

**BEFORE THE BOARD OF ENQUIRY
WATERVIEW CONNECTION PROJECT**

In the Matter of the Resource Management Act 1991

And

In the Matter of a Board of Enquiry appointed under s149J of the Act to determine notices of requirement and resource consent applications by NZTA in respect of the Waterview Connection Project

**JOINT CAUCUSSING REPORT OF LANDSCAPE AND VISUAL DESIGN
EXPERT WITNESSES**

1. INTRODUCTION

1.1 As set out in a minute of the Board of Enquiry (dated 23 December 2010), Landscape and Visual Design expert witnesses were required to caucus and provide a joint signed report that covers:

- *Areas that have been resolved and how (e.g. by agreement about conditions);*
- *Areas that are not resolved, and succinctly why.*

1.2 The following experts attended a caucusing meeting on the 26th January 2011:

- Melean Absolum (Living Communities);
- Dennis Scott (Auckland Council and Auckland Transport)
- Rob Pryor (Auckland Kindergarten Association);
- Stephen Brown (NZTA);
- Lynne Hancock (NZTA)
- David Gibbs (NZTA).

1.3 The meeting was also attended and discussions helpfully assisted by the technical input of Andre Walter (NZTA).

1.4 Errol Haarhoff (Living Communities and North Western Community Association) advised that he was not available and did not attend the meeting.

1.5 The areas of disagreement for discussion fell into a discrete number of topics. The following report is structured around these topics, including:

- the northern portal;
- the southern portal;
- noise wall mitigation;
- methods for mitigating short term effects;
- process to ensure mitigation outcomes.

2. NORTHERN PORTAL

Portal Buildings

- 2.1 The effects resulting from the portal buildings, including their scale and character were discussed. The ability to underground the buildings further was explored. However, technical and functional limitations to further undergrounding were accepted.
- 2.2 As part of this discussion, the benefits of retaining a residential edge to the Great North Road/Oakley Avenue corner versus creating an 'urban forest' were explored.
- 2.3 Queries were raised regarding the extent of site security required and the way security fencing could be minimised using the portal buildings themselves was explored.
- 2.4 The following matters were agreed between all experts:
- (a) While acknowledging the limitations created by underground components, it is desirable to achieve as many large scale specimen trees as possible around the portal buildings (see Condition LV.1(e)(vii) below);
 - (b) It is appropriate to re-establish an urban residential edge at the corner of Oakley Avenue/ Great North Road (1445 and 1449 Great North Road) through comprehensive redevelopment (see Condition LV.1(e)(xi) below);
 - (c) Portal buildings can be accommodated in the location proposed subject to appropriate conditions relating to how they are designed in relation to their suburban context (see Condition LV.1(e) (i), (ii), (iv), and (v) below);
 - (d) Security fencing should be kept to a minimum, where possible using the building façade itself to create a barrier, and should reflect the residential character of the area (see Condition LV.1(e)(xi) below).

Ventilation Stack

- 2.5 There was considerable discussion around the location and form of the ventilation stack. Preliminary outcomes from the air quality caucusing were considered as part of the discussion. This related to the potential reduction in height of the ventilation stacks from 25m to 15m. The current proposed location together with three alternative locations were considered. The alternative options included:
- Option 1 – across Great North Road (BP site/ Oakley Reserve);
 - Option 2 – across Great North Road closer to BP Station ;
 - Option 3 – further north, closer to the interchange ramps.

- 2.6 The 3 different location options are shown on the plan contained in Attachment 1 of this report.
- 2.7 Technical implications regarding the different location options were outlined by Andre Walter.
- 2.8 In exploring the lower height option for the ventilation stack, the potential to break the structure into three elements was discussed. David Gibbs presented concept sketches showing a potential approach for structure design at different heights with three components rather than a single stack.
- 2.9 The following matters were agreed between the experts:
- (a) a reduction in height from 25m to 15-17m is preferable (a collection of stacks at a lower height should have some variation in height profile);
 - (b) if the lower height is possible – there is a strong preference to break the form down into three components. 3 stacks at a lower height should have some variation in height profile. Differing proportions would be preferable (see Condition LV.1(e)(ix) below);
 - (c) the approach of creating a piece of urban sculpture (level of attention to design detail) rather than a simple stack is appropriate (see Condition LV.1(e)(viii) below);
 - (d) location preference is linked to the scale and design of the stack.
- 2.10 Full agreement between experts regarding the location of the ventilation stack was not reached. Given that all the options considered will result in landscape and visual effects, there was no consensus regarding which option considered would minimise the extent of impacts and resulting effects. A number of effects were discussed. Impacts resulting from alternative Options 1 and 2 would result in requirements for additional earthworks and vegetation removal. However, these locations would provide greater separation from Waterview Primary School, Waterview Kindergarten and the residential neighbourhood. The existing large scale trees in the Reserve would complement the scale of the stack. Alternative Option 3 would create a greater area where planting can't occur and would require additional tree removal (in particular, a mature Pohutukawa tree within the School grounds). It would also result in a greater impact on the reconfigured Waterview Park.

