

# Modification of Infrastructure Approval

Section 5.25 of the *Environmental Planning and Assessment Act 1979*

I approve the modification of the State significant infrastructure approval referred to in Schedule 1, subject to the conditions in Schedule 2.



The Hon. Rob Stokes MP  
Minister for Planning and Public Spaces

Sydney

28<sup>th</sup> July,

2020

## SCHEDULE 1

**Infrastructure Approval:**

SSI 7485 granted by the Minister for Planning on 17 April 2018

**For the following:**

Development for the purposes of WestConnex M4-M5 Link project being a new multi-lane road link connecting the M4 East project at Haberfield with the New M5 project at St Peters comprising:

- new twin multi-lane tunnels between Wattle Street at Haberfield and the St Peters Interchange;
- new interchange at Rozelle which includes stub tunnels, ramps and related infrastructure for a potential future Western Harbour Tunnel;
- a twin tunnel connection from the Rozelle Interchange to the Iron Cove Bridge;
- motorway operations complexes and ventilation facilities;
- new and upgraded pedestrian and cyclist infrastructure at Lilyfield / Rozelle / Annandale and along Victoria Road at Rozelle;
- the provision of new open space within the former Rozelle Rail Yards; and
- new road works, widening road works and intersection modifications to facilitate connection between surface roads and the Rozelle Interchange, and along Victoria Road to accommodate the Iron Cove Link.

**Declaration as Critical State Significant Infrastructure:**

The proposal is Critical State Significant Infrastructure by virtue of clause 4 of Schedule 5 of the State Environmental Planning Policy (State and Regional Development) 2011 (NSW) and section 5.13 of the Environmental Planning and Assessment Act 1979 (NSW).

**Modification:**

Relocation of the Iron Cove Motorway Operations Complex (MOC4).

Construction of a switch room, high voltage regulators, an alternative operational motorway control system room and stair access.

Construction of an underground ventilation tunnel connecting the Iron Cove Link tunnel with the Iron Cove cut and cover structure near Callan Street.

Use of the Iron Cove construction ancillary facility (C8) as a tunnelling and support site.

Inclusion of conditions relating to ventilation outlet emissions.

Administrative changes to conditions.

## SCHEDULE 2

Note: Words that have been deleted are shown as: ~~deleted~~

Words that have been added are shown as: added

### 1. Amend Table 1: Definitions and Terms as follows:

Term	Definition
Department	NSW Department of Planning, <u>Industry</u> and Environment
Secretary	<u>Planning</u> Secretary of the NSW Department of Planning, <u>Industry</u> and Environment or nominee, whether nominated before or after the date on which this approval was granted.

### 2. Amend Table 3: Reporting, Notification and Approval Requests that must be submitted to the Secretary as follows:

Condition	Report / Notification / Appointment	Timing	Purpose
<b>Part E – Key Issues</b>			
E29A	Notification of Above-Emission Limit Recording	As soon as possible and within 24 hours of the recording	Information
E94A	Operational noise monitoring of high voltage regulators and on load tap changers	Within one month of undertaking the monitoring	Information

### 3. Delete Condition A1 and replace with the following:

- A1** The CSSI must be carried out in accordance with the terms of this approval and generally in accordance with the description of the CSSI in the WestConnex M4-M5 Link Environmental Impact Statement – Volumes 1A-C and 2A-J (dated August 2017) (the EIS) as amended by:
- (a) the WestConnex M4-M5 Link Submissions and Preferred Infrastructure Report (dated January 2018) (the SPIR);
  - (b) the WestConnex M4-M5 Link Mainline Tunnel Modification Report (dated September 2018) (Modification 1 Report) as amended by the WestConnex M4-M5 Link Mainline Tunnel Modification Response to Submissions (dated November 2018) (Modification 1 RtS); and
  - (c) the WestConnex M4-M5 Link Rozelle Interchange Iron Cove Ventilation Underground Modification Report (dated November 2019) as amended by the WestConnex M4-M5 Link Rozelle Interchange Iron Cove Ventilation Underground Modification Response to Submissions Report (dated March 2020).

