site 8 is proposed to be a significant spoil removal site with a total of approximately 430,000 cubic metres stored and removed by heavy vehicles from the site. Access and egress to Site 8 is proposed via the Celebration Drive and Lexington Avenue intersection at low traffic times and during the night. 100 workers are proposed to be based at Site 8.

◆ Response

Heavy vehicle movements would be managed to minimise traffic related impacts in the overall area.

385

◆ Issue

The impacts of construction on McDonald's existing operations -

The EIS acknowledges under Section 13.4.8, that the McDonald's restaurant is one of two local businesses, along with adjacent BP service station, likely to be impacted during Site 8 construction works. The EIS identifies the following negative impacts:

- ❖ Potential reduction in trade due to the relocation of the restaurant's site access;
- ❖ Restricted accessibility due to heavy construction vehicles using Celebration Drive;
- ❖ Reduction in patron amenity due to additional noise, vibration and air disturbance;
- ❖ Visual impacts associated with the close proximity of the construction site.

These impacts need to be assessed against the key success factors that drive McDonald's business operations:

The success of the restaurant is founded on the following key principles:

- ❖ Prominent siting and exposure to passing trade on Old Windsor Road;
- ❖ Ease of patron access;
- ❖ Convenient patron car-parking; and
- ❖ The diverse food offer that incorporates:
  - Drive-thru
  - Take away
  - Eat-in restaurant and McCafe offerings.

The EIS identifies negative impacts that are directly related to the success of the restaurant. It is noted that the EIS suggests the negative construction impacts may be partially off-set by a slight increase in sales due to the patronage of the construction workforce.

To suggest that the negative impacts of the proposed construction will be off-set by construction related trade, without any economic analysis, demonstrates an ill-informed and simplistic understanding of the factors that drive the success of the restaurant's operation.

As such, it is considered that the project will generate impacts beyond what has been stated by the EIS, and these are discussed further in the sub-sections below.

◆ Response

It has been acknowledged by TfNSW that there is potential for adverse impacts to McDonald's as a result of construction.

The Construction Environmental Management Framework (refer to Appendix C) details the development of specific Business Management Plans (Section 4.5). The Business Management Plans would include consultation with relevant businesses to identify their specific risks and develop appropriate mitigation measures, including the relocation of any signage as necessary.

While the access to the restaurant would be altered, a new access would be provided in consultation with McDonald's and the RMS.

Mitigation against lost car parking would be negotiated during future consultation.

386

◆ Issue

EIS Assessment Gap - Creation of Commercial Uncertainty -

The EIS makes it clear that the restaurant will be significantly affected by the proposed works at Site 8 – to the degree that access is being relocated and car parking is being reduced. However, the EIS states that the McDonald's restaurant will still be able to operate during the construction phase of the NWRL.

Our understanding of the EIS is that, by virtue of the form of the NWRL in this location, there is an assessment gap for McDonald's and other businesses whose properties are subject to impacts from above and underground work. The uncertainty around the track construction works and the longer- term station works threaten the fundamental commercial viability of the restaurant. McDonald's enjoys rights to use 6 Celebration Drive as a restaurant and requires clarity regarding the future viability of the restaurant once the Bella Vista Station is built and operational.

Whilst the EIS outlines how the impacts of the construction stage on patron amenity will be mitigated, it is unclear how the Bella Vista Station will be constructed and what form the station layout and public domain works will take. These are details that are important to assist McDonald's understand the impacts the overall development will have on the ongoing viability of the restaurant.

◆ Response

The access to the restaurant would be relocated during construction. The new access would be designed to meet RMS requirements and would be in accordance with Austroads, RMS Supplements and technical directions and other Australian Codes of Practice. This would ensure full functionality of the entrance way and legibility for patrons.

Mitigation measures for lost car parking spaces would be negotiated during future consultation.

The method of construction of Bella Vista Station, station layout and public domain works as well as operational aspects will be presented and assessed as part of EIS 2.

387

◆ Issue

McDonald's understands that the NWRL is an important regional infrastructure project. However, we are extremely concerned that our current development rights have not been considered in the planning and documentation submitted for the NWRL EIS 1.

The EIS does not clearly indicate how the construction site will impact on the ongoing operations of the restaurant and car park, or how the loss of patron car parking and amenity will be mitigated to allow trade to continue at a commercially viable level. It is requested that Transport for NSW provide additional information demonstrating how the current and future operation of the restaurant will not be rendered unviable by the construction and operation of the proposed Bella Vista Station at Site 8.

Response

The EIS provides a suite of mitigation measures in relation to amenity considerations (including noise, air quality, and visual). Revised mitigation measures are provided in Chapter 7 of this report.

The operational aspects, and mitigation, of the Bella Vista Station will be presented and assessed in EIS 2.

Construction - Traffic

388

Issue

A detailed report on the traffic and parking impacts of the proposed works has been prepared by CBHK and accompanies this submission. From our review of the EIS, we note that no detail has been provided regarding the relocation of the Celebration Drive access and the reduction of the restaurant's approved parking. The lack of detail on these two key areas creates a great deal of commercial uncertainty for McDonald's in the short-term.

Response

While the access to the restaurant would be altered, new access would be provided in consultation with McDonald's and the RMS.

Mitigation measures for lost car parking spaces would be negotiated during future consultation.

388

Issue

Parking
The EIS indicates that during construction and once completed, the proposed Bella Vista station would have a major impact on the parking provision for the existing McDonald's by requiring the use of all or part of the car park. The loss of parking would have a major impact on the operation of McDonald's, firstly by not complying with its consent and secondly with loss of trade as patrons would not be able to park on site. While it may be possible to provide alternative parking arrangements, no information is provided in the EIS.