2.11 In relation to the different location options the experts held the following opinions:

Dennis Scott, David Gibbs, Stephen Brown, Lynne Hancock

- For the different height options the proposed stack location is the preferred option.

Melean Absolum

- Does not support proposed location at either height;
- At either height option, prefers alternative Option 2;
- Does not support alternative Option 1.

Rob Pryor

- Does not support proposed location at either height;
- At 15m prefers alternative Option 2;
- Does not support alternative Option 1 and 3;
- If the Waterview Kindergarten were permanently relocated, then 15m in the current location is acceptable.

Recommendation Regarding Conditions

2.12 To address the matters agreed between witnesses as set out above, the experts recommend that in relation to the northern portal buildings and ventilation stack, Condition LV.1 (e) is amended to read as follows:

For the Northern portal buildings and ventilation stack:

- (i) Retention of the same building / structural components underground as does the lodged design;
- (ii) Creation of a fragmented form such that the above-ground building is broken down into small, discrete elements – broadly similar in scale to that of nearby residential and school buildings;
- (iii) The site configuration should maximise the use of building facades to achieve site security, minimising the necessity for additional fencing. All security fencing is to be set back from the street frontage, maximise transparency and reflect the residential character of the area;
- (iv) Ensure that any required roof linkages do not dominate the form of the building nor make it register visually as a single entity;
- (v) Development of an architectural profile, detailing and material palette that references the local landscape / geology / coastline / residential area in the design of the above-ground buildings;

- (vi) Maximisation of areas of planted open space between buildings, structures and vehicle movement / parking areas on site;
- (vii) Maximisation of the quantum of limbed-up (to promote high levels of CPTED), large scale, specimen tree planting between buildings, structures and vehicle movement / parking areas on site;
- (viii) Treatment of the buildings and ventilation stack as objects of urban sculpture (whilst also fulfilling their functional requirements);¹
- (ix) The ventilation stack should be broken down into multiple discrete components, with variation of proportions for the different elements **[if height lowered to approximately 15m]**
- (x) Location of the stack as far away from the adjoining Waterview Kindergarten and Waterview Primary School grounds as is practicable without comprising the aesthetic value and integrity of Oakley Creek Esplanade Reserve or Waterview Reserve;
- (xi) Comprehensive development of new residential units on 1145 and 1449 Great North Road at the end of the construction programme;
- (xii) Provision of lighting integrated with the façade design to illuminate the building and path along Great North Road

3. SOUTHERN PORTAL

Portal Building

- 3.1 The effects resulting from the location of the portal building were discussed. In particular, issues of visual and physical connections across and between different areas of Alan Wood Reserve were explored. The option of locating the building below grade and the technical constraints to this was explored. In particular, ground conditions and requirements for access limited the option of locating the facility below grade. The potential to shift the building approximately 80m to the south east (along the alignment of the carriageway) was explored.
- 3.2 The issue of access to the roof of the building and the benefits flowing from this were discussed.
- 3.3 The issue of the benefits of creating a 'green roof' were discussed.
- 3.4 There was discussion regarding the requirements for security fencing and the location of parking areas required to be secured.

¹ This condition was not agreed by Melean Absolum who wanted the words "buildings and" removed from this condition.