### 4. Amend Condition A2 as follows:

- A2** The CSSI must be carried out in accordance with all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in the ~~EIS, SPIR, Modification 1 Report and Modification 1~~

RtS documents listed in Condition A1 unless otherwise specified in, or required under, this approval.

**5. Amend Condition A3 as follows:**

**A3** In the event of an inconsistency between the ~~EIS as amended by the description in the SPIR~~ documents listed in Condition A1 or any other document required under this approval, and a term of this approval, the term of this approval prevails to the extent of the inconsistency.

**6. Amend Condition A12 as follows:**

**A12** The CSSI may be constructed and operated in stages. Where staged construction or operation is proposed, a **Staging Report** (for either or both construction and operation as the case requires) must be prepared ~~and, then~~ endorsed by the ER and then submitted to the Secretary for information. The **Staging Report** must be submitted to the Secretary no later than one (1) month prior to the commencement of construction of the first of the proposed stages of construction (or if only staged operation is proposed, one (1) month prior to the commencement of operation of the first of the proposed stages of operation).

**7. Amend Condition A21 as follows:**

**A21** For the duration of the works until the completion of construction, the approved **ER** must:

- (a) receive and respond to communication from the Secretary in relation to the environmental performance of the CSSI;
- (b) consider and inform the Secretary on matters specified in the terms of this approval;
- (c) consider and recommend to the Proponent any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community;
- (d) review documents identified in **Conditions C1, C4 and C9** and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so:
  - (i) make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary), or
  - (ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary / Department for information or are not required to be submitted to the Secretary / Department);
- (e) regularly monitor the implementation of the documents listed in **Conditions C1, C4 and C9** to ensure implementation is being carried out in accordance with the document and the terms of this approval;
- (f) as may be requested by the Secretary, help plan, attend or undertake audits of the development commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under **Condition A36** of this approval;
- (g) as may be requested by the Secretary, assist the Department in the resolution of community complaints;

- (h) assess the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities as required by **Condition C24** of this approval;
- (i) consider any minor amendments to be made to the CEMP, CEMP Sub-plans, Site Establishment Management Plan(s) and monitoring programs that comprise updating or are of an administrative nature, and are consistent with the terms of this approval and the CEMP, CEMP Sub-plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval; and
- (j) prepare and submit to the Secretary and other relevant regulatory agencies, for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading "Environmental Representative Monthly Reports." The Environmental Representative Monthly Report must be submitted within seven (7) calendar days following the end of each month for the duration of the ER's engagement for the CSSI, or as otherwise agreed with the Secretary.

**8. Amend Condition C2 as follows:**

**C2** The **CEMP** must provide:

- (a) a description of activities to be undertaken during construction (including the scheduling of construction) and figures depicting the site layouts of the construction ancillary facilities;
- (b) details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;
- (c) a schedule for compliance auditing;
- (d) a program for ongoing analysis of the key environmental risks arising from the activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of construction of the CSSI;
- (e) details of how the activities described in subsection (a) of this condition will be carried out to:
  - (i) meet the performance outcomes stated in the documents listed in **Condition A1**, and
  - (ii) manage the risks identified in the risk analysis undertaken in subsection (d) of this condition;
- (f) an inspection program detailing the activities to be inspected and frequency of inspections;
- (g) a protocol for managing and reporting any:
  - (i) incidents, and
  - (ii) non-compliances with this approval and with statutory requirements;
- (h) procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;
- (i) a list of all the **CEMP Sub-plans** required in respect of construction, as set out in **Condition C4**. Where staged construction of the CSSI is proposed, the **CEMP** must also identify which **CEMP Sub-plan** applies to each of the proposed stages of construction;
- (j) a description of the roles and environmental responsibilities for relevant employees and their relationship with the **ER**;

- (k) an outline of the training and induction for employees, including contractors and subcontractors, in relation to environmental and compliance obligations under the terms of this approval; and
- (l) the process for periodic review and update of the **CEMP** and all associated plans and programs.