Response

TfNSW would consult with McDonald's as the project progresses to identify alternative locations to replace the McDonald's car parking lost as a result of the NWRL project.

390

Issue

Traffic
The station construction and associated changes to the surrounding road network will result in increased truck movements on the road network. In the weekday morning and afternoon peak periods there is already queuing and delays at the intersection of Old Windsor Road and Celebration Drive. The proposed station construction will exacerbate this situation and no mitigation measures have been identified in the EIS.

Response

Heavy vehicle movements would be managed to minimise traffic related impacts in the overall area.

Construction - Access

391

◆ Issue

The construction of the proposed station would have significant impact on access to the existing McDonald's. The plans show minimal impact on the ingress from Old Windsor Road. However, the plans show the existing entry/exit to Lexington Parade (via the existing ROW through the Homemaker Collection development) being closed. No information is provided on alternative access arrangements proposed during construction. It is noted that once the station is completed access to Lexington Parade would not be practical. Hence, McDonald's would not be accessible.

◆ Response

The access to the restaurant would be relocated during construction. The new access would be designed to meet RMS requirements and would be in accordance with Austroads, RMS Supplements and technical directions and other Australian Codes of Practice. This would ensure full functionality of the entrance way and legibility for patrons.

Details of the new restaurant access would be developed in consultation with McDonald's.

Construction – Noise and vibration

392

◆ Issue

Airborne noise

Noise modelling has been undertaken to demonstrate the impacts of construction noise on the surrounding environment. It is noted that the restaurant is located in receiver Area D, whose receiver is located 195 metres from the works site. The EIS noise modelling demonstrates that at the receiver, apart from the TBM support and pre-cast operations, the predicted noise levels during all stages of construction will exceed the compliant limit by up to 10dB. The restaurant is not located 195 metres away – it is adjacent to the works site. It can therefore be expected that any impacts experienced 195 metres away would be amplified at properties such as the restaurant, which are directly adjacent to the Site 8.

◆ Response

The distance of 195 m from the nearest commercial receiver to the works is a typographical error.

Potential noise impacts on McDonalds have been revised. During daytime earthworks and site establishment, the daytime NMLs are predicted to be exceeded by up to 15 dB. The results of this revised analysis would be used to inform the detailed Construction Noise and Vibration Impact Statements.

The Construction Noise and Vibration Strategy (provided as part of the Noise and Vibration Technical Paper) would be implemented to mitigate noise impacts as far as feasible and reasonable.

393

Issue

Ground-borne noise and vibration
The EIS states that the ground-borne noise associated with daytime rock breaker activities is likely to be audible at the nearest commercial buildings in Areas E and F. These Areas are located beyond Old Windsor Road and the restaurant site. The EIS doesn't acknowledge the impact or audibility of ground-borne noise at the restaurant site.

The EIS states that ground-borne vibration associated with rock breaker activity may be perceptible at the nearest commercial receivers. Again, the receiver for Area D, in which the restaurant is located, is 195 metres from the works site. It can be anticipated that the ground-borne vibration experienced at the restaurant will be greater than that felt at the receiver.

The EIS indicates that ground-borne vibration from tunnelling may be noticeable within surface buildings located close to the main tunnel alignment. Further assessment is required to determine the noise and vibration impacts of work trains on the surrounding receivers.

Response

At the McDonalds Restaurant adjacent to the proposed Bella Vista Station construction site, ground-borne noise levels are likely to be audible during daytime rock breaker activities. Airborne noise levels associated with the rock breaker works are likely to be much higher than the ground-borne noise levels and therefore more prominent. The airborne noise levels associated with rock breaker activities during the daytime periods are included in the airborne noise modelling results.

Ground-borne vibration from tunneling is not expected to be noticeable.

394

Issue

Noise and vibration mitigation measures
The following mitigation measures are proposed:

- An acoustic shed to reduce the impact of spoil removal during night-time periods;
- A 3 metre high noise barrier constructed on the northern and eastern sides of the main construction site.

In summary, due to its location, the restaurant site will bear the highest levels of noise and vibration disturbance. The restaurant will also sacrifice patron amenity and approved car parking to accommodate the site works and associated 3 metre noise barrier. These impacts have not been comprehensively addressed by the mitigation measures proposed in the EIS.

Response

Noise impacts on McDonalds have been revised. Mitigation measures would be considered in more detail during preparation of the site-specific Construction Noise and Vibration Impact Statements during the detailed design stage

TfNSW would consult with McDonald's as the project progresses to identify alternative locations to replace the McDonald's car parking lost as a result of the NWRL project.

Construction – Air quality

395

Issue

The following construction related activities are likely to affect the ambient air quality:

- Establishment of the work site;
- Demolition of the Norwest Homemaker Centre;
- Earthworks associated with excavation of the station cavern and launch of the TBM;
- Removal, storage and/or transport of 65,000 m^3 of spoil from the station cavern excavation and 365,000 m^3 from the tunnelling work.
- Exhaust emissions from operation of construction vehicles and plant.

Due to the significant scale of the Site 8 works depot, these activities are anticipated to generate high levels of dust and exhaust emissions that will impact on the amenity of patrons using the McDonald's car park and restaurant.

Response

Dust generation and exhaust emissions are identified as potential impacts within the EIS. However with the implementation of the mitigation measures detailed in Chapter 7 of this report these impacts are anticipated to be minor. Therefore, the amenity of patrons at the McDonald's restaurant is not anticipated to be affected from dust or exhaust emissions.

Operation – Traffic impacts

396

Issue

The loss of parking would have a major impact on the operation of McDonald's, firstly by not complying with its consent and secondly with loss of trade as patrons would not be able to park on site. While it may be possible to provide alternative parking arrangements, no information is provided in the EIS.

