

Before the Board of Inquiry
Waterview Connection Project

in the matter of: the Resource Management Act 1991

and

in the matter of: a Board of Inquiry appointed under s 149J of the Resource Management Act 1991 to decide notices of requirement and resource consent applications by the NZ Transport Agency for the Waterview Connection Project

Statement of rebuttal evidence of **Stephen Brown (Visual and Landscape)** on behalf of the **NZ Transport Agency**

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STATEMENT OF REBUTTAL EVIDENCE OF STEPHEN BROWN ON BEHALF OF THE NZ TRANSPORT AGENCY

INTRODUCTION

- 1 My name is Stephen Kenneth Brown. I have already prepared a Statement of Evidence in Chief, dated 15 November 2010 (*EIC*). My EIC describes my qualifications in the field of landscape architecture and my experience in landscape and visual impact assessment.
- 2 I repeat the confirmation given in my EIC that I have read and agree to comply with the Code of Conduct for Expert Witnesses as contained in the Environment Court Consolidated Practice Note (2006), and agree to comply with it. In preparing my evidence, I have not omitted to consider material facts known to me that might alter or detract from my opinions expressed.
- 3 This Statement of Rebuttal Evidence has been prepared in response to evidence prepared by:
 - 3.1 **Dennis Scott** on behalf of the Auckland Council (Submitter No. 111-8)
 - 3.2 **Melean Absolum** on behalf of Living Communities (Submitter No. 167-1)
 - 3.3 **Robert Pryor** on behalf of the Auckland Kindergarten Association (Submitter No. 153-2)
 - 3.4 **Margaret Watson** on behalf of the Albert Eden Local Board (Submitter No. 252-1)
 - 3.5 **Andrew Tauber** on behalf of Apartments Limited (Submitter No. 75-1)
 - 3.6 **Professor Errol Haarhoff** on behalf of Living Communities & North Western Community Association (Submitter No. 167 and 185-1)
 - 3.7 **Hiltrud Gruger** on behalf of Springhleigh Residents Association (Submitter No. 43-1)
 - 3.8 **Paul Conder** on behalf of Unitec Institute of Technology (Submitter No. 160-1).
- 4 Although my rebuttal directly addresses sections of the evidence prepared by these parties, it has also been informed by the recent expert caucusing¹ such that I believe my response to matters raised in evidence is consistent with my position in that caucusing.

DENNIS SCOTT

- 5 I have reviewed Mr **Scott's evidence, both as a whole and in relation** to key sectors. Reviewing his statement in relation to the sectors, I

¹ Visual landscape expert caucusing held on 26 January 2011. As of the date of finalising this evidence, the experts' joint report had not yet been signed.

have the following comments in relation to his assessment and evidence.

- 6 Sector 1 – the Te Atatu Interchange: Most of the matters raised by Mr Scott are covered in my AEE report (Technical Report G.20) sections 6.5.1 through 6.5.4, and in my EIC paragraphs 32 – 39, 150 - 153.
- 7 The only relatively new matter raised (at paragraph 5.16) appears to **be that of the possible use of 'green walls' in Sector 1 to reduce the likelihood of graffiti on SH16's new noise walls**. In my opinion, such mitigation is consistent with the approach already adopted in relation **to the 'package' of bunding, planting and walling proposed around the Te Atatu Interchange, especially near Titoki Street and Alwyn Avenue (Drawing F16: 202 and 203)**
- 8 The issue of Construction Yard 1, also raised by Mr Scott (at paragraph 5.12), is addressed in paragraphs 204 – 214 of my EIC. Subsequently, he raises the issue of integrating proposed noise walls with bunding and planting near Titoki Street and Alwyn Avenue (paragraph 5.15) and expresses concern about the loss of mature vegetation between the Te Atatu Intersection and Henderson Creek (paragraph 5.17) I have already addressed these issues in my EIC at paragraphs 150 – 153 (noise walls) and 36, 37 and 39 (tree removal) as well as sections 6.5.1, 6.5.2 and 6.5.4 in Technical report G.20. My assessment of these matters is unchanged.
- 9 Sectors 2, 3 & 4 – Whau River, Rosebank & Reclamation: The only new matters raised by Mr Scott pertain to Construction Yard 2. I agree that the area of this construction yard outside the motorway corridor should be rehabilitated with appropriate coastal species at the end of construction. A new Condition LV.9 is required to implement this requirement (see **Annexure A**).² This should be integrated with the implementation of Conditions V6 – V10.
- 10 **On the other hand, I don't agree with Mr Scott that the temporary effects of Construction Yard 2 would be significant, other than, perhaps, in relation to views from the actual motorway. Viewed from the Waitemata Harbour or Point Chevalier Peninsula, the broad swathe of intervening mangroves and coastal shrubland, combined with the backdrop of Rosebank Road's motorway ramps, a car wrecking yard and industrial premises, would limit both the visual presence of Construction Yard 2 and any qualitative landscape / visual change induced by it. Even for those exposed to the yard in a much more immediate manner – travelling down the Rosebank Road on-ramp or along North-western Motorway – the proposed construction yard would have a direct sense of connection with the causeway redevelopment that the yard is designed to service. In effect, Construction Yard 2 would register as 'part and parcel' of the**

² A partial set of the proposed Landscape and Visual conditions are contained in **Annexure A** to my rebuttal evidence. This reflects both my views on management of key landscape / visual matters and areas of broad agreement at the expert caucusing.

wider reconstruction work area and, given the much wider extent of those works, would have a quite limited (and temporary) impact in its own right.

- 11 Sector 6 – SH16 to St Lukes: Again, the only issue raised is in relation to Construction Yard 5 and I agree that temporary planting – suitable for relocation and deployment around the Meola Pond upon completion of construction within Sector 6 – might have been usefully employed around the yard if the duration of anticipated works in this Sector was longer. However, it is expected that widening of the motorway corridor and the associated formation of the Meola stormwater pond, construction of noise walls, bunding and planting will all occur within a period of 6 – 8 months. As such, any temporary planting would have little, if any, beneficial effect. I am therefore not proposing any changes to Condition LV.7 which addresses temporary mitigation planting.³
- 12 Sectors 5 & 7 – Great North Road Interchange & Great North Road Underpass: At Paragraphs 5.42 to 5.51, Mr Scott focuses on the effects of the Northern Tunnel Portal Buildings and Ventilation Stack. I have addressed these matters at some length in my AEE report (Technical Report G.20) sections 6.9.1 through 6.9.4 and 9.6.1 through 9.6.2, as well as in my EIC paragraphs 50 – 58, 80 – 85, 108 – 110 and 117 – 125.
- 13 I have to say that I am confused by Mr **Scott's statement**. At paragraph 5.42 he states that *"The post-lodgement review of the North Building by Construkt Architects in September 2010, is in my view an appropriate response that attempts to readdress the effects and impacts of the facility on the residential environment and surrounding landscape"*. However, having praised the 'comprehensiveness' of the design proposals, its dispersal of built forms and their reduced scale, he then states (paragraph 5.43) that *"the integration of the tunnel building remains unresolved"* and *"this particular option is relatively 'brutal' in architectural form and appearance"*. These comments foreshadow Mr **Scott's own design solutions** that involve semi-undergrounding of the proposed buildings, more mounding and planting.
- 14 In fact, over 50% of the northern portal buildings have already been undergrounded as per **Construkt Drawings 9, 10 and 15**, and I don't agree with Mr **Scott's opinions about the architectural merits of that 'design option' (Annexures B - E** show existing views of the portal site from directly across Great North Road – south of the BP Station – and anticipated views of the northern portal buildings and **ventilation stack from that same vantagepoint: in effect, a 'worst case' view of the proposed portal development**). In looking at the portal buildings and associated planting as a whole, my EIC paragraphs 117.1 to 117.6 highlight some of the key design features of the 'design option' associated with the 'Construkt design option' that would reduce any sense of 'brutality' or excessive intrusion:

³ See **Annexure A**

- "117.1 *Deconstruction of the portal building to reduce its profile and ensure its scale is more compatible with the residential matrix of Waterview as a whole. This has resulted in one structure – potentially appearing excessively monolithic and 'industrial' – being subdivided into several smaller buildings of a smaller, more residential, scale.*
- 117.2 *Adoption of a design theme and profile for the resultant buildings and ventilation stack that relates to the local coastal environment with cladding that is redolent of sedimentary layering and marine shells. Instead of attempting to merge with Waterview's predominantly single and two-storey residential environment, the stack has more of a sculptural dimension and sets out to positively 'challenge' its surrounds via both its shell / petal-like form and corton steel cladding.*
- 117.3 *Location of both the resulting buildings and ventilation stack as far away from the Waterview pre-school and primary school as possible, together with local housing.*
- 117.4 *Retention of a residential frontage along Oakley Avenue. Although the existing houses at 1445 and 1449 Great North Road still need to be removed to accommodate construction of the SH20 tunnel and underground components of the building, residential re-development will still 'sleeve' the Great North Rd / Oakley Avenue corner and the beginning of the latter road corridor.*
- 117.5 *Provision of open space around and between the resulting building / structures that, together with a central covered way and car parking, will contribute to the feeling of a cluster or 'community' of modestly scaled buildings. This is much more compatible with the wider residential character of Waterview than was the case with the original design contained in the AEE.*
- 117.6 *Provision of a framework of trees and other planting around the revised buildings and stack that help to further down-scale these components visually and reduce their sense of proximity to the pre-school and Great North Road, in particular."*

- 15 Having reviewed these features of the Construct proposals, I do, however, agree with Mr Scott (at paragraph 5.51) that **"the actual buildings will be substantially screened by existing vegetation"** in relation to the adjoining Waterview Primary School.
- 16 Focusing more specifically on the ventilation stack, we also appear to agree that sculptural treatment of this signature structure is appropriate, although Mr Scott also seems to feel that the **'narrow landscape'** of the current site **"does not afford the structure the prominence it requires to read as an urban sculpture"** (paragraph

5.50). While he therefore states that the stack's visual effects in relation to Waterview Primary School would be 'immediate' (paragraph 5.51), he also appears to believe that the "*urban sculptural concept ... is the only way of reducing the lasting considerable visual effect of the structure in close proximity to the school*". I agree with this statement.

- 17 Similarly, Mr Scott appears to share my concerns about any relocation of the stack to part of the Oakley Creek Esplanade Reserve. We both consider that any such relocation has the potential to compromise the aesthetic value, and functional integrity of that reserve.
- 18 Turning to the issues associated with the **proposed 'cut and cover'** tunnel works, removal of housing, reconfiguration of Waterview Park and transitional realignment of Great North Road, and occupation of both Waterview Park and Oakley Creek Reserve by construction yards, I agree with Mr Scott (his paragraphs 5.52 – 5.59) that such temporary effects will – both in isolation and cumulatively – have a significant impact on the Waterview community. Again, I have addressed this in my AEE report and in my EIC at paragraphs 50 – 55, 201 – 203 and 215 – 219.
- 19 **Existing planting will be retained to buffer Point Chevalier's residential catchment from Construction Yards 3 and 4, as well as the new Great North Road Interchange, while new 'in situ' tree planting** will progressively in-fill this planting and follow the reconfiguration and bunding around a new Waterview Reserve to help buffer Waterbank Crescent, Herdman Street and Waterview Primary School from Construction Yards 6 and 7. However, the opportunities for such planting are much more limited within a more tightly constrained part of the motorway site between the pre-school and Great North Road. Planting in this area is really only viable upon completion of the cut-and-cover works and construction of the ventilation buildings and vent.
- 20 In the longer term, **as shown on Drawing F16:212 massed 'coastal forest type' planting will indeed flank the approach to the Great North Road Interchange from the SH20 tunnel and vice versa** – much as Mr Scott appears to be suggesting. However, around the northern portal buildings and stack there is not the same potential for such planting, due to the requirements for underground structures, above ground buildings, and vehicle circulation areas. Even so, some large native trees, together with massed small trees, native shrubs and groundcovers will still frame the portal structures **and soften the edge of Waterview's residential area (see revised Drawing F16:217 attached to the rebuttal statement of Ms Lynne Hancock addressing Urban Design)**.

- 21 In looking at Sector 5 as a whole, I therefore consider that Mr **Scott's conclusions about the overall impacts of the Waterview Connection Project** – as summarised in his paragraph 5.35 – are realistic. These emphasise:
- 21.1 The greater short term / temporary effects of the Project in its entirety;
 - 21.2 The moderate level of impacts generated by the northern portal buildings and stack (especially) in relation to the Waterview Primary School and pre-school;
 - 21.3 The significant impacts – including amenity effects – that will be experienced by the wider residential community of Waterview residential community as a whole; and
 - 21.4 The significant impacts in respect of more general perception of Waterview.
- 22 Finally, I can appreciate Mr **Scott's expressed concerns (paragraph 5.43)** about the limited surety offered by Condition LV.1.(e) in respect of the final design of the portal buildings and structures. I have now amended that condition (**Annexure A**) to ensure that the subject condition aligns the basic structural configuration and location of those buildings with the Construct design option and will thereby avoid any reversion to the buildings and stack addressed in the AEE. I note that these conditions may now be transferred to the General Designation Conditions for the Outline Plan of Works, but I have included them in my LV conditions simply to make clear the principles that I believe should guide building development at the northern and southern portals.
- 23 Sector 9 – Alan Wood Reserve: At paragraph 5.73, Mr Scott states that the ***"southern portal building and ventilation stacks is singularly the most significant and dominant visual issue"***. He then goes on to quote from my assessment of the original AEE proposals for these elements addressing Viewpoint 8/90A in Appendix B to Report G.20. Although going on to state that the **'Construct Option'** for the proposed buildings and ventilation stack area is (again) **'comprehensive'** and ***"have attempted to address the appearance and height and scale issues with design references to local landscape elements"*** (Scott paragraph 5.77), he still considers that this is a matter that ***"requires considerable further design input and evolution"***.
- 24 Again, I have already provided lengthy commentary on these matters – together with construction works (temporary effects), noise attenuation barriers, and other mitigation measures, that are also touched on by Mr Scott – in my AEE report (Technical Report G.20) sections 9.7.1 through 9.8.2 and in my EIC paragraphs 50 – 58, 80 – 85, 108 – 110 and 117 – 125. In particular, I consider that the photomontages for my Viewpoints 8/90, 9/103, 9/1049/112 and 9R/24 give a very clear idea of the visual interrelationship between the proposed noise walls and other mitigation measures (Scott paragraph 5.83), while Condition LV.2(a) and related design