**9. Amend Condition C5 as follows:**

- C5** The **CEMP Sub-plans** must state how:
- (a) the environmental performance outcomes identified in the ~~EIS and SPIR~~ documents listed in Condition A1 as modified by these conditions will be achieved;
  - (b) the mitigation measures identified in the ~~EIS and SPIR~~ documents listed in Condition A1 as modified by these conditions will be implemented;
  - (c) the relevant terms of this approval will be complied with; and
  - (d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed.

**10. Amend Condition C12 as follows:**

- C12** The **Groundwater Monitoring Program** must include:
- (a) daily measurement of the amount of water discharged from the water treatment plants;
  - (b) water quality testing of the water discharged from the water treatment plants;
  - (c) monitoring of groundwater pore pressures in the Hawkesbury Sandstone aquifers adjacent to the tunnel alignment, in consultation with DPI Water;
  - (d) monitoring of groundwater electrical conductivity in key locations between saline water bodies and the tunnel as identified by the project groundwater model including:
    - (i) in the Haberfield / Lilyfield area to the south of Iron Cove,
    - (ii) in the Rozelle area to the north of Rozelle Bay,
    - (iii) in the Annandale area to the west of Rozelle Bay,
    - (iv) in the Rozelle area to the south east of Iron Cove, and
    - (v) in the St Peters area to the north west of Alexandra Canal,
 with a minimum of two (2) groundwater monitoring wells to be provided in each key location in consultation with DPI Water;
  - (e) measures to record or otherwise estimate and report groundwater inflows into the tunnels during their construction;
  - (f) a method for providing the data collected in (a) and (b) to Sydney Water every three (3) months to demonstrate the project's compliance with the discharge criteria and, if applicable, the Proponent's trade waste licence; ~~and~~
  - (g) a method for providing the groundwater monitoring data to DPI Water every three (3) months during construction; ~~and~~
  - (h) the installation of a minimum of two (2) groundwater open hole monitoring wells in the north Rozelle / Lilyfield area to the west of the ventilation tunnel at Iron Cove to monitor groundwater quality and groundwater levels, in consultation with DPI Water.

## 11. Amend Condition C22 as follows:

- C22** Before of any construction ancillary facility as identified in the ~~EIS and SPIR documents listed in Condition A1~~ (and excluding minor construction ancillary facilities established under **Condition C24**), the Proponent must prepare a **Site Establishment Management Plan** which outlines the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facilities. The **Site Establishment Management Plan** must be prepared in consultation with the relevant council(s) and government authorities. The Plan must be submitted to the Secretary for approval one (1) month prior to establishment of any construction ancillary facilities. The **Site Establishment Management Plan** must detail the management of the construction ancillary facilities and include:
- (a) a description of activities to be undertaken during establishment of the construction ancillary facility (including scheduling and duration of works to be undertaken at the site);
  - (b) figures illustrating the proposed ~~operational~~ site layout(s);
  - (c) a program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken prior to the commencement of site establishment works;
  - (d) details of how the site establishment activities described in subsection (a) of this condition will be carried out to:
    - (i) meet the performance outcomes stated in the documents listed in the EIS and SPIR,
    - (ii) to address the traffic and pedestrian impact assessment required by **Condition E51**, and
    - (iii) manage the risks identified in the risk analysis undertaken in subsection (c) of this condition; and
  - (e) a program for monitoring the performance outcomes, including a program for construction noise monitoring consistent with the requirements of **Conditions C9** and **C10**.

Nothing in this condition prevents the Proponent from preparing individual **Site Establishment Management Plans** for each construction ancillary facility.

## 12. Amend Condition C24

- C24** Lunch sheds, office sheds, and portable toilet facilities, that are not identified as a construction ancillary facility in the ~~EIS and SPIR documents listed in Condition A1~~ can be established, where they satisfy the following criteria:
- (a) have no greater environmental and amenity impacts than those that can be managed through the implementation of environmental measures detailed in the **Site Establishment Management Plan** required under **Condition C22** of this approval; and
  - (b) are located within the project boundary; and
  - (c) have been assessed by the **ER** to have -
    - (i) minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the *Interim Construction Noise Guideline* (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts,
    - (ii) minimal environmental impact with respect to waste management and flooding, and

- (iii) no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.