Response

Mitigation measures for lost car parking spaces would be negotiated during future consultation.

BP Australia Pty Ltd

Communication - Consultation

397

Issue

There remain some concerns about direct consultation with BP about the Modification Application and the construction project. The Concept Plan approval (condition 3.1(f)) required:

An appropriate and justified level of consultation with relevant stakeholders including a description of how stakeholder input has been considered in decisions and design and/ or mitigation.

This should be read with CoA 2.2 which requires the (then proposed) stations to be integrated with surrounded land use to minimise potential for land use conflicts. BP will be very directly impacted by this project.

According to our advice BP has not up until the last number of weeks had any input into the project.

We note there is a future commitment to undertake consultation with business owners near stations during the design phase (SoC 45), and with sensitive design there may be some benefits, albeit suggested as "slight" in the EIS. This commitment is important and should be confirmed, but there is a concern that the design phase will be too late for this activity to occur in relation to some of the key business interests of the BP Bella Vista site. In our view there would be value on both sides if there were some commitments to working to a more sophisticated treatment of the access issues for the BP site both for construction stages and in the longer term.

◆ Response

Further consultation would be undertaken as the design proceeds and prior to decisions being finalised. Access concerns would be discussed with BP at this stage.

Construction – Access

398

◆ Issue

For BP, the most important consideration in regard to the siting of Bella Vista station is managing the access arrangements to minimise business impacts.

◆ Response

The access to BP would be relocated during construction. The new access would be designed to meet RMS requirements and would be in accordance with Austroads, RMS Supplements and technical directions and other Australian Codes of Practice. This would ensure full functionality of the entrance way and legibility for patrons.

399

◆ Issue

The current EIS proposal suggests removal of the northern arm from the roundabout as far as BP traffic is concerned. It appears this roadway would be used for construction traffic only. This would result in losses of trade to BP proportionate to the popularity of that movement. In addition traffic signals would replace the existing roundabout. This presents the worst case outcome for BP as the existing roundabout plays an important role in allowing customers to egress the site easily back onto Old Windsor Road.

◆ Response

Options are still being assessed for traffic management in this area.

400

Issue

A second option would retain a roundabout at this intersection (rather than lights). It is noted that an expanded (two lane) roundabout configuration would be required. However this does seem possible given what we understand is an intention to demolish the building at the south-west corner of the existing roundabout (Bristol Decorator Centre). This would result in lesser losses to BP as the egress from the service station would still have opportunity to access Old Windsor Road.

Response

Options are still being assessed for traffic management in this area.

401

Issue

The third option would allow retention of the northern egress from the site and a roundabout. That is, the existing private road, or an alternative access across the Bristol Decorate Centre site would be constructed which satisfactorily managed both the construction and BP traffic.

Response

Options are still being assessed for traffic management in this area.

402

Issue

Closing the northern leg of the Lexington Drive roundabout and converting the Lexington roundabout to traffic signals is not a desirable outcome as it: restricts the route of vehicles exiting the station as they would not be able to make a U-turn at the roundabout. Vehicles would either continue travelling along eastbound along Celebration Drive or turn right into Lexington Drive. This would result in increased travel time for vehicles returning to Old Windsor Road.

Response

Options are still being assessed for traffic management in this area.

403

Issue

Converting the roundabout at Lexington Drive to signals and keeping the northern leg open for BP and McDonald's customers should be considered as an option.

Response

Options are still being assessed for traffic management in this area.

404

Issue

Closing the northern leg of the Lexington Drive intersection but not providing traffic signals should be considered as an option.

Response

Options are still being assessed for traffic management in this area.

405

Issue

Investigate an access road between the BP station and the northern leg of the proposed Lexington Drive traffic signals during and after construction of the Bella Vista Station. The road would be above the tunnel section of the rail line and run parallel with Celebration Drive with a sharp turn towards the northern leg of the Lexington Drive traffic signals.

Response

Options are still being assessed for traffic management in this area.

There is scope to revisit the preferred vehicular and pedestrian access arrangements to the proposed worksite at Bella Vista such that impacts on access to and from BP are minimised.

The preferred access arrangement would be defined within the relevant Traffic Management Plan in consultation with relevant stakeholders and roads authorities.

406

Issue

Investigate increasing the capacity of the Lexington roundabout so vehicles leaving the BP station would be able to undertake a U-turn movement at the roundabout and return to Windsor Road.

Response

Options are still being assessed for traffic management in this area.

407

Issue

The EIS also states that access to BP Bella Vista "would be relocated to provide the same level of access" (EIS p13-19). It is not clear yet how this might be achieved. Further discussions between BP and Transport NSW are required on this point, after the completion of the formal exhibition period. A site specific Traffic Management Plan is warranted.

Response

While the access to the service station would be altered, a new access would be provided in consultation with BP and the RMS.

A Traffic Management Plan would be developed to ensure traffic impacts from construction are appropriately managed.

Construction – Business Impacts

408

◆ Issue

Many vehicles divert form Lexington Drive through the Homemaker Centre to reach the BP station to buy fuel. Vehicles then leave the BP site, do a U-turn at the roundabout and re-enter Old Windsor Road with only a small diversion. The removal of the north arm of the intersection would result in fewer drivers frequenting the BP station. A survey will be required to determine how much trade will be lost.

◆ Response

Options are still being assessed for traffic management in this area.

Construction – Heavy vehicle movements

409

◆ Issue

The EIS does not stipulate what size of heavy vehicles will be used to transport the spoil from the Tunnel. The size of the truck, whether they are a 12.5m Heavy Rigid, Truck and Dog or a B Train haulage truck, will affect the level of congestion along Celebration Drive. That is, a larger heavy construction truck is likely to result in an increase in travel time and longer queues along Celebration Drive due to the length of time that it takes a truck to accelerate from a stopped position to the posted speed limit. The size of the heavy construction trucks should be known and then included within the micro simulation model of the two intersections to give a more accurate assessment of their performance.

