

Mordialloc Bypass Project

Report of Bernadette Fitzgerald

1 Introduction

My firm **WSP Australia** prepared the impact assessment report titled **Technical Report - Greenhouse gas impact assessment** which is included as Appendix G to the Environment Effects Statement (**EES**) for the Mordialloc Bypass Project (**Project**).

The role that I had in preparing the Report was Technical Lead supporting the development of the assessment scope and methodology including reviewing the outputs of the assessment and preparation of the report. Other significant contributors to the Report and their expertise is set out as follows:

Brenda Kingston, Director Sustainability, WSP Australia. Brenda is a leading sustainability professional within the construction sector with over 20 years' experience in providing design and advisory services. For the last 12 years, Brenda has regularly contributed to and led projects associated with the collection of greenhouse gas inventory data including annual reporting as part of the NGER Act submissions to the Clean Energy Regulator.

I adopt the Report, in combination with this document, as my written expert evidence for the purposes of the Mordialloc Bypass Project Inquiry and Advisory Committee's consideration and reporting in respect of the Project.

2 Qualifications and experience

Appendix A contains a statement setting out my qualifications and experience, and the other matters in accordance with Planning Panels Victoria's 'Guide to Expert Evidence'.

A copy of my curriculum vitae is provided in Appendix B.

3 Further work since preparation of the Report

Since the Report was finalised, I have not undertaken any further work in relation to the matters addressed in the Report relevant to the Project.

I have considered the proposed Alternative Lower Dandenong Road / Mordialloc Bypass Freeway Interchange Arrangement prepared subsequent to the preparation of this Report and do not consider this to materially impact the outcomes of the matters addressed in this Report.

4 Written Submissions

4.1 Submissions Received

I have read the public submissions in respect of the EES and draft Planning Scheme Amendment for the Project and identified those that are relevant to the Report and my area of expertise. These include the following submissions:

60, 72, 83, 86, 92, 102 and 106

4.2 Summary of Issues Raised

The submissions have raised the following issues relevant to my area of expertise:

4.2.1 Government policy omissions from the EES consideration

4.2.2 The Project provides an opportunity to provide enhanced greenhouse gas emission outcomes

4.2.3 Concerns about the greenhouse gas emissions associated with the Project

4.2.4 Concerns that the scoping does not include vegetation clearance

4.3 Response to Issues Raised

Set out below are my comments and responses to the issues raised by the written submissions relevant to my area of expertise.

4.2.1 Government policy omissions from the EES consideration

Some submitters appear to assert that this assessment did not have appropriate regard for government policy associated with greenhouse gas emission reduction. This includes specific reference to the Transport Integration Act 2010- section 10 Environmental Sustainability and Paris Agreement 2015.

The findings of this assessment are in support of both these Acts as it was found that ongoing road user greenhouse gas emissions were reduced as a result of this Project. This is further supported by the intent of EPRs - GG1 and GG2- which require the Project to avoid, minimise, manage and reduce greenhouse gas emissions.

4.2.2 The Project provides an opportunity to provide enhanced greenhouse gas emission outcomes

The EPRs proposed require the Project to incorporate greenhouse gas reduction outcomes beyond business as usual practices. GG2 requires a minimum 15% improvement on scope 1 and 2 greenhouse gas emissions through the achievement of level 2 of Ene-1 within the Infrastructure Sustainability (IS) Rating Assessment. To meet this improvement outcome, the Project will need to consider and adopt energy efficiency and renewable energy and/or Greenpower options for both operational and construction phases.

Embodied environmental impacts of materials (including greenhouse gas emissions) are also addressed in GG2 by mandating the achievement of Level 1 of the Mat-1 credit of the IS Rating to incentivise the adoption of recycled or low environmental impact materials.

4.2.3 Concerns about the greenhouse gas emissions associated with the Project

Modelling outputs from the Victorian Integrated Transport Model were used to assess the road user greenhouse gas emissions calculated. The road user greenhouse gas emissions were assessed utilising this broad scale model to capture potential changes in traffic routes associated with the Project.