3.5 The following was agreed between all experts:

- (a) Access to the roof structure is desirable from a landscape, visual and recreational perspective. It is preferable that it is treated as both a route and a destination (See Condition LV.1 (e) (xxii) below);
- (b) It is desirable to configure the building in a manner so that occupied spaces are aligned to and overlook public walkways/cycleways see Condition LV.1(e) (xv) below;
- (c) Security fencing should be minimised, and any parking area that is required to be secured should be configured in a manner that utilises the building façade to achieve security to the maximum extent possible (see Condition LV.1(e)(xvi) and (xvii) below);
- (d) As for the northern portal, it is desirable to achieve as many large scale specimen trees as possible around the portal buildings (see Condition LV.1 (e) (xxiii) below).

3.6 Full agreement regarding the appropriateness of the location of the building was not reached. Potential to achieve access to the roof was a factor that influenced some of the experts' views (Stephen Brown, Lynne Hancock and Dennis Scott) on the location of the building and its appropriateness. The different views can be summarised as follows:

Stephen Brown, Lynne Hancock, David Gibbs, and Dennis Scott

- (a) With public access to roof – current building location enhances both access and the experience of the residual park. Positive tension would emerge in relation to becoming elevated at a pinch point in the Park and overlooking more open areas of the Park closer to the stack end of the building.
- (b) Without access to the roof – movement of the building and stack 80m to the south east would create better connectivity between the open spaces of Alan Wood Reserve and would reduce the impacts on the pinch point around the Avondale Motor Camp and cycleway.

Stephen Brown, Lynne Hancock, and Dennis Scott

- (c) This is counterbalanced by potentially greater visual exposure to residents around Methuen Road looking over an area of extensive reconfiguration in the vicinity of Oakley Creek. Therefore, overall the benefits of relocation are finely balanced.

Melean Absolum

- (a) Priority is the movement of the building and stack 80m to the south east which would create better connectivity between the open spaces of Alan Wood Reserve and would reduce the impacts on the pinch point around the Avondale Motor Camp and cycleway. This is irrespective of access to the building roof.

3.7 Agreement between the experts was not reached regarding the benefits and desirability of creating a 'green roof'. The opinions of the experts is summarised as:

David Gibbs, Stephen Brown, Dennis Scott, Lynne Hancock

- (a) Regardless of public access to the roof, creating a 'green roof' would have benefits including ecological, visual (overlooking and sense of connection with Alan Wood Reserve), and stormwater.
- (b) Regardless of constraints on public access in the short term, a 'green roof' that does not preclude future public access would be a desirable and sustainable outcome.

Melean Absolum

- (a) The benefit of the 'green roof' is dramatically reduced if the public can't access it. The benefit of shortening the building, improving the connectivity on the ground plane, is preferable. This comment is contingent on where the required security fencing is located.

Ventilation Stack

3.8 Agreed between all experts:

- (a) Treatment of the ventilation stack and buildings as an object of urban sculpture and integrated with one another is appropriate (see Condition LV.1 (e) (xx) below).

Recommendation regarding Conditions

3.9 To address the matters agreed between witnesses, as set out above, the experts recommend that in relation to the southern portal building and ventilation stack, Condition LV.1 (e) is amended to read as follows:

For the Southern portal building and ventilation stack:

- (xiii) Creation of a slim, linear plan arrangement that maximises the separation of the building from the houses on Hendon Avenue to the east and the pedestrian / cycleway to the west;
- (xiv) Minimisation of the vertical height of the portal buildings and ventilation stack to limit their visual intrusion / incursion relative to neighbouring residential properties – other than to enhance the visual aesthetic and cohesion of these key elements;
- (xv) If applicable, the control building should be configured in a manner that occupied spaces are aligned to and overlook public walkways/cycleways.
- (xvi) The site configuration should maximise the use of building facades to achieve site security, minimising the necessity for additional fencing.
- (xvii) If parking areas are required to be secured they should directly abut the buildings: any fencing should be kept to a minimum.
- (xviii) Development of an architectural profile, detailing and material palette that is sufficiently varied to avoid the building and vent imparting a monolithic character;
- (xix) Employment of an architectural profile, detailing and material palette that references the local landscape / geology / tectonic character of the locality, and which is visually / aesthetically 'grounded' in the remaining open space of Alan Wood Reserve;
- (xx) Treatment of the portal buildings and ventilation stack as an object of urban sculpture, integrated with one another;
- (xxi) Maximisation of the potential for a 'green roof' on top of the main portal building;
- (xxii) Making provision for public access to and use of the roof top of the main portal building (whilst making adequate provision for security of the building and tunnel operation);
- (xxiii) Modulation of the building such that the operation facility is separated from the remainder of the building to allow a pedestrian / cycle cross-connection at or near the portal;
- (xxiv) Use of building materials on the portal buildings and stack which are sufficiently robust, varied / modulated, and treated that they remain averse to graffiti and vandalism;
- (xxv) Maximisation of the quantum of limbed-up, large scale, specimen tree planting (to promote high levels of CPTED) in the vicinity of the portal buildings, related structures and vehicle movement / parking areas, so as to reduce their apparent scale when viewed from residential properties near Hendon Avenue and Methuen Road;