◆ Response

Technical Paper 1 of EIS 1 notes that to minimise the number of truck movements on the road network, the largest vehicles possible would be used having regard to access constraints and safety considerations. The standard vehicle would be a truck-and-dog or semi-trailer tipper able to carry 12.5m^3. In the case of Bella Vista Station construction site, where forecast heavy vehicle generations would be in excess of 200 vehicles per day, a balance would need to be achieved between minimising total truck numbers (ie using the largest capacity vehicles permissible) and using vehicles that do not occupy excessive amount of road capacity. In off peak times there is likely to be scope to use B-Double type vehicles for haulage of spoil.

Construction - Hours

410

◆ Issue

The EIS states that above ground construction work will take place between the hours of 7am - 6pm Monday to Friday and between 8am and 1pm on Saturday.

However, below ground construction work (tunnelling) and construction traffic for material supply to and spoil removal from tunnelling will be 24 hours a day seven days a week.

Whilst the enormity of the project is appreciated, construction traffic will be operating 24 hours a day seven days a week. It is anticipated therefore that there will be a driver protocol/construction traffic management plan in place with an emphasis of reducing construction vehicle trips during the peak traffic periods AM (7am-9am) and PM (4pm-6pm).

◆ Response

As described in the Construction Environmental Management Framework (refer to Appendix C) a suite of traffic management documentation would be prepared to manage construction traffic impacts.

Chapter 7 of this report details traffic management mitigation measures to be implemented on the NWRL Project.

Construction – Noise & vibration

411

◆ Issue

The level of construction noise and at what time of the day should be monitored to ensure that it does not affect the BP staff and patrons frequenting the BP station.

◆ Response

Noise impacts on BP have been revised. The predicted noise levels for site establishment indicate exceedances of the NMLs of up to 15 dBA during the daytime.

Compliance is predicted for the excavation of the station box construction and concreting as well as daytime and night-time TBM support and pre-cast yard operations.

The results of this revised analysis would be used to inform the detailed Construction Noise and Vibration Impact Statements.

The NWRL Principal Construction Contractor would be required to implement the noise and vibration mitigation measures detailed in EIS 1 (and updated in Chapter 7 of this report).

412

◆ Issue

The BP Bella Vista site immediately abuts the major construction site in the vicinity which would emit very high noise levels (railway station construction box, tunnel boring portal, tunnel boring machine services area). BP service stations are commonly located on major roads with attendant traffic noise, and it is acknowledged that customers are not expecting the highest of amenity levels at service stations. But this presents as one of the major construction projects in Australia. As such a reasonable concern from BP is the extent to which extremely noisy activities on the site may drive away custom or introduce occupational health and safety issues for BP staff, or require special on-site actions by BP to prevent staff or customer exposure to extreme noise levels.

◆ Response

The NWRL Principal Construction Contractor would be required to implement the noise and vibration mitigation measures detailed in EIS 1 (and updated in Chapter 7 of this report). Further treatments, in accordance with the Construction Noise and Vibration Strategy would be considered if there are residual exceedances of noise management levels.

413

◆ Issue

The EIS includes noise impact assessment and notable mitigation proposals, including 3m acoustic screens and construction of an acoustic shed for a key component of the works. However actual noise impacts of the proposal on BP Bella Vista are unclear.

◆ Response

Noise impacts on BP have been revised. The predicted noise levels for site establishment indicate exceedances of the NMLs of up to 15 dBA during the daytime.

Compliance is predicted for the excavation of the station box construction and concreting as well as daytime and night-time TBM support and pre-cast yard operations.

The results of this revised analysis would be used to inform the detailed Construction Noise and Vibration Impact Statements.

414

◆ Issue

The EIS work includes assessment of noise impacts on what are termed "sensitive receivers" distinguishing between "residential" and "other" (which we take to include commercial activities like BP). We are concerned in regard to the treatment of the BP Bella Vista site in this assessment:

- ❖ The nearest assessed receiver within Receiver Area D is indicated to be a minimum of 195m from the closest location of construction activity.
  - The BP site is immediately adjacent to the construction boundary.
- ❖ The map at Figure 10.8 marks non-residential sensitive receivers within Area D though orange markers.
  - The markers do not indicate the BP site, but a commercial site further distant than BP.
- ❖ Construction NMLs of 70 $L_{Aeq(15min)}$(dBA) are suggested (Table 10.18).
  - Have the.se estimates been based on distance attenuation which would be experienced at the BP site (ie not 195m from the construction site but adjacent)?
- ❖ Construction NMLs are indicated as "N/A"(we assume Not Applicable) for the Evening and Night Time noise periods.
  - We are advised BP Bella Vista site operates 24 hours. It is not reasonable to consider impacts after hours as not applicable as significant noise levels could cause loss of trade due to amenity concerns and bring both amenity and health effects to employees.
- ❖ Noise Modelling Scenarios at Table 10.19 Indicate:
  - Compliance for station box construction (daytime) and exceedances of "less than or equal to 10 dB" for: establishment earthworks, and station excavation, compliance for station box construction (daytime), TBM support and pre-cast yard operations (daytime). Has these tests taken account of the BP Bella Vista site's location immediately adjacent to the construction site?
  - "N/ A" for: station box construction (evening), TBM support and pre-.cast yard operations (night-time). The BP Bella Vista site operates extended hours and includes outdoor activity for patrons, and is unreasonable to assume non applicability of noise impacts.

Response

The distance of 195 m from the nearest commercial receiver to the works described in the EIS is a typographical error.