**13. Amend Condition D1 as follows:**

**D1** An **Operational Environmental Management Plan (OEMP)** must be prepared in accordance with the *Guideline for the Preparation of Environmental Management Plans* (DIPNR, 2004) to detail how the performance outcomes, commitments and mitigation measures made and identified in the ~~EIS and SPIR~~ documents listed in Condition A1 will be implemented and achieved during operation. This condition (**Condition D1**) does not apply if **Condition D2** of this approval applies.

**14. Amend Condition D2 as follows:**

**D2** An **OEMP** is not required for the CSSI if the Proponent has an **Environmental Management System (EMS)** or equivalent as agreed with the Secretary, and can demonstrate, to the written satisfaction of the Secretary, that through the **EMS**:

- (a) the performance outcomes, commitments and mitigation measures, detailed in the ~~EIS and SPIR~~ documents listed in Condition A1, and specified relevant terms of this approval, can be achieved;
- (b) issues identified through ongoing risk analysis can be managed; and
- (c) procedures are in place for rectifying any non-compliance with this approval identified during compliance auditing, incident management or any other time during operation.

**15. Amend Condition D11 as follows:**

**D11** The **Operational Groundwater Monitoring Program** must include:

- (a) daily measurement of the amount of water discharged from all water treatment plants;
- (b) water quality testing results of the water discharged from all water treatment plants;
- (c) monitoring of groundwater pore pressures in the Hawkesbury Sandstone aquifers adjacent to the tunnel alignment, in consultation with DPI Water;
- (d) monitoring of groundwater electrical conductivity in key locations between saline water bodies and the tunnel as identified by the project groundwater model including:
  - (i) in the Haberfield / Lilyfield area to the south of Iron Cove,
  - (ii) in the Rozelle area to the north of Rozelle Bay,
  - (iii) in the Annandale area to the west of Rozelle Bay,
  - (iv) in the Rozelle area to the south east of Iron Cove, and
  - (v) in the St Peters area to the north west of Alexandra Canal,with a minimum of two (2) groundwater monitoring wells provided in each key location in consultation with DPI Water;
- (e) measures to record or otherwise estimate and report groundwater inflows into the tunnels;
- (f) a method for providing the data collected in (a) and (b) to Sydney Water every three (3) months to demonstrate the project's compliance with the discharge criteria and, if applicable, the Proponent's trade waste licence; ~~and~~

- (g) a process for annually forwarding data on the monthly volume of groundwater discharged from each water treatment plant to DPI Water for a minimum period of five (5) years, consistent with **Condition D12**; and
- (h) the installation of a minimum of two (2) groundwater open hole monitoring wells in the north Rozelle / Lilyfield area to the west of the ventilation tunnel at Iron Cove to monitor groundwater quality and groundwater levels, in consultation with DPI Water.

**16. Insert new Condition E2A after Condition E2 as follows:**

**Ventilation Outlet Emission Limits**

**E2A** The concentration of a pollutant discharged from the ventilation outlets must not exceed the respective limits specified for that pollutant in Table 3A.

**Table 3A: Ventilation Outlet Mass Pollutant Concentrations**

Pollutant	100 percentile limit	Units of measurements	Averaging period	Reference conditions
Solid particles	1.1	mg/m <sup>3</sup>	1 hour, or the minimum sampling period specified in the relevant test method, whichever is the greater	Dry, 273K, 101.3kPa
NO <sub>2</sub> or NO or both, as NO <sub>2</sub> equivalent	20	mg/m <sup>3</sup>	1 hour block	Dry, 273K, 101.3kPa
NO <sub>2</sub>	2.0	mg/m <sup>3</sup>	1 hour block	Dry, 273K, 101.3kPa
CO	40	mg/m <sup>3</sup>	1 hour rolling	Dry, 273K, 101.3kPa
VOC (as propane)	4.0	mg/m <sup>3</sup>	1 hour rolling	Dry, 273K, 101.3kPa

**17. Amend Condition E7 as follows:**

**E7** **Conditions E2A, E3, E4, E5, and E6** do not apply in an emergency, as defined in the OEMP required by Condition D1.