4. NOISE WALL MITIGATION

4.1 Dennis Scott noted that a lot of noise walls are required and they present the opportunity to achieve some exciting design outcomes. The ULDF expresses some good principles but there is some uncertainty regarding how this translates to detailed design considerations.

4.2 Agreement was reached between the experts that Condition LV.2 (a) addresses this concern. The condition reads:

The UDL Plans shall be revised to take into consideration the following:

- (a) Finalisation of the noise barriers (as required by Condition ON.3 in accordance with the design principles for noise walls in the ULDF (Section B).

5. MITIGATION OF SHORT TERM EFFECTS

5.1 The short to medium term effects resulting from the construction process were discussed. In particular, the opportunities to ensure effective mitigation of adverse effects associated with the construction yards were explored.

5.2 Agreement between the experts was reached as follows:

- (a) The opportunity exists to achieve improved mitigation planting in association with Construction Yard 1 through appropriate wording of Condition LV.7 and reinstatement of Construction Yard 2 through a new condition (See Condition LV.7 and LV.9 below).
- (b) The construction yards within Alan Wood Reserve (8-12) will be subsumed by the works themselves. This will be disruptive and effects will be significant. There is limited opportunity for screening of just the yards but the proposed realignment of Oakley Creek and related planting, together with retention of existing trees, will provide significant mitigation in medium to long term for both the yards and working area. Early planting of massed flax planting (or similar) within the railway corridor will also assist in this respect. The opportunity exists to also use the railway corridor as a 'growing on' area for larger scale trees to be transplanted as the project progresses.

Recommendation Regarding Conditions

- 5.3 To address the matters agreed between witnesses as set out above, the experts recommend that Condition LV.7 should read as follows:

The UDL Plans shall make provision for close planting of fast growing native shrubs or small trees (Griselinia, Karo, Pittosporums, Tarata or similar) along the security boundary of Construction Yard 1 facing Te Atatu Road. This planting shall be implemented prior to operational use of the yard and maintained in a healthy state for the duration of the works programme. Such planting shall occur at no greater than 1.0m centres and shall comprise plants that are Pb28 or larger at the time of planting.

Include a new condition (LV.9) to read as follows:

The UDL Plans shall make provision for the rehabilitation of Construction Yard 2 at the completion of SH16 construction works through the close planting of native coastal species within that part of the yard area seaward of the proposed stormwater filter strip. All planting shall be consistent with the native coastal planting referenced in the Ecological Management Plan (ECOMP) and Condition V.10.

6. ENSURING PERFORMANCE OF OUTCOMES

- 6.1 The issues of achieving the landscape outcomes promoted and a commitment to community and Council involvement in the future decision making and design and management plan formulation was discussed.
- 6.2 Agreement between the experts was reached as follows:

- (a) The maintenance period set out in Condition LV5 should be increased from 2 years to 10 years (Note: this aligns with the DCMO contract timeframe);
- (b) It is important to ensure the management plan approach, as promoted in the conditions of consent, is rigorous in order to ensure “best practice” implementation;
- (c) A commitment to the community and Auckland Council involvement in the future decision making and design and management plan formulation is addressed in Condition SO12. This condition should be amended to limit input in accordance with the mitigation shown in the UDL Plans.