Noise impacts on BP have been revised. The predicted noise levels for site establishment indicate exceedances of the NMLs of up to 15 dBA during the daytime.

Compliance is predicted for the excavation of the station box construction and concreting as well as daytime and night-time TBM support and pre-cast yard operations.

The results of this revised analysis would be used to inform the detailed Construction Noise and Vibration Impact Statements.

Construction – Air quality

415

Issue

Because the Bella Vista Station is an exposed site, the air quality should be monitored to ensure that no toxic chemicals are being released from the Tunnel.

Response

No toxic chemicals would be emitted from tunnel boring activities. Additionally, filters would be placed at the ventilation sites to minimise air pollutants.

416

Issue

With BP Bella Vista immediately adjacent to station box construction and the tunnel entrance, and given the outdoor activity required by customers using the site, there will be adverse effects unless strict dust management procedures are implemented. Conditions to this effect would be expected.

Response

Dust mitigation measures identified within EIS 1 (and updated in Chapter 7 of this report) would be implemented to ensure dust impacts are not significant. These would be applied throughout the construction period and apply to the entire site.

Construction – Surface water/flooding

417

Issue

Stormwater management will require close attention, and it will be important to ensure that the "high voltage power supply" required for the very adjacent tunnel boring machine does not cause residual effects

Response

Stormwater quality would be managed via the erosion and sediment control measures detailed in Chapter 7 of this report.

As stated in EIS 1, the provision of high voltage power would be subject to further consultation with the power suppliers as the project progresses.

Construction – Public safety

418

Issue

Given the immediacy of the tunnel boring machine and its service centre it is of direct interest to BP operations that all requirements for distance attenuation and other safeguards are met both in terms of public safety and technical equipment interference.

Response

Best practice methods would be utilised for construction, and regulations and guidelines would be complied with. Adherence to these regulations and guidelines would ensure minimal impacts to public safety and technical equipment interference.

Construction – Traffic

419

Issue

The forecasted construction traffic volumes for the Celebration Drive access point could be underestimated due to the following:

- All traffic movements are allowed at the intersection of Old Windsor Road and Celebration Drive whereas at the intersection of Old Windsor Road and Balmoral Road vehicles are only able to turn left from Old Windsor Road into Balmoral Road and left from Balmoral Road into Old Windsor Road. Therefore a higher percentage of light vehicles accessing the Bella Vista Station from Celebration Drive.

Response

The traffic modelling undertaken has assumed a worst-case scenario for heavy vehicle access to the construction sites. Therefore it is not considered that the forecast traffic volumes would be underestimated.

420

Issue

The forecasted construction traffic volumes for the Celebration Drive access point could be underestimated due to the following:

- The Peak Hour Vehicles Movements Table forecasts 190 vehicle movements in and out during the AM and PM Peak Period. That is, the vehicle movements are split 50% in and 50% out during both peak periods. Construction traffic is often more directional during the peak periods (e.g. 80% in/20% out). It should be noted that higher proportions for vehicles entering sites during the morning peak have been proposed for other sites but not the Celebration Drive/Balmoral Road site.

Response

Existing and likely future traffic conditions at this location are such that there is likely to be a need to minimise heavy vehicle activity in and out of the Bella vista site during peak periods.

The Bella Vista Station construction site is forecast to generate about 225 heavy vehicles in and 225 heavy vehicles out across an average workday. As such it is unlikely that peak period movements at this location would be significant.

421

Issue

The forecasted construction traffic volumes for the Celebration Drive access point could be underestimated due to the following:

- The last column of Peak Hour Vehicle Movement Table lists 100 staff for the Celebration site. It is unclear whether or not these are solely staff numbers or vehicle movements as there are no "In and Out" movement columns.

Response

Whilst there is anticipated to be about 100 NWRL construction staff on site at the peak activity period, this does not translate to 100 car based vehicle movements into and out of the site because staff would enter and exit in shifts outside peak periods, those staff who drive would car share such that total vehicle numbers on site at any one time are minimised and the Principal Construction Contractor would adopt a staff bussing strategy to mitigate total car based trips to and from sites across the project. Nevertheless, the estimates in EIS 1 do make allowance for the Bella Vista Station construction site to be used as a remote parking site for the eastern tunnel section works.

422

Issue

As the forecast volumes may be underestimated, additional capacity improvements at the intersection of Celebration Drive and Lexington Drive may be required.

Response

Capacity improvements, if required, would be undertaken in consultation with RMS who would ensure efficient roads service the area.

423

Issue

The intersections of Celebration Drive with Old Windsor Drive have been modelled in isolation using the SIDRA analysis program. This does not take congestion downstream of the intersection into consideration. That is, if a traffic queue is formed on the Celebration Drive east approach to Old Windsor Road it is not considered when modelling the intersection of Celebration Drive and Lexington Drive. Due to the proximity of these two intersections and the significant increase in traffic travelling along Celebration Drive. Recommend that these two intersections be modelled using a micro simulation package such as Paramics or Linsig.

Response

Analysis is being undertaken subsequent to the exhibition of EIS 1 to assess co-ordinated intersection impacts using Linsig software at multiple locations across the project.

The results of this analysis would be used to inform the Construction Traffic Management and Control Plans.

424

Issue

It is usual for EIS assessment to consider all potential construction sites whereas when construction takes place, the number of construction sites is generally significantly less than proposed in the EIS . The effect of this might be that the volume of traffic at the construction sites that are eventually chosen is likely to be greater than that estimated in the EIS as they have to accommodate traffic that would have originated from one of the sites that was not taken forward. If this is the case, it is important that this is reassessed.

Response

EIS 1 has been assessed based on a worst case scenario. As such, traffic volumes are not anticipated to exceed what has been assessed.