**18. Insert new Condition E19A after Condition E19 as follows:**

**Ventilation Outlet Emissions Monitoring**

**E19A** The Proponent must install monitoring equipment to monitor pollutants from the ventilation outlets. Pollutant monitoring from the ventilation outlets (by sampling and obtaining results by analysis) must be in accordance with the methods and frequencies for the pollutant parameters specified in **Table 6A** and be undertaken at commencement of and throughout operation.

The monitoring equipment must be verified by an independent auditor who is expert in tunnel ventilation outlet design prior to the commencement of monitoring for compliance with the requirements set out in **Table 6A**.

**Table 6A: Ventilation Outlet Emission Monitoring Methodologies**

Pollutant	Units of measure	Frequency	Method <sup>1</sup>
Solid particles	mg/m <sup>3</sup>	Continuous	Special Method 1 <sup>4</sup>
Solid particles	mg/m <sup>3</sup>	Quarterly	TM-15
PM <sub>10</sub>	mg/m <sup>3</sup>	Quarterly	OM-5
PM <sub>2.5</sub>	mg/m <sup>3</sup>	Quarterly	OM-5
NO <sub>2</sub> or NO or both, as NO <sub>2</sub> equivalent	mg/m <sup>3</sup>	Continuous	CEM-2
NO <sub>2</sub>	mg/m <sup>3</sup>	Continuous	CEM-2
CO	mg/m <sup>3</sup>	Continuous	CEM-4
VOC <sup>2</sup>	mg/m <sup>3</sup>	Continuous	CEM-8
Speciated VOC	mg/m <sup>3</sup>	Annual	TM-34
Speciated PAH <sup>3</sup>	µg/m <sup>3</sup>	Annual	OM-6
Parameter	Units of measure	Frequency	Method <sup>1</sup>
Velocity	m/s	Continuous	CEM-6
Volumetric flow rate	m <sup>3</sup> /s	Continuous	CEM-6
Moisture	%	Continuous	TM-22
Temperature	°C	Continuous	TM-2
Other	Units of measure	Frequency	Method <sup>1</sup>
Selection of sampling locations	N/A	N/A	TM-1

Notes:

1. *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (EPA 2007) or an alternative method approved by the Secretary in consultation with the EPA.*
2. *Must include, but not be limited to: Benzene, Toluene, Xylenes, 1,3-Butadiene, Formaldehyde and Acetaldehyde.*
3. *Must include, but not limited to; 16 USEPA priority PAHs, namely; Naphthalene, Phenanthrene, Benz(a)anthracene, Benzo(a)pyrene, Acenaphthylene, Anthracene, Chrysene, Indeno(1,2,3-cd)pyrene, Acenaphthene, Fluoranthene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene, Fluorene, Pyrene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene.*
4. *Special Method 1 means a method approved by the Secretary in consultation with the EPA.*

## 19. Amend Condition E27 as follows:

- E27** The Proponent must develop and implement a reporting system for ventilation outlet, in-tunnel and ambient limits. The reporting system must be approved by the Secretary and fully implemented and operational prior to operation. Minimum analytical reporting requirements for air pollution monitoring stations must be as specified in the ~~Approved Methods of Modelling and Assessment of Air Pollutants in NSW~~ Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA, 2007 or as updated).

## 20. Insert new Conditions E29A and E29B after Condition E29 as follows:

### Ventilation Outlet Emissions Notification and Reporting

- E29A** The Proponent must notify the Secretary, EPA and Ministry of Health of any recordings above the emission limits (**Above-Emission Limit Recording**) in **Condition E2A** as soon as possible and within 24 hours of the recording.

This notification must provide details of the circumstances of the event, including:

- (a) the nature of the event;
- (b) the concentration levels that occurred;
- (c) the timing and duration of the event; and
- (d) the measures employed to minimise the concentration levels.

**E29B** Within one (1) month of any notification of **Above-Emission Limit Recording**, the Proponent must prepare and submit to the EPA for information a **Report on Above-Emission Limit Recording** that details the cause of the exceedance, the effectiveness of any action(s) taken in response to the exceedance and the options available to prevent recurrence.