principles in Section B of the ULDF give a very clear idea of the process to be undertaken in terms of their final design.

- 25 **Consequently, I don't consider that Mr Scott's analysis of Sector 9 adds anything new to the 'debate' over the Waterview Connection Project and its visual / landscape effects.**
- 26 Lastly, Mr Scott's conclusions (paragraph 6) identify the Northern Portal Building, the Southern Portal Building, Construction Yard 1 **and the 'Integrated Reserves Strategy', then the mitigation of all temporary construction yards, as being key issues.** The second-to-last of these items is more related more to open space provision and management than specific visual and landscape effects, although I have also touched on it, in passing, in my EIC at paragraphs 201 - 203. Even so, I agree with Mr Scott that a maintenance period of 2 years for planting is inadequate, given the 5 year plus length of the construction programme for the Waterview Connection Project. I agree that a period of 10 years would be more appropriate and, to that end, have suggested amending Condition LV.5 (Annexure A) accordingly.
- 27 I have also addressed Construction Yard 1 in my EIC paragraphs 204 – 214 and Construction Yards 6 and 7 in my paragraphs 215 – 219. I have already commented on Construction Yards 3, 4 and 5 in preceding paragraphs 18 and 19 of this statement and discussed both groupings of portal buildings and ventilation stacks at length.
- 28 Although Mr Scott also states at paragraph 6.2 that he has “found no proposals to address” the issue of the mitigation of temporary construction yards, I have cited previous sections of my EIC that address this matter, together with a new LV.9 – addressing Construction Yard 2 – which would build on that foundation.

MELEAN ABSOLUM

- 29 Ms Absolum's evidence concentrates exclusively on the proposed Northern and Southern Portal Buildings and Ventilation Stacks. At paragraph 2.8 she also makes the point that her assessment has been prepared: “... *on the basis that, should the Board of Inquiry grant consent to the project in its current form, it is critical that the conditions attached to the consent be sufficiently detailed to ensure that the potential landscape and visual impacts associated with the two groups of portal buildings are appropriately avoided, remedied or avoided.*”
- 30 This qualification appears to hark back to my own EIC paragraph 110 where I affirm that even though the “*revised' buildings and structures would have a range of benefits ... They are not specific proposals and are not the subject of any related conditions of consent. ... As such, I can only indicate that the Construct revised design option would clearly have a beneficial effect (compared with the buildings and structures depicted in the AEE) if implemented.*” Condition LV.1 (e) simply ensures that buildings and structures

which share many of the structural characteristics of the 'Construkt option' will ultimately be developed at the northern and southern portals. As a result, I undertook a 'qualified' assessment of the effects associated with the Construkt options, in much the same fashion as Ms Absolum appears to have done.

- 31 I will now address her analysis and findings in relation to both groupings of structures – at each end of the proposed tunnels.
- 32 Northern Portal Buildings: At paragraphs 3.14 to 3.32, Ms Absolum also appears to support the reduced scale (in a relative sense) of the **Construkt buildings, but is concerned (paragraphs 3.19) that: "they could take on the characteristics of coastal wartime bunkers, with their visual hulking and banded, rough concrete exterior walls"**. In subsequent paragraphs she appears to express the view that integration of the portal buildings into their surrounds requires apparent mimicry of the residential scale, profile and vernacular of neighbouring dwellings.
- 33 **I don't accept this view: school buildings (such as those found within the adjoining Waterview Primary School), shopping centres and their service yards, medical centres, offices, motels / hotels and a wide range of other buildings sit side by side with dwellings, indeed often centrally within residential communities, without compromising their integrity.** In this instance, new residential development on the sites at 1445 and 1449 Great North Road (abutting, and near, Oakley Avenue) would sleeve that end of the portal building site, buffering **Oakley Avenue and Great North Road's remaining residential area** from the tunnel portal. At the same time, the local primary school and pre-school, together with Herdman Street and a reconfigured Waterview Reserve, would be interposed between the proposed buildings and other residential development near the northern tunnel portal. Consequently, there would be no direct juxtaposition or interplay between the proposed buildings and existing residences.
- 34 This configuration, together with existing and proposed planting, **would buffer the portal buildings from most of Waterview's wider residential community** and suggests to me that compatibility and integration between existing and new can be achieved by a variety of means that go beyond simple mimicry of the existing residential vernacular.
- 35 Indeed, given the presence of the adjoining tunnel portal, motorway ramps, lighting, walling and other structures – all of which will also affect perception of the northern end of Waterview – it is my opinion that such an approach would be rather artificial and lacking in integrity. I consider it more honest to accept that the portal buildings are different, reflecting their true functions, but to do so while projecting a design statement / image that is aesthetically compatible with the portal site and its largely (but far from exclusively) residential setting. Construkt has set out to achieve compatibility and integration through down-scaling and deconstruction of the proposed buildings, and by creating a visual /

associative link with Waterview's coastal environment. The proposed landscape treatment around the buildings would reinforce this statement. I consider such an approach to be valid.