Environment – Visual impact

425

Issue

There will be some visual effects which we would consider less significant.

Response

Mitigation measures outlined in EIS 1 (and updated in Chapter 7 of this report) are to be implemented to ensure visual impacts are minimised, as much as possible.

Operation – Traffic (OoS)

426

Issue

The EIS states that in the future approximately 800 park and ride spaces will be available at Bella Vista station. There will also be provision for buses, taxis and kiss and ride facilities. Therefore, there will be a significant increase in traffic travelling along Celebration Drive during both the AM and PM peak periods. The EIS has not assessed the future operating performance of the Celebration Drive intersection with Old Windsor Road and Lexington Drive. The future performance of these two intersections should be modelled using a micro simulation package and take into account the proposed 800 Park and Ride car park and any proposed future developments in close proximity of the Bella Vista station.

Response

Operational issues associated with NWRL will be presented and addressed as part of EIS 2.

Property – Property condition surveys

427

Issue

We do note that a general suggestion in the EIS that before and after dilapidation surveys would be undertaken, however we suggest that the final approval needs to include special provisions to effect regular monitoring of BP Bella Vista fuel tanks, or an alternative specific provision to manage risk of environmental harm.

Response

TfNSW would undertake consultation with BP in relation to appropriate management and monitoring of their underground fuel storage tanks.

Property – Property damage

428

Issue

Since the Tunnel Boring Machine will initiate at the Bella Vista station, the BP service centre and fuel storage tanks may need to be protected and/or strengthened to ensure that their structural integrity is not affected. The Proponents should engage specifically with BP specialists on this issue as soon as may be practical.

Response

TfNSW would undertake consultation with BP in relation to appropriate management and monitoring of the underground fuel storage tanks.

Property – Property acquisition

429

Issue

BP shares ownership of what is intended to be a key construction vehicle accessway, land which currently provides access to the BP Bella Vista site. We understand at this stage that the proponents have not yet had contact with BP in regard to this property related matter. It is important that this dialogue be commenced to optimise opportunities for constructive dialogue.

Response

Options are still being assessed for traffic management in this area.

Consultation would occur with BP regarding appropriate and safe access arrangements to the service station during construction.

The Hills Motorway Limited

Construction – Site/compound

430

Issue

The proposed Epping Decline work site is currently deemed to be part of the Hills Motorway Trust leasehold. THML has no objection to this land being excised by the Roads and Maritime Services (RMS) from the motorway leasehold should it be required by the North West Rail Link Project.

We note and support the comment in the EIS for the cycleway to be maintained throughout construction.

Response

The Epping Decline Site is no longer proposed to be utilised during the construction of the NWRL project. Refer to Section 6, Preferred Infrastructure Assessment, of this report for further information regarding the change to the project around the Epping worksites.

Construction – Site/compound

431

Issue

EIS 1 states that two options are currently being investigated for access to the Cheltenham Intermediate Services Facility.

For safety reasons, THML does not support the option to use the citybound carriageway of the motorway as the heavy vehicle access point to the site. THML has concerns about the ability of trucks and other heavy vehicles to accelerate and decelerate safely at this part of the motorway between Murray Farm Road Bridge and Beecroft Road Bridge.

THML supports heavy vehicle access to the site from Kirkham Street as the preferred access and not via the Hills M2 Motorway.

Response

The Hills Motorway Limited's concerns regarding the proposed access to the Cheltenham Services Facility from the M2 Motorway are noted.

The final arrangements for access and egress to and from this site would be developed in consultation with the RMS and The Hills Motorway Limited taking into consideration the range of potential impacts and benefits associated with each option.

Environment – Flora & fauna

432

Issue

THML and Transurban are interested in pursuing long-term opportunities with the North West RaiI Link project team for the regeneration of the Cheltenham Intermediate Services Facility site post-construction.

Response

TfNSW would consult with all relevant stakeholders, including The Hills Motorway Limited, in developing regeneration strategies for the area around Cheltenham Services Facility.

Busways Group

Transport – Bus integration

433

Issue

With regard to modifications to existing public transport facilities, notwithstanding the intention to plan to accommodate current public transport services, it is extraordinarily important that this objective is carried through in minute detail most especially at both Castle Hill and Rouse Hill Town Centre.

These two public transport hubs not only support a multiplicity of operational bus movements, they also provide space for short and long term bus layover, thus enabling bus-driver-meal-break opportunity, and access to parking for toilet amenities.

It is critical that no additional bus travel distance or time is encountered when negotiating temporary arrangements. Bus network scheduling is most often, and for the sake of efficiency and effectiveness, pared down to minute tolerances, thus even small additional burdens can cause a whole network to fail- not just those buses that actually encounter the delay.

Response

Bus integration into operational station precincts will be presented and assessed as part of EIS 2.

Temporary arrangements for bus facilities where they are impacted during construction would be developed in consultation with RMS and relevant bus operators.

Construction – Traffic

434

Issue

It should be planned to implement such superior initial temporary modifications to current arrangements, that the need for subsequent changes is minimised. This is especially important for Busways customers, for who repeated change can introduce vagaries that result in a sub-standard transport experience.

There must be a preparedness to modify plans at short notice. It is imperative that at flexible approach be adopted, such that problems resulting in delays to bus services can be readily overcome on a day to day, even hour to hour basis.

Response

Temporary arrangements for bus facilities where they are impacted during construction would be developed in consultation with RMS and relevant bus operators.

Construction – Business impacts

435

Issue

In accordance with the Director General's Requirements and Conditions of Approval, it is important that Busways be considered not only from the standpoint of being a public transport provider, but also, in the terminology of the EIS, a 'local business'.