The **Report on Above-Emission Limit Recording** must include consideration of improvements to the tunnel air quality management system so as to achieve compliance with the ventilation outlet emission limits.

**21. Amend Condition E38 as follows:**

**E38** The Proponent must consult with the EPA and **AQCCC** before nominating the proposed auditor to the Secretary. Operation of the CSSI must not commence until the auditor's appointment is approved by the Secretary. ~~The auditor may be the same person(s) appointed under **Condition E27**.~~

**22. Amend Condition E70 as follows:**

**E70** Notwithstanding **Conditions E68** and **E69** the following works are permitted to be undertaken 24 hours a day, seven days a week:

- (a) tunnelling activities excluding cut and cover tunnelling;
- (b) haulage of spoil, excluding from the Iron Cove civil site (C8) at which haulage is limited to the work hours specified in **Conditions E68** and **E69**, and delivery of material;
- (c) works within an acoustic shed; and
- (d) tunnel fit out works.

Other surface works associated with tunnelling must only be undertaken in accordance with the requirements of Condition E73.

**23. Amend Condition E73 as follows:**

**E73** Notwithstanding **Conditions E68** to **E72** works may be undertaken outside the hours specified under those conditions in the following circumstances:

- (a) for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or
- (b) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm; or
- (c) where different construction hours are permitted or required under an EPL in force in respect of the CSSI; or
- (d) works approved under an **Out-of-Hours Work Protocol** for works not subject to an EPL as required by **Condition E77**; or
- (e) construction, excluding spoil haulage from the Iron Cove civil site (C8) at which haulage is limited to the work hours specified in **Conditions E68** and **E69**, that causes  $L_{Aeq(15 \text{ minute})}$  noise levels:
  - (i) no more than 5 dB(A) above the rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009), and
  - (ii) no more than the 'Noise affected' noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive land uses, and
  - (iii) continuous or impulsive vibration values, measured at the most affected residence are no more than the maximum values for

- human exposure to vibration, specified in Table 2.2 of *Assessing Vibration: a technical guideline* (DEC, 2006), and
- (iv) intermittent vibration values measured at the most affected residence are no more than the maximum values for human exposure to vibration, specified in Table 2.4 of *Assessing Vibration: a technical guideline* (DEC, 2006).

*Note: Section 5.24(1)(e) of the EP&A Act requires that an EPL be substantially consistent with this approval. Out-of-hours works considered under Conditions E73(c) and (d) must be justified and include an assessment of mitigation measures.*

#### 24. Amend condition E81 as follows:

- E81** Mitigation measures must be implemented with the aim of achieving the following construction noise management levels and vibration criteria:
- (a) construction 'Noise affected' noise management levels established using the *Interim Construction Noise Guideline* (DECC, 2009);
  - (b) vibration criteria established using the *Assessing vibration: a technical guideline* (DEC, 2006) (for human exposure);
  - (c) Australian Standard AS 2187.2 - 2006 "*Explosives - Storage and Use - Use of Explosives*";
  - (d) BS 7385 Part 2-1993 "*Evaluation and measurement for vibration in buildings Part 2*" as they are "applicable to Australian conditions"; and
  - (e) the vibration limits set out in the *German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures* (for structural damage).

*Comparison against the criteria must take into account the cumulative noise and vibration levels from concurrent activities associated with the CSSI.*

Any works identified as exceeding the noise management levels and/or vibration criteria must be managed in accordance with the **Construction Noise and Vibration Management Sub-plan**. *Predicted vibration levels must be used to select the specific management measures to be applied to individual properties during construction.*

*Note: The Interim Construction Noise Guideline identifies 'particularly annoying' activities that require the addition of 5 dB(A) to the predicted level before comparing to the construction Noise Management Level.*

#### 25. Amend condition E82 as follows:

- E82** Mitigation measures must be applied when the following residential ground-borne noise levels, *including cumulative levels from concurrent activities associated with the CSSI*, are exceeded:
- (a) evening (6:00 pm to 10:00 pm) — internal LAeq(15 minute): 40 dB(A); and
  - (b) night (10:00 pm to 7:00 am) — internal LAeq(15 minute): 35 dB(A).