- 36 Moreover, as I have already indicated, a significant proportion of the portal development is already to be located underground, minimising the scale and footprint of that development. I have also discussed the planting on revised Drawing F16:217, which attempts to maximise tree and other planting around the above-ground components of northern portal site, as discussed by Ms Absolum at her paragraph 3.21.
- 37 In relation to the somewhat vexed question of the ventilation stack, Ms Absolum ultimately endorses the idea of its relocation to somewhere within Oakley Creek Esplanade Reserve (see paragraphs 3.29 – 3.32 and 3.34). For reasons that I have already outlined, I cannot support such a move. Moreover, those parts of the reserve opposite the northern portal fall steeply away from Great North Road and retain extensive vegetation cover at present. Location of the stack within this part of the Oakley Creek Reserve would require extensive vegetation clearance and earthworks, which would **exacerbate the stack's own, more direct, effects.** In addition, Mr Scott usefully makes the point (at paragraph 5.49) that security measures and maintenance and service access (including access for **vehicles**) would compound the stack's effects in a more isolated location, reinforcing my own concerns about its potential impact on **Oakley Creek's margins.**
- 38 Ms Absolum also alludes to the possibility of moving the stack to allocation north of the tunnel portal, near Herdman Street. However, as well as still sitting close to the entrance to the pre-school facility, a stack at this location would still be significantly exposed to Waterview Primary School and Great North Road; it would encroach into part of the reconfigured Waterview Reserve, and would be even more exposed to residential properties within Herdman Street and Waterbank Crescent. Accordingly, I foresee no benefits arising from this alternative and cannot support it. In my opinion, it would be more appropriate to retain integration of the portal buildings and stack.
- 39 With reference to recent expert caucusing on air quality issues and the possibility of reducing the stack height from a nominal 25m to 15m, Ms Absolum would also like to see the stack reduced in scale, while still retaining a relatively slender profile (Absolum paragraph 3.34). Yet, the reality is that the core exhaust dimensions work against these effects being achieved simultaneously: truncation of the stack is likely to render it more solid and disproportionately **bulky simply because the stack's flue size is a 'given'** (the engineering requirements of the stack are discussed in the evidence of Mr Andre Walter on behalf of NZTA). Consequently, if air quality constraints should allow for a stack of 15m or similar height, I would be comfortable for it to be re-designed in a manner that breaks up

the stack, potentially into several structures, which, together, retain a sculptural form and imagery.

- 40 I should also acknowledge at this point that I would support any **such reduction in the stack's height, simply because it would also** reduce the visual catchment exposed to this key structure. In turn, this would reduce its exposure to local Waterview residents and its visual intrusion relative to their properties and domestic activities.
- 41 **Having made these points, I remain comfortable with Construkt's** design option for the stack as it currently stands. Any design of such structures involves compromise and I consider that Construkt have tackled this problem in a way that should not be lightly dismissed – certainly not in favour of intangible alternatives that may or (ultimately) may not be better.
- 42 Ms **Absolum's summary of effects in relation to the northern portal** area, at paragraph 3.33, reiterates many of the positive attributes of the Construkt proposals that I have already described, and she goes on to suggest that they should form the basis of additional requirements under LV.1 (c) and (e), and LV.3. I think that this is feasible and, as previously mentioned, I have amended Condition LV.1 (e) accordingly. However, it must be recognised that the position of the underground plenum and other components of the tunnel machinery do limit the available space for large trees, as I have also previously stated.
- 43 Southern Portal Buildings: At paragraphs 4.10 to 4.14 Ms Absolum addresses the effects of the southern portal buildings and ventilation stack. At paragraph 4.13 and 4.14 she makes some important points about the scale of the proposed buildings and stack and also points out that the relatively narrow gap between the proposed main building and remaining Hendon Avenue properties will not comprise a **'significant landscape buffer'**. In reality, that gap will be no less than 20m wide and will be in-filled by massed flax planting over time. Consequently, the rail corridor will remain an important vehicle for mediation and **mitigation between Hendon Avenue's** residential properties and the proposed buildings. Together with existing fencing, garages and other structures, and planting within individual properties, this will progressively limit exposure to the portal buildings and soften their profile.
- 44 Even so, I remain of the view that the effects of the proposed development in this area will remain significant – potentially high in relation to some individual properties and residents – despite **Construkt's admirable efforts. The full realisation of Construkt's 'design option' for the tunnel portal buildings and stack would reduce** effects in relation to the wider community (in a relative sense) and could afford a point of focus and attention – in a more positive vein – than the structures contemplated in the AEE. However, I doubt **that the combined buildings and stack would conjoin to form a "large ecclesiastical building" as described by Ms Absolum at paragraph 4.23 of her statement.**

- 45 Having therefore weighed up these aspects of the Waterview Project at some length, through various iterations, I remain concerned about the effects of the southern portal buildings and ventilation stack on the immediate residential environment of central Hendon Avenue especially. I understand that a number of shortcomings are associated with the potential undergrounding of portal structures and operations (apart from the stack), as suggested by Ms Absolum. These include requirements for vehicle access (extensive ramping), parking, security fencing and exhaust vents – all of which would remain apparent within the residual reserve. These elements would compromise both its functionality and open space aesthetic – as discussed in my EIC statement at paragraph 133 and in the rebuttal evidence of Mr Andre Walter.
- 46 To date, however, I have focused on the above-ground scenario and associated mitigation. On that basis, the Construkt design option, or something akin to it – as per Condition LV.1(e) – remains the only practical approach to design and amelioration of the southern portal development in my opinion. Whereas the very indicative AEE structures discussed in Technical report G.20 appeared to eschew any functional integration with the remains of Alan Wood Reserve and visually rejected meaningful dialogue with its open space, the Construkt proposals suggest a greater degree of compatibility in both respects.
- 47 As discussed in my EIC paragraphs 126 – 133, I consider that the revised structures would appreciably reduce the effects associated with a main portal building and ventilation stack, even though both structures will remain physically quite disproportionate to the immediate residential matrix of Hendon Ave. This reduction in apparent scale and visual dominance will be more apparent beyond the immediate tier of housing and vegetation near Oakley Creek; **less so inside that 'ring'**. As a result, even though at paragraph 131 in my EIC I describe **'the effects of this option as being "Moderate, possibly Low-Moderate when looking from north of Hendon Avenue"**, they would remain higher than that for the very immediate residential neighbours – near 57 to 85 Hendon Ave especially. On reflection, therefore, I remain of the opinion that development of the southern portal site – in line with the Construkt approach – is acceptable, but still marginally so.
- 48 I do, however, consider that any lowering of the stack vent to 15m or so would be beneficial and, unlike with the northern ventilation stack, this might appropriately involve integration of a single reduced-height stack with the main portal building – in line with **Construkt's current proposals for the southern portal area as a whole**.
- 49 Ms Absolum and Mr Duncan McKenzie have also raised the possibility of moving the proposed structures / buildings, including the actual tunnel portal, in a south-easterly direction so as to leave more residual open space near Olympus Street and the Avondale Motor

Camp. I did not specifically assess this option for my AEE report or in the course of EIC preparation.