The results indicate that there is a net annual reduction in road user greenhouse gas emissions due to reduced congestion and improved fuel efficiency as an outcome of this Project.

4.2.4 Concerns that the scoping does not include vegetation clearance

When preparing this Report, an evaluation of greenhouse gas emission sources was undertaken to assess material sources to be included within the calculation boundaries. The outcomes of this materiality assessment included vegetation clearing within the reporting scope.

Although the greenhouse gas emissions attributed to vegetation clearance were assessed as less than 2.5% of the Project construction phase scope 1 and 2 greenhouse gas emissions, this is conservative as it does not consider the outcomes of EPR B3 that requires that native vegetation removal is avoided, minimise and requires native vegetation offsets to be provided.

Declaration

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Inquiry and Advisory Committee.

Bernadette Fitzgerald

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Signed



Date: 11/02/2019

Appendix A Matters Raised by PPV's Guide to Expert Evidence

- (a) The name and address of the expert

Bernadette Fitzgerald

Level 15, 28 Freshwater Place, Southbank 3006

- (b) The expert's qualifications and experience

Associate Director with WSP's Sustainability Practice with specific expertise in:

- Greenhouse gas assessments including inventory and scenario assessments
- Climate change resilience planning
- Energy efficiency

Bernadette has 11 years' experience in providing energy efficiency and greenhouse gas emissions assessment services within the construction sector.

- (c) A statement identifying the expert's area of expertise to make the report

Bernadette is an expert in greenhouse emissions assessments having completed many (more than 50) assessments of energy and greenhouse gas emissions of existing and planned projects including inventory and reporting services for annual NGER Act submission to the Clean Energy Regulator. Bernadette has been a NABERS Assessor since 2008, a Commercial Building Disclosure Assessor since 2015 and is a Green Building Council and Infrastructure Sustainability Council Accredited Professional.

- (d) A statement identifying any other significant contributors to the report and where necessary outlining their expertise

Brenda Kingston is an expert in greenhouse emissions assessments having undertaken and led many projects involving the assessment of energy and greenhouse gas emissions of existing and planned projects. This includes the preparation of inventories and reporting for annual NGER Act submission to the Clean Energy Regulator. Brenda has been a NABERS Assessor since 2007, a Commercial Building Disclosure Assessor since 2010 and is a Green Building Council Accredited Professional.

- (e) All instructions that define the scope of the report (original and supplementary and whether in writing or oral)

In a letter from Sallyanne Everett and William Bartley of Clayton UTZ dated 10 December 2018 I was requested to undertake the following work:

1. Review the Technical Report and the EES to the extent relevant to my area of expertise
2. Review the public submissions relevant to my area of expertise.
3. Prepare an expert witness statement that:
 - a. Addresses the Technical Report and any work that I may have carried out since the Technical Report was prepared
 - b. Responds to the public submission relevant to my area of expertise
 - c. Addresses any other matters that I consider relevant to my area of expertise

I was encouraged to utilise a template version of an expert witness statement to provide consistency for the IAC.

- (f) The identity of the person who carried out any tests or experiments upon which the expert has relied on and the qualifications of that person

Not applicable

- (g) A statement setting out any questions falling outside the expert's expertise

In this Technical Report, I have acknowledged that the greenhouse gas assessment utilises road users speeds and volumes as extracted from the “with project” and “without project” scenarios as provided by the WSP Traffic Engineer from the VITM traffic forecasting reporting from April 218.

- (h) A statement setting out any key assumptions made in preparing the report

Section 7.4 of my technical report provides as summary of key assumptions utilised in its preparation. A highlight element is that the greenhouse gas impact assessment methodology applied does not make an allowance for future changes in fuel efficiency or petrol/ diesel fleet mix as a proportion of the overall fleet. It is noted that greenhouse gas emissions associated with road users are anticipated to improve beyond those forecast within my report resulting in a more beneficial assessment.

- (i) A statement indicating whether the report is incomplete or inaccurate in any respect

The emissions factors included within Carbon Gauge have been utilise as a more conservative view of the greenhouse gas emissions associated with this project where the factors have reduced and are expected to continue to reduce throughout the project life. The following changes to the greenhouse gas emission factors have occurred between 2013 to 2017.