The mitigation measures must be outlined in the Construction Noise and Vibration Management Sub-plan, including in any Out-of-Hours Work Protocol, required by Condition E77. *Predicted ground-borne noise levels*

must be used to select the specific management measures to be applied to individual properties during construction.

**26. Insert new Condition E86A after Condition E86 as follows:**

**E86A** Tunnelling and excavation works from the Iron Cove civil site (C8) to construct the ventilation tunnel and caverns must not commence until the chamber beneath the roof of the cut and cover structure has been converted into a temporary acoustic shed and fitted with a roller door.

**27. Amend Condition E92 as follows:**

**E92** The Proponent must prepare an **Operational Noise and Vibration Review (ONVR)** to confirm noise and vibration control measures that would be implemented for the operation of the CSSI. The **ONVR** must be prepared in consultation with the Department, relevant council(s), other relevant stakeholders and the community and must:

- (a) confirm the appropriate operational noise and vibration objectives and levels for adjoining development, including existing sensitive receivers;
- (b) confirm the operational noise predictions based on the final design. Confirmation must be based on an appropriately calibrated noise model (which has incorporated noise monitoring, and concurrent traffic counting, where necessary for calibration purposes). The assessment must specifically include verification of noise levels at all fixed facilities, based on noise monitoring undertaken at appropriately identified noise catchment areas surrounding the facilities;
- (c) confirm the operational noise and vibration impacts at adjoining development based on the final design of the CSSI, including operational daytime  $L_{Aeq,15 \text{ hour}}$  and night-time  $L_{Ae, 9 \text{ hour}}$  traffic noise contours;
- (d) review the suitability of the operational noise mitigation measures identified in the ~~EIS and SPIR~~ documents listed in **Condition A1** and, where necessary, investigate ~~and~~ identify and implement additional noise and vibration mitigation measures required to achieve the noise criteria outlined in the *NSW Road Noise Policy* (DECCW, 2011) and *NSW Industrial Noise Policy* (EPA, 2000), including the timing of implementation;
- (e) include a consultation strategy to seek feedback from directly affected landowners on the noise and vibration mitigation measures; and
- (f) procedures for the management of operational noise and vibration complaints.

The **ONVR** is to be verified by a suitably qualified and experienced noise and vibration expert.

The **ONVR** is to be undertaken at the Proponent's expense and submitted to the Secretary for approval prior to the implementation of mitigation measures.

The Proponent must implement the identified noise and vibration control measures and make the **ONVR** publicly available.

**28. Insert new Condition E94A after Condition E94 as follows:**

**E94A** Within three months of commencement of operation of the high voltage regulators at Iron Cove, the Proponent must undertake noise monitoring to compare the actual noise level emitted by the regulators to the noise performance at sensitive receivers as predicted in the document *WestConnex M4-M5 Link Rozelle Interchange Iron Cove Ventilation Underground Modification Report* (dated November 2019) and project-specific noise level as determined in accordance with the *NSW Industrial Noise Policy* (EPA, 2000). Monitoring must capture the onload tap changer noise and peak loading. A report detailing the noise monitoring results must be provided to the Secretary for information within one month of undertaking the monitoring.

If the noise level at the nearest sensitive receiver exceeds either the predicted noise level or project-specific noise level, then the Proponent must implement noise reduction measures within six months of when the noise monitoring was undertaken.

**29. Insert new Condition E117A, 117B and 117C after Condition E117 as follows:**

**E117A** The façade of the high voltage switch room facing Victoria Road at Iron Cove must be articulated and landscaped to reduce its visual impact, unless otherwise approved in the UDLP.

**E117B** Façades of operational buildings and walls at Iron Cove that are adjacent to or adjoin residential properties must be designed and have finishes that are sympathetic with the surrounding residential neighbourhood.

**E117C** The stair access to the underground ventilation facility at Iron Cove must be designed and sited to optimise the extent of useable surplus land along Victoria Road.