- 50 However, I now understand that the tunnel portal and related buildings / structures could conceivably move approximately 80m south-eastwards – in the general direction of Richardson Road. This would slightly lengthen the proposed tunnels and pose some problems in relation to excavating through the basalt-topped geology of the area. Naturally, these matters have engineering and cost implications. However, setting those aside for the moment and concentrating on visual / landscape concerns, I have reached the following conclusions in relation to this alternative:
- 50.1 It would shift the portal, related buildings and stack to an area that is subject to slightly more vegetation clearance in conjunction with the proposed realignment of Oakley Creek;
 - 50.2 This would render the portal and buildings slightly more visible from parts of Methuen Road – in the vicinity of nos. 90 to 116A;
 - 50.3 However, it would be less physically proximate to the Avondale Motor Camp and would have less impact on that residential facility; and
 - 50.4 There would be little change in terms of exposure to Hendon Avenue – the bulk of such exposure would simply shift from around 51- 87 Hendon Ave to 81 – 101.
- 51 On balance, there is little to really choose between the current proposal and Ms **Absolum's option in terms of visual exposure** alone. However, her and Mr **McKenzie's alternative would free up more open space within the residual reserve and create stronger linkage between the open space in the 'elbow' near the motor camp and that near the proposed sports fields to the north-west**. I believe that this **'positive' might have been counter-balanced** by the provision of public access to the roof of the main portal building, so as to create both a lookout / destination within Alan Wood Reserve and an alternative walking route through it. However, in the absence of that opportunity, I must agree with Ms Absolum that some benefit would be derived from relocation of the portal and related development up to 80m to the south-east.

ROBERT PRYOR

- 52 The evidence of Rob Pryor focuses exclusively on the ventilation stack at the northern portal entrance. This is to be located directly **east of the Waterview Kindergarten's eastern boundary**.
- 53 Subsequent to describing the stack's physical site and its surrounding context, Mr Pryor – at paragraph 3.5 – describes its **"height, form and industrial nature" as being "completely out of context with the prevailing character of the area"**. At paragraph 3.6, addressing Visual Intrusion / Contrast, he goes on to state that: **"the ventilation stack will contrast significantly with the vegetated**

characteristics and low-scale nature of the kindergarten, school and surrounding residential area."

- 54 While Mr Pryor quotes extensively from my findings in relation to the original (AEE) stack design to help justify his own assertions about **the structure's effects (Pryor paragraphs 4.1 – 4.8)**, he appears to ignore my evidence about the post-lodgement redesign (my EIC paragraphs 108 - 110 and 117 – 125). Indeed, he offers very little commentary on, or analysis of, the Construct **'design option'**. Thus, his only conclusions in relation to that particular option appear to be found at paragraph 3.8, where he asserts that it would be: **"inappropriate in cognisance of the character and quality of the surrounding environment"**.
- 55 My own AEE analysis of the ventilation stack (section 9.6.1, 9.6.2 and 9.10.1) indicates that even though it would have a relatively high level of exposure to Great North Road, the primary school / pre-school and near parts of Oakley Avenue, its profile would not be **readily apparent from within most of Waterview's wider residential catchment**. Consequently, its effects would be disproportionately concentrated at the locations described above, together with:
- 55.1 the new Waterview Reserve and its interface with Waterbank Crescent;
 - 55.2 Oakley Avenue, extending from its intersection with Great North Road to approximately 25 Oakley Avenue (with far greater exposure to properties on the south side of the road and the actual road corridor); and
 - 55.3 The near margins of Oakley Creek Esplanade Reserve.
- 56 **In relation to this 'catchment' and the public at large, I have also** acknowledged that the stack will, in future, become part of the signature of Waterview because of its significant exposure to both the local and regional communities. Clearly, the issue of the stack is also sensitised both by the wider debate about the merits of the **entire Waterview Connection proposal and by the stack's inevitable link to submitters' perceptions of air quality**.
- 57 Consequently, with reference to Waterview as a whole (not just the **kindergarten**) and the **'design option' developed by Construct, I** reached the following conclusions in my EIC – with particular reference to paragraphs 121 and 122:
- 57.1 As stated at paragraph 122 of my EIC, the revised designs – or more precisely, the design philosophy and architectural approach adopted for both the stack and portal buildings – **remain "very positive and entirely compatible with the local landscape"**.
 - 57.2 However, because the stack will continue to be associated with the new motorway / tunnel corridor and the venting of **exhaust gases, it must inevitably "retain some negative connotations"** and effects (as stated at my paragraph 121), regardless of its profile and design.

- 58 **In other words, while I think the more positive 'landmark' qualities of Construkt's redesigned stack will reduce its effects, such** attributes cannot wholly obviate or offset them, in particular, those effects derived from the sort of associations that I have described. Even so, I believe that the redesigned stack's effects would be mitigated and ameliorated to much greater degree than those **anticipated in relation to the original 'AEE stack'**. In drawing a clear distinction between the effects of the AEE and Construkt proposals, I also have to reiterate that I do not agree with Mr Pryor that the **stacks' level of visibility is automatically correlated with its level of impact** in a linear fashion: landscape and visual effects involve much more complex judgements than can be drawn from such a simple equation.
- 59 Nevertheless, as already indicated, I do accept that any reduction in the height of the ventilation stack would benefit both the kindergarten and wider Waterview community. This might, however, require a re-think of the design strategy for a reduced-height stack – again, as I have already discussed.
- 60 For reasons that I have set out earlier in this statement, I do not believe that relocation across Great North Road is appropriate, or that it would alleviate the sort of associative effects that I have already described; in fact, it might well diminish the positive image of Oakley Creek and its margins – a corridor that has beneficial connotations for both Waterview and the nearby Unitec campus currently. It is precisely because of this that I have supported the idea of design-focused mitigation which addresses the ventilation **stack in a sculptural manner and consciously sets out to "positively 'challenge' its [Waterview] surrounds"**.
- 61 At paragraph 4.7 of Mr Pryor's evidence, my AEE assessment and evidence are criticised Mr for placing too much emphasis on the broader community effects that I have just described, and not **enough on "the most affected parties – the Waterview Kindergarten and Primary School"**. There may indeed be some validity to this criticism, although I also need to point out that my assessment of the portal buildings and stack necessarily started out looking at their effects on the community as whole, not just those parts of Waterview likely to be more adversely affected. I maintain that this wider contextual situation remains important in assessing the overall effects of the northern portal development and related structures.
- 62 Furthermore, as previously outlined, I remain of the view that the Construkt option would appreciably reduce such immediate effects. The space around and between the stack and buildings, their profile and design, and intervening planting, would all help to significantly reduce the impacts associated with the Northern Portal area (in comparison with the AEE proposals) and its ventilation stack.
- 63 **Nevertheless, in response to Mt Pryor's criticism, I consider that:**
- 63.1 The effects of the revised ventilation stack and buildings on Waterview Primary School (mainly as a result of exposure via

the School's sports ground – as per Viewpoint 5/68) could well drop from a Moderate level (as in the AEE) to Moderate / Low or Low / Moderate; and