— Purchased electricity – 13% reduction in full scope emissions from 2013 to 2017

— Diesel oil -1.2% change in full scope emissions from 2013 to 2017.

Appendix B CV

BERNADETTE FITZGERALD

Associate Director - Sustainability



2. PROFILE

As an Associate Director with WSP's Sustainability team, Bernadette is a key project member on a number of projects with a varied project base. Committed to concepts of sustainability, Bernadette strives to find innovative solutions to lessen the impact of the built environment.

Bernadette is an active leader who in September 2016 won the Award for Excellence in Environmental Sustainability, from the National Association of Women in Construction (NAWIC). She leads on WSP infrastructure sustainability projects within Victoria for WSP.

She has been directly involved with a number of projects throughout Australia. These projects demonstrate a broad skill-set, working within the property and transport sectors. Bernadette is an experienced energy advisor and has been undertaking energy audit and upgrade assessments for clients since 2008.

Bernadette has proficiencies in computer simulations including thermal and computation fluid dynamic modelling, energy and GHG emissions simulations as well as daylight prediction software.

Bernadette completed her undergraduate studies in Mechanical Engineering with particular focus on sustainable technologies and renewable energy. She is a Green Star Accredited Professional, Infrastructure Sustainability Accredited Professional and a qualified NABERS Accredited Assessor and Commercial Building Disclosure Assessor.

3. EDUCATION

Bachelor of Engineering Mechanical (Honours), University of Melbourne 2003

Bachelor of Arts, University of Melbourne 2003

4. PROFESSIONAL ASSOCIATIONS

National Association of Women in Construction (NAWIC) NAWIC

Green Star Accredited Professional – Design and As Built, Performance and Interiors, Green Building Council of Australia GBCA

NABERS Accredited Assessor and Commercial Building Disclosure Assessor NABERS

IS Accredited Professional and Member of Materials Technical Working Group - Infrastructure Sustainability Council of Australia ISCA

5. PROFESSIONAL EXPERIENCE

5.1 Independent Review Services

- **Westgate Tunnel Independent Review and Environmental Auditor (IREA) Melbourne, Vic, Australia (2017 current), Client: for Western Distributor Authority and Transurban Project Value: \$5.5 Billion. Role: Sustainability Reviewer.** Bernadette is responsible for independent review services against the Contract for both Project Co and the Transport for Victoria. This includes

reviewing design and construction submissions by the DnC Contractor CPBJH against the targeted IS and NABERS Ratings for the infrastructure.

- **New Royal Adelaide Hospital (2011-2012)– Member of Government Advisory Technical Team for \$1.7B PPP Project**
- **New Bendigo Hospital (2011-2012)– Member of Government Advisory Technical team for \$650M PPP Project**

5.2 Transport and Infrastructure

- **Mordialloc Bypass (November-2017 – ongoing), Client: VicRoads/ MRPA. Project Value: \$300 million (TBC) –**

Role:- Bernadette is fulfilling the role of Sustainability Advisor to Vic Roads to develop a sustainability strategy to engage a D&C contractor and to support an EES process including the provision of GHG emission impact assessment services. This road project will be the first for Vic Roads to independently apply an IS Rating.

- **Outer Suburban Arterial Roads (OSAR) PPP (Feb-2017 – ongoing), Client: VicRoads/ MRPA. Project Value: \$2.5 billion**

Role - Sustainability Advisor. Bernadette has assisted with the delivery of the project Sustainability Strategy including IS Rating pathway and Gap Analysis, RFQ evaluation methodology.

- **Melbourne Metro Rail Project (2017), Client: CJV John Holland, Lend Lease and Bouygues, Project Value: \$6.8 Billion -**

- Role -For 3 month prior to contract close, Bernadette was seconded into the CJV to embed sustainability requirements into the Design, Environment, Procurement and Construction processes of Cross Yarra Partnership (CYP). This included developing sustainability requirements and management processes and working with cross-discipline members of the CYP team to incorporate each into the project. This project is targeting high Infrastructure Sustainability and Green Star Ratings.