The approach adopted in the EIS in relation to impact on businesses (i.e. locality based – revolving around each proposed station precinct), fails to identify that as a bus operator, Busways is a 'local business' in most if not all of the locations.

Therefore, while a given business may be affected in an isolated and discrete manner, Busways will be affected in a cumulative and broad manner. A delay at one location will most certainly be compounded upon by delays at another location. Consequently, and however this impact is measured against a static business, and whatever assistance is afforded it, this must be employed and meted out to Busways as a mobile 'local business'.

Response

Potential impacts to bus operators have been considered in the Traffic and Transport Chapter of EIS 1 (Chapter 9).

Consultation would be ongoing with local bus operators through the project to develop appropriate mitigation measures.

ComfortDelgro Cabcharge

Transport - Bus integration

436

Issue

As the cornerstone of public transport in the Hills/North West region of Sydney, buses continue to play a vital role in delivering Public Transport In the short, medium and long term during both construction of, and subsequent integration with, the NWRL. Maintaining and improving bus services along the NWRL will have a positive impact on lowering traffic congestion reducing pollution, improving health and safety, and increasing accessibility and mobility for Hills residents.

Response

The NWRL aims to fully integrate with the surrounding areas, including existing and future bus services. More information regarding the potential future operation and integration measures will be presented and assessed as part of EIS 2.

Construction - Traffic

437

◆ Issue

Bus Priority Measures during construction
Public transport needs to provide a distinct travel advantage to encourage more people to shift from car to public transport. As such it is crucial that existing bus priority measures are maintained during the construction phase, and that bus priority through bus lanes, bus only access and pus signals are introduced around each station precinct to ensure quick and reliable access for buses and passengers transferring to/from the new train services. Bus priority needs to be maintained throughout the construction period.

◆ Response

For the length of NWRL alignment that runs parallel to the T-Ways, buses would maintain their dedicated bus lanes and traffic priority as currently exist. Where routes need to be rerouted in other areas, plans would be made to ensure minimal disturbance to bus drivers, commuters and other traffic using the roads.

Construction Traffic Management Plans would be developed to further ensure minimal disruption to bus services, as described in the Construction Environmental Management Framework (refer to Appendix C).

438

◆ Issue

Castle Hill Station Development Impacts
CDC is concerned with the dual traffic proposed for Old Castle Hill Rd in what is proposed as a replacement interchange whilst construction occurs. Old Castle Hill Rd currently experiences a very high level of bus activity as the major centre for the Hills district. Buses and general traffic currently only operate in one direction of Old Castle Hill Rd between Castle Stand the roundabout to the Castle Towers car park entry at Eric Felton St.

Three core issues arise from the proposed plans:

- ❖ Current layover areas will have to be relocated, but no site has been proposed. CDC Is working with the NWRL to Identify suitable areas, however it must be stated that any solution may be remote from the current interchange and impose significant additional time costs in terms of repositioning of buses and provision of meal/toilet facilities for drivers.
- ❖ Relocating all bus services currently using Castle Hill Interchange Stand C into Old Castle Hill Rd will significantly increase the risk of collision between buses, between buses and cars. and between buses and pedestrians. Solutions providing remedies to these risks must be provided.
- ❖ Hillsbus currently serves· four major destinations from Castle Hill Interchange, being Sydney CBD, North Sydney. Macquarie Park and Parramatta. In addition the Interchange Is a major hub for school services in the Hills district.

The current peak hour frequencies require that a minimum three buses be able to pick up at any one time. This is expected to grow further over the construction period of the station. Rank and layover capacity must be secured and constructed to provide sufficient capacity (Including growth) for the full period of construction so as to avoid further impacts and uncertainty on the local bus operators and their passengers.

Response

Kerb space is available in Old Castle Hill Road to accommodate bus pick up and set down during construction. The occupation of the Old Northern Road bus facility requires that sufficient flexibility be provided for bus access into and out of Old Castle Hill Road in both directions.

Buses currently layover along the eastern kerb of Old Castle Hill Road. To protect available kerbside space in Old Castle Hill Road during NWRL construction, the bus layover would be relocated to another location. The NWRL team is working with ComfortDelgro Cabcharge and Busways to identify a feasible location to accommodate this layover function. These discussions are continuing.

TfNSW, ComfortDelgro Cabcharge, Busways and other stakeholders have acknowledged the constraints and challenges to accommodating bus access during construction. There may be some impacts on bus timetabling during peak times however, these would be mitigated via the appropriate Construction Traffic Management Plans.

439

Issue

Rouse Hill Station Impacts

Issues noted for the Rouse Hill station precinct are similar to the ones identified for Castle Hill. Specifically for Rouse Hill we note the long turnaround movements for buses resulting from the relocated interchange. The relocated Interchange also introduces a high level of mixed bus, car and pedestrian traffic which increases the risk of collision and Injury. There is also a strong likelihood that buses will be impacted by traffic congestion around the Town Centre precinct, affecting timetables and reliability. Mitigation measures must be introduced to manage these risks.

Response

At the Rouse Hill Station construction site there is space within which to accommodate bus and multi modal access which would provide more flexibility compared to the situation at Castle Hill which is slightly more constrained. There would be some mixing of truck, bus and car activity at the Rouse Hill Station construction site although this would be minimised and managed through the appropriate traffic management practices that would be developed in consultation with relevant stakeholders.

Construction - Access

440

Issue

Norwest Boulevard and Bella Vista Station Impacts

CDC notes that a realignment of Norwest Boulevard is required to create the station box, impacting on existing bus stops in Norwest Boulevard. It Is Important that bus access and existing bus stops are maintained fully operational to encourage further public transport usage during the construction period. CDC will have at least nine routes operating in and around the Norwest Business Park area and we have concerns about the reliability, legibility and accessibility of those routes to the travelling public. We note that significant worsening of level of service (LOS) for the intersection of Lexington and Celebration Drives, and ask that remedies including bus priority be Introduced to offset the E and F grade LOS proposed during construction.