- 63.2 Effects in relation to the kindergarten could realistically drop from a High level (extrapolated from my AEE assessments for Viewpoints 5/61, 5/68, 7/78 and recent site visits to the **kindergarten's surrounds) to a Moderate level.**
- 64 Naturally, all of my preceding comments and these effects are predicated on the continued location of the kindergarten at its present site, directly abutting the proposed portal buildings and ventilation stack. However, I was recently informed that **NZTA has proposed (to the Ministry of Education) to permanently relocate the kindergarten** to a site next to the main entrance to Waterview Primary School in Oakley Avenue – in the vicinity of no.17.
- 65 Such relocation would still place the kindergarten within the broad sphere of influence of the proposed stack. However, with a line of residential dwellings, school classrooms and garden vegetation interposed between such a site and the ventilation stack, that structure would be intermittently visible, at most, and would have quite limited visual presence. In all likelihood, it would merge with the mosaic of existing residential development and school buildings down the northern side of Oakley Avenue. Consequently, any such relocation would dramatically reduce awareness of the stack from the kindergarten, together with that of other portal buildings and activities, and its overall effects would be reduced to a Low or Very Low level overall.

MARGARET WATSON

- 66 At paragraphs 17 to 25, Ms Watson addresses the effects of the Northern Control Buildings and ventilation Shaft and at paragraphs 26 and 27 focuses on the Southern Control Building and ventilation Shaft. I can only reiterate my opinions in relation to these structures, as already outlined, including the following:
- 66.1 I do not consider that the northern control buildings – as per the Construct option – would be visually dominant (Ms **Watson's, paragraph 25**);
- 66.2 I accept that the ventilation stack (in particular) will have connotations that go beyond visual and functional reality;
- 66.3 I would not be comfortable with location of the stack within, or directly abutting, a new Waterview Reserve; and
- 66.4 As Ms Watson points out, I have not stated nor do I consider, that the effects of the combined northern control buildings and stack would be minor (or less).
- 67 As mentioned earlier in this statement, I have not, until recently, considered the option of moving the southern ventilation stack, and

have now also addressed the possibility of moving the tunnel portal and related structures some 80m to the south-east. However, Ms Watson takes this a step further by suggesting a move of some 100 – 200m to the south-west (Watson paragraph 27).

- 68 Such relocation would actually place the portal south of the point at which there remains sufficient room to accommodate the ventilation galleries, fans, electrical transformers, and other equipment above both tunnels as they emerge from the ground (see the rebuttal evidence of Mr Andre Walter). Consequently, the buildings and **stack housing this equipment would either have to 'perch' atop the tunnel** – increasingly elevated above the natural ground contours as one moves southwards – or be physically relocated away from both tunnels. In reality, such separation is not feasible as the ventilation plenum and other structures are integrally linked to both tunnels. Moreover, any such shift would result in the buildings and ventilation stack impinging on the realignment of Oakley Creek, its peripheral **planting and the residual open space and cycleway down the Creek's** western flank. It would also place these structures in a position where they are much more exposed to the catchment of residential properties around Methuen Road.
- 69 Alternatively, perching the buildings and stack atop a relocated portal would simply increase the height and perceived scale of the combined development – to the detriment of all of the residential communities in its vicinity.
- 70 Furthermore, the southward move proposed by Ms Watson would actually start to place the buildings and stack within part of a wider and more open part of the motorway corridor and residual Alan Wood Reserve. As a result, the ventilation stack and buildings would remain highly visible from **Hendon Road's line of residential** properties, but would be even more directly exposed to Methuen Road, Valonia Street and Richardson Road. Such a move would, for example, locate the ventilation stack much more centrally and prominently within the fields of view obtained from my Viewpoints 9/90, 9/102, 9/103 and 9/104.
- 71 Consequently, Ms **Watson's proposal would exacerbate, rather than,** reduce the effects of the tunnel portal and related development. As a result, I cannot support her proposals.

ANDREW TAUBER

- 72 Mr Tauber raises concerns [section 5(d) of his statement] about the **physical damage to planting and a "conservation area"** associated with Construction Yard 7 in relation to an apartment complex at 1510 Great North Road. However, as shown on Drawing F.06-913 for that Construction Yard, its boundary and fencing appears to substantially – though not entirely – skirt the bulk of semi-mature planting around the subject apartments. In fact, a number of trees near the entrance to the south-bound tunnel (beyond the planting around 1510 Great North Road) are also identified in the

Construction Yard Plan as being 'amenity trees that should be avoided or managed via the Construction EMP'.

- 73 As a result, it appears that the integrity of the massed planting around the apartments will be maintained and it will serve to buffer the apartment complex from the bulk of cut and cover operations associated with the south-bound tunnel, which emerges much lower down the Oakley Creek gully – well below the level of the subject apartment complex. Planting closer to Great North Road, on the northern side of the complex, should also screen most of the apartments from the construction yard and works associated with the north-bound tunnel, which emerges from the ground closer to Alford Street, on the edge of Great North Road.

PROFESSOR ERROL HAARHOFF

- 74 At paragraph 3.6, Prof. Haarhoff reiterates concerns about the lack of certainty in relation to the final design of the northern north and southern portal buildings and stacks; matters I have covered already in paragraphs 21 and 39. His paragraph affords an introduction to the much traversed effects of these same buildings and structures, without raising any significant new issues in relation to their effects, other than:

- 74.1 The axial nature of views up and down Great North Road towards the northern portal buildings and stacks (paragraph 4.2); and
- 74.2 **The exacerbation of the buildings' impacts generated by the removal of housing within and north of Herdman Street (paragraph 4.6).**

- 75 These matters do not alter my findings in relation to the proposed buildings and northern ventilation stack.
- 76 **Prof. Haarhoff's assessment of the southern portal buildings and stack at his paragraph 5 is also very similar to that already discussed in relation to Ms Absolum and my response is, accordingly, unchanged from that in relation to her evidence.**

HILTRUD GRUGER

- 77 At paragraph 13.1, Ms Gruger states that the Mt Albert volcanic cone will be affected, visually, by the proposed motorway and its identity considerably altered. I disagree. My own assessment – derived from various site visits and the montage for Viewpoints 9/R20, together with views from La Veta Avenue (Viewpoint 9/93) and the actual cone of Mt Albert (Viewpoint 9/94) – are that the visible corridor, walling, planting, pedestrian bridge and lights would effectively merge with the much wider patina of suburban and commercial / industrial (around Stoddard Rd) development already **visible from Mt Albert's various vantagepoints.**

