Appendix 5

Technical Experts - Review of Submissions to PC53

Appendix 5A

Mr Evis – Transport Planner

BEFORE THE HEARINGS PANEL

In the Matter of:	The Resource Management Act 1991
And	Proposed Plan Change 53: Springvale Structure Plan
Application By:	Whanganui District Council

STATEMENT OF TRANSPORTATION EVIDENCE BY

Matthew Phillip Evis

11th October 2019

1. Introduction

1.1 My full name is Matthew Phillip Evis.

1.2 I currently hold the position of Senior Transportation Planner at WSP (formerly WSP Opus) based in Palmerston North, having moved to New Zealand from the UK in 2011. Prior to joining WSP Opus, I worked as a Transportation Planner for West Sussex County Council (WSCC) for three years.

1.3 I have the following qualifications and experience relevant to the evidence I shall give:

- MSc in Transportation Planning and Engineering, University of Southampton in the UK (completed 2007).
- BSc in Regional Science (Economics and Geography), University of Reading in the United Kingdom (completed 2006).
- Affiliate Member of the IPENZ Transportation Group.

1.4 I have twelve years' experience in the planning, assessment and design of transportation projects, having worked for a range of central government organisations, local and regional authorities and private developers on projects in New Zealand, the United Kingdom, Australia and the Pacific Islands.

1.5 In a New Zealand context, I have provided advice on transportation matters to local authorities and private developers in respect of various proposed developments and plan change applications, including residential and commercial developments.

1.6 Most recently, I have provided technical advice on transport related matters associated with large scale residential development to Auckland Council on four large Special Housing Areas (SHA) in Auckland (including Flat Bush Stage 3, Bellfield Road, Clarks Beach and Mill Road/Walters Road), and Palmerston North City Council on Plan Change 23 (Hokowhitu Lagoon) and Proposed Plan Change B (Napier Road).

1.7 I am familiar with the area that the Project covers, including the local roading network within the vicinity of the Plan Change 53 site.

Code of Conduct

1.8 I have read the Code of Conduct for Expert Witnesses (Section 5 of the Environment Court Consolidated Practice Note 2014) and I agree to comply with this Code of Conduct. This evidence is within my area of expertise, except where I state I am relying on evidence from another expert. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Scope of evidence

1.9 I prepared a Traffic Impact Assessment (TIA) for Plan Change 53 dated March 2019which considered the impacts of the proposed Springvale Structure Plan and rezoning on the operation of the local transport network. The assessment provides advice on the likely trip generation generated by the PC53 area resulting from the proposed Structure Plan and rezoning, and the expected impacts on intersection performance and safety. The TIA concluded that the site is suitable for residential development, considering the traffic generating potential of the development and the status of the existing roading network operations within the vicinity of the site.

1.10 This evidence identifies submissions which refer to transportation issues and sets out to address those concerns. The following submissions contain a reference to transportation that are addressed in this evidence:

i. Submission 2: Mr Carter and Ms Ballantine;

ii. Submission 3 and Further Submission 5: Mr Moffitt;

iii. Submission 5: Hayman Industries, Todd Augers and Equipment, MTS Projects, and Holland Engineering;

iv. Submission 9: Mr and Ms Flintoff (3F Developments Ltd), (Submission content supported by Further Submissions 1-4); and

v. Submission 11: Mr and Ms O'Keefe.

1.11 I consider that these submissions can be broken down by subject as follows:

i. Removal of the proposal to make new vehicle accesses and intensification of existing access to Mosston Road from the PC53 area a non-complying activity;

ii. Request for the northern extent of the proposed road designation within the PC53 site to be realigned through the Moffit property at 113 Fox Road;

iii. Request for the existing road designation alignment of the Fitzherbert Ave Extension and associated intersection with Mosston Road to remain in its current position, and access to the Broadview Lifecare and Village site at 108 Mosston Road to be removed following completion of the extension;

iv. Request for land located to the south of Lincoln Rd to be included within the PC53 residential zone, including proposed linkages within the wider structure plan; and

v. Request for the road designation between Fox Road and Fitzherbert Avenue to be terminated at the property of 130 Mosston Road, and the proposed shared path connection to be located along Mosston Road.

1.12 It should be noted that submissions relating to Mosston School have been covered separately by Mr Brent Holmes (Senior Roading Manager, Whanganui District Council).

2 Vehicle Access Restrictions on Mosston Road

Submissions

2.1 Submission 2 states it is unrealistic for all new dwellings on sites adjacent to Mosston Road to be required to obtain alternative access, and requests the proposed Rule 12.4.3 (to make new vehicle access and intensification of existing access to Mosston Road a non-complying activity) is removed. Submission 11 also opposes the restriction on new accesses from Mosston Road for new dwellings.

Discussion

2.2 The most recent traffic counts indicate Mosston Road has an average daily traffic volume of 4,500 vehicles per day, of which 6% comprises heavy vehicles. Heavy vehicle traffic demands on Mosston Road/Montgomery Road are expected to increase following the completion of the Mill Road Industrial Area.

2.3 At a strategic level, Mosston Road is identified as a Secondary Arterial within the District Plan[1]. As an identified arterial route, Mosston Road's primary function is to provide for the safe and efficient movement of people and freight (see Figure 1).