- **Southern Program Alliance (2017 – current), Client – Level Crossing Removal Authority (LXRA), Project Value - \$588million.**

Role - Bernadette is undertaking a Sustainability Lead role for this project as part of the Design and Construction Alliance. This has included working with cross discipline members of the project to develop a Sustainability Strategy and incorporate these into the program requirements such as developing a response to Sustainable Procurement, resource consumption and Climate Change Adaption Planning. This project is targeting high Infrastructure Sustainability and a Green Star Ratings for each station.

- **Newcastle Light Rail Detailed Design, Newcastle, NSW, Australia (2016-2017) Client: Transport for New South Wales. Project Value: \$460 million**

Role: Sustainability Advisor. Bernadette has been developing sustainability deliverables for this project in line with the Reference Design. This included developing a project GHG Emissions and Energy Efficiency plan and rationalising this plan with both Infrastructure Sustainability and Sustainable Design Guidelines rating systems.

- **Melton Highway Level Crossing Removal Bid Phase (2016), Client – Seymour Whyte, Project Value: \$50million**

Role: Sustainability Advisor. Bernadette is working for a tendering contractor to develop strategy to respond to LXRA specifications including IS Excellent (65 point) pathway and gap analysis, Energy,

Water and GHG modelling to inform tender costing estimates, Climate Resilience reporting and drafting the Delivery Sustainability Management Plan.]

- **Southern Cross Station – Platform extension and ventilation system reconfiguration for 664 Collins Street development (2009 and 2013), Client – Assetco/ Mirvac**

Role: Design Consultant. Following on from design and validation work completed by WSP Sustainability as part of the original station design (2003 to 2005), Bernadette provided design and validation services (CFD) to assess the impact on the station passive ventilation system associated with the construction of 2 additional platforms and construction of a commercial development above the venturi exhaust system

5.3 Energy Assessment Services

- **ISPT Portfolio Environmental Benchmarking – (2007-ongoing).** Annual services including the NABERS Energy and Water assessments, Commercial Building Disclosure assessments and NGER Act Reporting. Properties assessed include:
 - 100 St Georges Terrace and Enex 100, Perth WA
 - Casselden Place 2 Lonsdale Street, Melbourne, Victoria
 - The Urban Workshop 50 Lonsdale Street, Melbourne, Victoria
 - Midtown Plaza, 246 Bourke Street, Melbourne, Victoria
 - 500 Bourke Street, Melbourne, Victoria
 - Green Square North Tower, 515 St Pauls Terrace Fortitude Valley, Qld
 - Green Square South Tower, 503 St Pauls Terrace Fortitude Valley, Qld
 - 100 Creek St, Brisbane Qld
 - 1 National Circuit, Barton, ACT
 - 2-4 National Circuit, Barton, ACT
 - 3-5 National Circuit, Barton, ACT
 - 7 London Circuit, Canberra, ACT
 - 18 Marcus Clarke, Canberra, ACT
 - 2 Constitution Ave, Canberra, ACT
- **ATO Box Hill Energy Monitoring and NABERS Energy Assessment(2016-ongoing), Client – Honeywell TAM**
- **Energy simulations. Predictive energy simulations and tuning services completed for NABERS Commitment Agreements, Utility management and Green Star Certifications as follows:**
 - 171 Collins Street, Melbourne, Vic
 - 211 Wellington Street, Mulgrave, Vic
 - Casselden Place 2 Lonsdale Street, Melbourne, Victoria
 - The Urban Workshop 50 Lonsdale Street, Melbourne, Victoria

- Midtown Plaza, 246 Bourke Street, Melbourne, Victoria
- 699 Bourke Street, Melbourne, Victoria
- 500 Bourke Street, Melbourne, Victoria
- Christchurch Convention and Exhibition Centre
- Project Cotton for Cabrini Health
- The Olivia Newton John Cancer and Wellness Centre
- WA Schools PPP (8 sites)
- Frasers Industrial Green Star Volume Certification (2015 and ongoing) – developed an energy and greenhouse gas benchmarking approach for refined submission requirement for multiple sites (11).