- 78 Although the current open space of Alan Wood Reserve is presently visible in many of the views captured from the western side of Mt Albert, it largely comprises the open space around 25 Valonia Street and the open slopes rising to meet residential development around Methuen Road. Much of this open space will be retained for both active and passive recreation in conjunction with the proposed motorway development (which would not be the case if the consented residential development at 25 Valonia Street was to proceed). The actual motorway corridor will generally have a lower centre of gravity in such views, sitting behind and just beyond the line of housing around Hendon Avenue and the northern extension of Richardson Road (north of Stoddard Avenue). Furthermore, the interplay of a broad swathe of suburban Auckland stretching from Mt Albert / Owairaka to Titirangi, with the emerging ridge sequence and forest cover of the Waitakere Ranges, affords a much more compelling point of focus and attention than Alan Wood Reserve. In most views from the side of Mt Albert its sward of residual grass is, by comparison, a relatively minor component of the overall panorama.
- 79 **Consequently, I maintain my opinion that the motorway's impact on views from Mt Albert would be Very Low to Low.**
- 80 Ms Gruger also raises the prospect of impacts on views of Mt Albert from Richardson Road (at paragraph 13.3), incorrectly stating that **"No reference is made by the applicant in regard to the identity and character of the Mt Albert volcano"**. I have in fact addressed this issue in my EIC, at paragraphs 222 to 226: having assessed the effects of the motorway development on Volcanic Cone Sightline A2 – which looks directly down the axis of Richardson Road towards Mt Albert – I maintain that the intrusion associated with new motorway lights rising above that road's margins and a new motorway overbridge **"will not have a significant impact on appreciation of the cone and its profile"** (paragraph 226). For the sake of completeness, I should also reiterate that the motorway project would have no impact at all on Sightline A1 from the intersection of New North Road with Blockhouse Bay Road, which also focuses on the distinctive volcanic profile of Mt Albert.
- 81 At section 19 of her statement, Ms Gruger broaches the issue of more strategic landscape assessment (as opposed to impact focused assessment) and its potential application to the Waterview Connection Project. She references the *Pigeon Bay* criteria [*Pigeon Bay Aquaculture Ltd v Canterbury Regional Council (1999) NZRMA 209*] and appears to believe that my evaluation of the Waterview Connection Project should have incorporated re-evaluation of the values associated with, and attributed to, the landscapes and coastal environments surrounding the proposed motorway corridor.
- 82 In response, one has to remember that any such assessment should really be carried out within the context of a specific statutory territory and, accordingly, be either district / city or regional in scale. **At the time of NZTA's application (August 2010), the main territory**

affected by the proposal comprised Auckland City, which embraced most of the Auckland Isthmus, much of the Waitakere and Manukau Harbour shorelines and the Gulf Islands. The Auckland Regional **Council's territory, of course, cast a much wider net** over a very extensive territorial area and diverse array of landscapes. I did not attempt to repeat past strategic assessments at both levels, but instead relied on information in the relevant statutory documents which already identifies Outstanding and Regionally Significant Landscapes within the City and Region, as well as the Volcanic Cone sightlines that I have already alluded to. The landscapes thus identified – and which are relevant because of their status within the Auckland City District Plan: Isthmus Section, Auckland Regional Planning Strategy and the Auckland Regional Plan: Coastal – are all described in Technical Report G.20 (sections 5.2 and 5.3) and paragraphs 222 to 229 of my EIC. They include the Pollen Island / Whau River coastal environment and margins, existing Volcanic Cone Sightlines A1 and A2, and proposed Sightline A13 – all of which have been identified subject to extensive evaluation.

- 83 Contrary to Ms Gruger's assertions at paragraphs 19.3 and 19.4, neither Mt Albert nor any other part of suburban Owairaka, are identified as Outstanding Natural Landscapes in any district or regional planning instruments. In saying this I do, however, have to acknowledge that a part of Change 8 to the Auckland Regional Policy Statement (that has yet to be adopted by the Auckland Council) identifies Mt Albert as an Outstanding Natural Landscape / Feature – in conjunction with all of the main Isthmus volcanic cones. To date, though, no decisions have been released by the ARC / Auckland Council in relation to that part of Change 8, and it has therefore yet to complete its passage through relevant statutory processes.
- 84 Similarly, Stephen Brown Environments Ltd completed a study for the Auckland Regional Council in 2009 (*Natural Character Assessment Auckland Region, December 2009*), which identified the **Region's coastal environment and areas of high natural character**. That study identified the sand banks and margins of Pollen island as an area of high natural character; however, this area – very similar to the Outstanding Landscape also attributed that same Island in the Auckland Regional Plan: Coastal (but not extending into the Whau River) – has not been subject to any statutory process and carries very little, if any, weight in terms of the Resource Management Act. This, of course, would also be the case in relation to any Outstanding Natural Features / Landscapes or areas of high natural character that might be even more arbitrarily determined in the course of any impact assessment, such as that undertaken for the Waterview Connection project.
- 85 Consequently, it appears that Ms Gruger has not fully read my technical report (G.20) and EIC, nor the relevant statutory documents which address the matters that she refers to.
- 86 Finally, I have also considered Ms Gruger's request for community consultation over virtually every aspect of mitigation associated with

the motorway Project's effects in Owairaka ['Relief Sought' (b) (ii)]. It has to be remembered that the mitigation proposed by the NZTA has evolved over a lengthy period in response to key issues identified around the Project, expert input from a wide variety of perspectives on those issues, and consultation with both landowners and the relevant Councils. Opening up mitigation measures to the often very idiosyncratic, even conflicting, views of individual landowners and submitters would, in fact, reduce the certainty that **is so central to limiting the Project's impacts on the community as whole.** It would also leave myself and other expert witnesses in the situation of not knowing whether the findings we have reached – subject to the current mitigation proposals – are valid or otherwise. **As such, I cannot support 're-litigation' of the mitigation proposed at all. Instead, I think the Board's decisions should signal a series of outcomes that are both achievable and as definitive as possible.**

PAUL CONDER

- 87 At paragraph 8.2 of his statement, Mr Conder criticises me for not having appreciated the full extent of building height that could be achieved on the Unitec site. Unfortunately, I relied on Auckland City **Council's web site when asserting that such development would be** subject to a 10m height limit and I must acknowledge that that information is now out of date.
- 88 Nevertheless, it remains the case that there is no certainty over the location, footprint or actual height of any such development, and the trees along the northern and western margins of the Unitec campus – many of which remain protected under Concept Plan D04-10 – still retain a significant buffering function between most of its developable area and the Great North Road interchange. This is reinforced by the very marked drop in levels from the north-western edge of the Unitec campus to the interchange, especially in the vicinity of Buildings 01 and 207-210, which appears to be the part of the campus that Mr Conder is most concerned about.
- 89 Any building development that is sufficiently tall to avoid, but still overlook, the trees that I have just mentioned will also be elevated significantly above Ramp 4 and the other interchange structures proposed. Consequently, both the interchange and margins of Point **Chevalier's residential catchment that are also visible will still sit** generally below the level of the nearby Waitemata Harbour and much more distant Waitakeres. In fact, even current views over the interchange are far from pristine, and I would question the validity of any expectation that the situation should be changed or improved for a theoretical building of indeterminate location and scale on the Unitec campus.