Recommendation Regarding Conditions

- 6.3 To address the matters agreed between witnesses as set out above, the experts recommend that Condition SO.12 should be amended to read as follows:

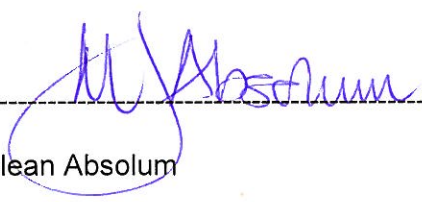
In addition to the Community Liaison Group established pursuant to Condition PI.5, the NZTA shall establish a Working Liaison Group inviting the following:

- (a) Auckland Council;
- (b) Housing New Zealand Corporation;
- (c) Te Kawerau Iwi Tribal Authority;
- (d) Ngati Whatua o Orakei;
- (e) KiwiRail;
- (f) Department of Conservation

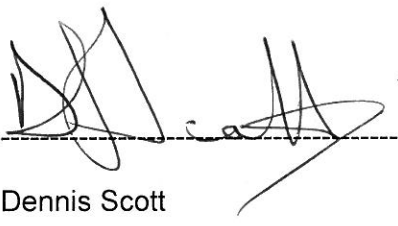
The purpose of this WLG will be to provide a forum through which:

- (a) Opportunities for public work development (including social housing, passenger transport or recreation / open space) are identified where the NZTA confirms that the designation is no longer required (e.g. following construction activities);
- (b) Comment can be provided on finalised urban design and landscape plans, including the finalised designs of structural elements of the Project (prior to their submission to the Auckland Council) subject to ensuring that any proposals are consistent with the UDL Plans and related consent conditions;
- (c) Opportunities for integration of other environmental projects (e.g. restoration plantings) are identified; and
- (d) Consideration is given to appropriate protocols for commencement and completion of construction activities (including blessings for commencement of construction phases).

The Working Liaison Group shall be established at least 2 months prior to construction commencing and shall have regular meetings throughout the construction period.



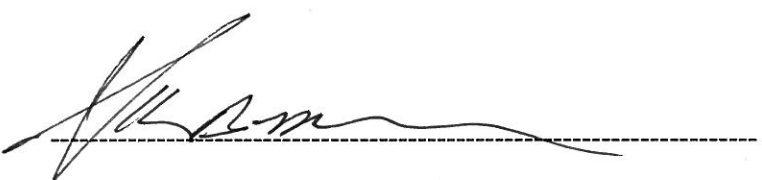
Melean Absolum



Dennis Scott



Rob Pryor



Stephen Brown



David Gibbs



Lynne Hancock

4 February 2011

APPENDIX 1

RECOMMENDED CONDITIONS TO REACH AGREEMENT BETWEEN EXPERTS

LV.1(e)

The final form of the northern and southern ventilation buildings and stacks shall be in accordance with the design principles of Section B of the Urban Landscape and Design Framework (ULDF 2010) and the following conditions.

For the Northern portal buildings and ventilation stack/s:

- (i) Retention of the same building / structural components underground as does the lodged design;
- (ii) Creation of a fragmented form such that the above-ground building is broken down into small, discrete elements – broadly similar in scale to that of nearby residential and school buildings;
- (iii) The site configuration should maximise the use of building facades to achieve site security, minimising the necessity for additional fencing. All security fencing is to be set back from the street frontage, maximise transparency and reflect the residential character of the area;
- (iv) Ensure that any required roof linkages do not dominate the form of the building and make it register visually as a single entity;
- (v) Development of an architectural profile, detailing and material palette that references the local landscape / geology / coastline / residential area in the design of the above-ground buildings;
- (vi) Maximisation of areas of planted open space between buildings, structures and vehicle movement / parking areas on site;
- (vii) Maximisation of the quantum of limbed-up (to promote high levels of CPTED), large scale, specimen tree planting between buildings, structures and vehicle movement / parking areas on site;
- (viii) Treatment of the buildings and ventilation stack as objects of urban sculpture (whilst also fulfilling their functional requirements)²;
- (ix) The ventilation stack should be broken down into multiple discrete components, with variation of proportions for the different elements [**if height lowered to approximately 15m**]
- (x) Location of the stack as far away from the adjoining Waterview Kindergarten and Waterview Primary School grounds as is practicable without comprising the aesthetic value and integrity of Oakley Creek Esplanade Reserve and Waterview Reserve;

² This condition was not agreed by Melean Absolum who wanted the words “buildings and” removed from this condition.