Response

Bus access would be maintained along Norwest Boulevard during NWRL construction. Due to the proposed realignment of the Norwest Station box location (refer to Chapter 6), the westbound bus stop east of Century Circuit would be maintained throughout construction.

Construction – Heavy vehicle movements

441

Issue

Shared Bus and Construction Traffic Pavement Surface
CDC notes that the proposed construction traffic is likely to increase the pace at which the surface of existing bus roadways will deteriorate. It is crucial that existing and temporary bus roadways are constructed and maintained to a standard that will not be of detriment, firstly to passenger safety, but also to passenger comfort and increased wear-and-tear on buses and tyres.

Response

TfNSW would undertake dilapidation surveys of local roads utilised by construction heavy vehicles, and adjacent bus ways.

TfNSW would maintain and repair any damage to these roads caused as a direct result of construction related traffic.

Construction – Cumulative impacts

442

Issue

Public transport patrons are currently enduring travel time uncertainty, delays and longer journey times resulting from the M2 Motorway upgrade. This 2 year project will only just have been completed by the time the NWRL construction starts.

We have concerns for the longevity of the public patience with this state of constant upheaval imposed on passengers in the Hills and Northwest.

Response

Construction of the NWRL would have minimal impacts on traffic, particularly those areas through which M2 buses run. The T-Way would maintain its full functionality, and construction traffic at Castle Hill would be subject to strict management to minimise traffic impacts in the surrounding areas.

Project - timing

443

Issue

The Transport Minister's announcement on 1 May 2012 to put to public tender Region 4 bus services in July 2013 introduces an element of uncertainty and risk that is not in the best interests of collaboration and continuity with Government, with a focus on customer outcomes, at this vital stage of NWRL development.

◆ Response

Decision making for planning and policy is centralised in TfNSW. The organisation is responsible for improving the customer experience, planning, program administration, policy, regulation, procuring transport services, infrastructure and freight. TfNSW would continue to develop detailed bus service strategies and buses would continue to play a pivotal transport role in the North West, including feeding commuters to the North West Rail Link stations.

Sydney Business Park

Design – Station location

444

◆ Issue

Marsden Park Developments submit for consideration the relocation of the stabling yard from Tallawong in the residential area of Rouse Hill, the Ponds and Kellyville Ridge. It is suggested that this facility would be better located in a 35,000 sqm area on the western side of the Marsden Park Industrial Precinct within the General Industrial (IN1) area.

Stabling and Depot facilities for trains proposed to be located 1.5km south west of Marsden Park Stations, adjacent to South Street instead of Tallawong Road (NWRL proposal) as the impact on the community at this location is minimal as it is a non-residential area.

◆ Response

The preferred alignment as presented in EIS 1 has been chosen from a large number of alternative options including 11 heavy rail options, 15 light rail options and 15 transitway options. The chosen alignment efficiently achieves the objectives for the NWRL as set out in EIS 1 including meeting transport needs while minimising environmental effects.

TfNSW is investigating long term transport corridors beyond Area 20 and has identified potential routes that would service Marsden Park as outlined in EIS 1 Section 6.15 and detailed in the Northwest Transport Options Discussion Paper (NSW Government, 2012).

4.3 Community Submissions

The following provides an overview of the community submissions received (individuals, businesses and interest groups / organisations). It should be noted that submission authors generally raised more than one issue.

- Of the total number of issues raised, approximately 53% were in relation to the Cheltenham Oval / Cheltenham area (specifically support for the Cheltenham Intermediate Services Facility access to be from the M2 Motorway instead of the proposed Kirkham Street access to reduce the impact on vegetation).
- Of the total number of issues raised, approximately 25% were in relation to the Cherrybrook area.
- The top issues raised by the community included:
  1. Environment: Flora and fauna (mostly construction related impacts on vegetation).

2. Construction: Traffic impacts (specifically concerns construction traffic will congest local roads which are not designed for the proposed activities).
3. Construction: Land use and community facility impacts (specifically at the proposed Cheltenham Intermediate Service Facility).
4. Construction: Public safety (specifically concerns for pedestrian safety due to heavy vehicle movements / activity).
5. Construction: Cumulative impacts (specifically concerns that residents of the North West are being repeatedly impacted by projects of this nature).

- Submissions were received from across Sydney, however most submission authors resided in Beecroft, followed by Cherrybrook and Cheltenham.

Petitions

Three petitions in response the NWRL EIS 1 were received. These included two regarding the proposed Bella Vista Station and one regarding the proposed Cherrybrook Station. A summary of these petitions is:

- **Petition 1** – Containing 48 signatures – from *Residents of Bella Vista Waters Estate* regarding the proposed Bella Vista Station.
- **Petition 2** – Containing 54 signatures – from *Bella Vista Railway Station Committee* regarding the proposed Bella Vista Station.
- **Petition 3** – Containing 16 signatures – from the *Oliver Way Residents Group* regarding the proposed Cherrybrook Station.

Form Letters

One form letter was received. The form letter was lodged 125 times and presented overall support for the project but stated an objection to the Cheltenham Intermediate Services Facility with regard to vegetation clearance for the site, cumulative impacts (specific to bushland surrounding the facility), loss of open space / bushland for recreational use and construction traffic and safety. In an effort to reduce these impacts, the form letter proposed that an alternative access to the facility be considered, such as via new on and off ramps from the M2 Motorway, instead of the Kirkham Street access.

Responses to community submissions are provided in Chapter 5.