90 Consequently, while recognising the mistake that I made in relation to such development potential, my findings in relation to the effects of the interchange and motorway Project on the Unitec campus are essentially as outlined in paragraphs 165 to 174 of my EIC.

A handwritten signature in black ink, appearing to read 'S. Brown', with a long horizontal flourish extending to the right.

Stephen Brown
February 2011

**ANNEXURE A: PROPOSED LANDSCAPE AND VISUAL CONDITIONS
(WITH AMENDMENTS)**

LV.1(e)	<p>(a) The final form of the northern and southern ventilation buildings and stacks in accordance with the design principles of Section B of the Urban Landscape and Design Framework (ULDF June 2010) and the following conditions:</p> <p><u>For the northern vent building:</u></p> <ul style="list-style-type: none"> (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) Ensure that any required roof linkages do not dominate the form of the building and make it register visually as a single entity; (iv) 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; (v) Maximisation of areas of planted open space between buildings, structures and vehicle movement / parking areas on site; (vi) Maximisation of the quantum of limbed-up, large scale, specimen tree planting (to promote high levels of CPTED) between buildings, structures and vehicle movement / parking areas on site; (vii) Treatment of the ventilation stack as an object of urban sculpture (should the height requirements for the stack be significantly reduced, this may require the physical 'subdivision' of the stack into several components that vary in their height and proportions); (viii) Location of the stack as far away from the adjoining pre-school and primary schools grounds as is practicable without comprising the aesthetic value and integrity of Oakley Creek Esplanade Reserve and Waterview Reserve; (ix) Development of new residential units on 1145 and 1449 Great North Road at the end of the construction programme; and (x) Provision of lighting integrated with the façade design to illuminate the building and shared path along Great North Road; <p><u>For the southern vent building:</u></p> <ul style="list-style-type: none"> (xi) 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;
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	<ul style="list-style-type: none"> (xii) 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; (xiii) Development of an architectural profile, detailing and material palette that is sufficiently varied to avoid the building and vent imparting a monolithic character; (xiv) 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; (xv) Treatment of the ventilation stack as an object of urban sculpture that is integrated with the portal buildings; (xvi) 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; (xvii) 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; (xviii) 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.
LV.5	The landscaping shall be implemented in accordance with the UDL Plans within the first planting season following the completion of the construction works provided that climatic conditions are suitable, otherwise at the first practicable opportunity thereafter, and shall be maintained for the next 10 years thereafter. Should the landscaping be implemented in stages (depending on construction phases), landscaping may be implemented after the first planting season of each stage.
LV.7	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.
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.

**ANNEXURE B: VIEWPOINT 5 – GREAT NORTH ROAD, BUS STOP
NEAR BP STATION (Looking South)
(Visual Simulation)**

Annexure B.

Before & After images of the northern portal buildings, ventilation stack and planting viewed from the opposite side of Great North Road (immediately south of BP Station)



Existing View



Visual Simulation

Viewpoint 5 - Great North Rd, Bus Stop Near BP Station (Looking South)

2662216.247, 6479061.830, 20.576 - New Zealand Map Grid
Photographed 7 December 2010 12:21pm

**ANNEXURE C: VIEWPOINT 5 – GREAT NORTH ROAD, BUS STOP
NEAR BP STATION (Looking North)
(Visual Simulation)**



Existing View

Annexure C.

Before & After images of the northern portal buildings, ventilation stack and planting viewed from the opposite side of Great North Road (immediately south of BP Station)



Visual Simulation

Viewpoint 5 - Great North Rd, Bus Stop Near BP Station (Looking North)

2662216.247, 6479061.830, 20.576 - New Zealand Map Grid
Photographed 7 December 2010 12:21pm

**ANNEXURE D: VIEWPOINT 5 – GREAT NORTH ROAD, BUS STOP
NEAR BP STATION (Looking South)
(Tie Point Locations)**

Annexure D.

Survey Points for Before & After images of the northern portal buildings, ventilation stack and planting

SECTORS 5 & 7



Tie Point Locations



Photograph location

TIE POINT LOCATIONS

1	2662178.078	6479070.938	26.501	15	2662157.703	6479016.132	23.747
2	2662187.659	6479075.797	22.198	16	2662133.251	6478995.730	26.242
3	2662188.509	6479088.734	25.468	17	2662184.882	6479072.946	23.317
4	2657031.042	6481747.204	25.468	19	2662192.311	6479077.831	23.059
5	2662157.272	6479039.199	25.296	33	2662211.459	6479065.499	19.531
6	2662127.260	6478996.027	27.275	34	2662202.726	6479048.102	19.875
7	2662148.346	6478978.128	25.468				
8	2662153.478	6478994.008	24.349				
9	2662184.618	6479040.081	31.749				
10	2662175.444	6479065.399	26.501				
11	2662191.114	6479081.544	24.780				
14	2662157.483	6478965.072	32.610				

Viewpoint 5 - Great North Rd, Bus Stop Near BP Station (Looking South)

2662216.247, 6479061.830, 20.576 - New Zealand Map Grid
Photographed 7 December 2010 12:21pm

**ANNEXURE E: VIEWPOINT 5 – GREAT NORTH ROAD, BUS STOP
NEAR BP STATION (Looking South)
(Tie Point Locations)**

Annexure E.

Survey Points for Before & After images of the northern portal buildings, ventilation stack and planting

SECTORS 5 & 7



Tie Point Locations



Photograph location

TIE POINT LOCATIONS

1	2662178.078	6479070.938	26.501	26	2662256.059	6479183.587	28.049
2	2662187.659	6479075.797	22.198	27	2662292.468	6479255.421	25.898
3	2662188.509	6479088.734	25.468	28	2662233.427	6479121.850	18.326
11	2662191.114	6479081.544	24.780	29	2662253.315	6479140.363	28.910
12	2662193.686	6479090.380	23.059	30	2662240.780	6479120.298	28.738
13	2662191.752	6479095.643	22.456	31	2662223.608	6479099.776	18.929
17	2662184.882	6479072.946	23.317	32	2662215.610	6479081.044	19.273
18	2662180.781	6479076.656	23.317	33	2662211.459	6479065.499	19.531
19	2662192.311	6479077.831	23.059				
20	2662199.801	6479091.627	22.456				
21	2662197.804	6479097.588	25.124				
22	2662199.023	6479100.258	25.124				
23	2662208.468	6479119.422	24.522				
25	2662231.514	6479141.742	28.394				

Viewpoint 5 - Great North Rd, Bus Stop Near BP Station (Looking North)

2662216.247, 6479061.830, 20.576 - New Zealand Map Grid
Photographed 7 December 2010 12:21pm