- (xi) Comprehensive development of new residential units on 1145 and 1449 Great North Road at the end of the construction programme;
- (xii) Provision of lighting integrated with the façade design to illuminate the building and shared path along Great North Road

For the Southern portal building and ventilation stack:

- (xiii) Creation of a slim, linear plan arrangement that maximises the separation of the building from the houses on Hendon Avenue to the east and the pedestrian / cycleway to the west;
- (xiv) Minimisation of the vertical height of the portal buildings and ventilation stack to limit their visual intrusion / incursion relative to neighbouring residential properties – other than to enhance the visual aesthetic and cohesion of these key elements;
- (xv) If applicable, the control building should be configured in a manner that occupied spaces are aligned to and overlook public walkways/cycleways.
- (xvi) The site configuration should maximise the use of building facades to achieve site security, minimising the necessity for additional fencing.
- (xvii) If parking areas are required to be secured they should directly abut the buildings: any fencing should be kept to a minimum.
- (xviii) Development of an architectural profile, detailing and material palette that is sufficiently varied to avoid the building and vent imparting a monolithic character;
- (xix) Employment of an architectural profile, detailing and material palette that references the local landscape / geology / tectonic character of the locality, and which is visually / aesthetically ‘grounded’ in the remaining open space of Alan Wood Reserve;
- (xx) Treatment of the portal buildings and ventilation stack as an object of urban sculpture, integrated with one another;
- (xxi) Maximisation of the potential for a ‘green roof’ on top of the main portal building;
- (xxii) Making provision for public access to and use of the roof top of the main portal building (whilst making adequate provision for security of the building and tunnel operation);
- (xxiii) Modulation of the building such that the operation facility is separated from the remainder of the building to allow a pedestrian / cycle cross-connection at or near the portal;
- (xxiv) Use of building materials on the portal buildings and stack which are sufficiently robust, varied / modulated, and treated that they remain averse to graffiti and vandalism;
- (xxv) Maximisation of the quantum of limbed-up (to promote high levels of CPTED), large scale, specimen tree planting in the vicinity of the portal buildings, related structures and vehicle movement / parking areas, so as to reduce their

apparent scale when viewed from residential properties near Hendon Avenue and Methuen Road.

LV.2(a)

The UDL Plans shall be revised to take into consideration the following:

- (a) Finalisation of the noise barriers (as required by Condition ON.3) in accordance with the design principles for noise walls in the ULDF (Section B).

LV.7

The UDL Plans shall make provision for close planting of fast growing native shrubs or small trees (Griselinia, Karo, Pittosporum, Tarata or similar) along the security boundary of Construction Yard 1 facing Te Atatu Road. This planting shall be implemented prior to operational use of the yard and maintained in a healthy state for the duration of the works programme. Such planting shall occur at no greater than 1.0m centres and shall comprise plants that are Pb28 or larger at the time of planting.

LV.9

The UDL Plans shall make provision for the rehabilitation of Construction Yard 2 at the completion of SH16 construction works through the close planting of native coastal species within that part of the yard area seaward of the proposed stormwater filter strip. All planting shall be consistent with the native coastal planting referenced in the Ecological Management Plan (ECOMP) and Condition V.10.

SO.12

In addition to the Community Liaison Group established pursuant to Condition PI.5, the NZTA shall establish a Working Liaison Group inviting the following:

- (g) Auckland Council;
- (h) Housing New Zealand Corporation;
- (i) Te Kawerau Iwi Tribal Authority;
- (j) Ngati Whatua o Orakei;
- (k) KiwiRail;
- (l) Department of Conservation

The purpose of this WLG will be to provide a forum through which:

- (e) Opportunities for public work development (including social housing, passenger transport or recreation / open space) are identified where the NZTA confirms that the designation is no longer required (e.g. following construction activities);
- (f) Comment can be provided on finalised urban design and landscape plans, including the finalised designs of structural elements of the Project (prior to their submission to the Auckland Council) subject to ensuring that any proposals are consistent with the UDL Plans and related consent conditions;

- (g) Opportunities for integration of other environmental projects (e.g. restoration plantings) are identified; and
- (h) Consideration is given to appropriate protocols for commencement and completion of construction activities (including blessings for commencement of construction phases).

The Working Liaison Group shall be established at least 2 months prior to construction commencing and shall have regular meetings throughout the construction period.



ATTACHMENT 1- NORTHERN PORTAL- ALTERNATIVE VENT LOCATIONS Scale 1:1000@A4