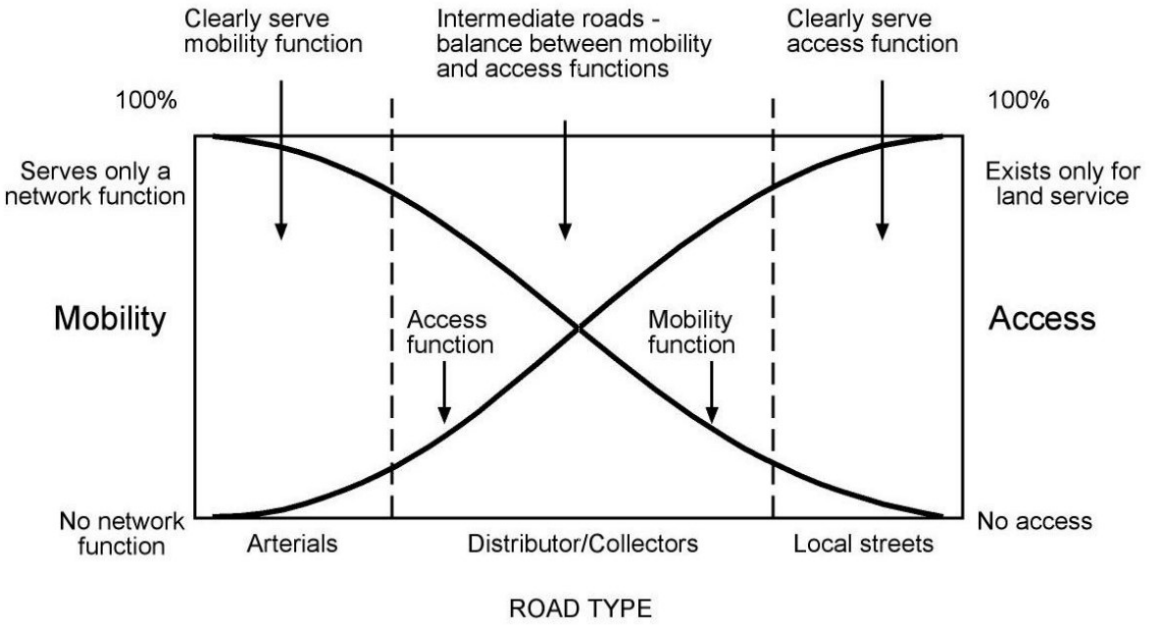

Figure 1: Function of Road by Identify Road Type

[1] The road hierarchy exists to define the strategic function of roads within the network based on balancing mobility and access needs. This is generally classified on the basis of how they currently operate, but also how they are expected or desired to function in the future, in terms of the relative significance of the traffic function versus the land access function for a particular road.

2.4 Restrictions on vehicle access are generally applied to strategic arterial road corridors in the interests of road user safety and efficiency, particularly in areas with the potential for unrestricted residential (or commercial) development, which brings with it more vehicles needing access and higher safety risks.

2.5 Under existing performance standards within the District Plan, new developments with up to 21m frontage could be permitted to provide up to two vehicle access per dwelling. The proposed restriction on new vehicle accesses onto Mosston Road seeks to maintain the safe and efficient operation of the road.

2.6 From a safety perspective, each additional crossing provided onto the road increases the number of conflict points on the network and increases the potential for accidents to occur. This is evidenced within a number of safety related transport studies.

2.7 The Australian Road Research Board report on the "Relationship between Accidents and Access Conditions" (1998)[2] indicates each additional non-commercial access point adds 2-3% to the accident rate on two-lane urban roads.

2.8 More recent studies undertaken by Jurewicz and Zivanovic (2011)[3] also confirms a relationship between access frequency and increased casualty crash likelihood (relative risk) on urban arterial roads. Based on the findings of the study, the potential access density that could be generated through uncontrolled access to residential lots fronting Mosston Road could increase relative crash risk compared with existing access frequencies by up to 50%[4]. The presence of heavy vehicle traffic on the route also contributes to this risk, given additional braking distances are required for these vehicles compared with cars[5].

2.9 The Whanganui Urban Transportation Strategy (WUTS) (2011) identifies Mosston Road/Montgomery Road as the primary linkage for heavy vehicle traffic to the north of Whanganui, stating that the road is a "key heavy transport route requiring protection from inappropriate development".

2.10 Of particular relevance to the Structure Plan, the following except from Strategic Theme 4 'Enhancing Freight Movement' states:

"Council is considering proposals to encourage residential development and lifestyle blocks along Mosston Road in the future. This land use will conflict with the use of Mosston Road and Montgomery Road as a truck route. The District Plan review will need to address this issue to ensure the safety and efficiency of this heavy vehicle route is not further compromised. Provision of new direct road access to properties onto Mosston Road should be minimised or ideally prohibited. …Structure Plans for the future development of these areas will ensure future land use is integrated with the transport network…"

2.11 In response to this strategic function, existing performance standards within the District Plan restrict new vehicle access on Montgomery Road (in its entirety) and Mosston Road (between Tayforth Road and Heads Road).

2.12 The new performance standards outlined within the Section 32 report seeks to extend this restriction along Mosston Road and Montgomery Road in their entirety, in effect completing the existing gaps in controlled access along the route. The proposed changes to the performance standards align with the desired strategic outcomes of the WUTS Strategy.

2.13 The indicative Structure Plan is intended to provide a logical and inter-connected network of streets that will enable access from the future residential growth areas onto Mosston Road via Fox Road and Fitzherbert Avenue.

2.14 The Traffic Impact Assessment (March 2019) has assessed the capacity of these intersections to support future traffic growth demand using industry standard traffic modelling tools. The intersection assessment indicates that both Fox Road and Fitzherbert Avenue intersections have sufficient capacity to support future growth demand without the need for additional intersections or connecting roads.

Summary

2.15 The proposed restriction on new vehicle accesses on Mosston Road within the vicinity of the Plan Change site is in keeping with the objectives of the Whanganui Urban Transport Strategy. Existing restrictions are currently in place within the District Plan on other sections of Mosston Road and Montgomery Road.

2.16 Limiting future access onto Mosston Road seeks to maintain safety and efficiency of the road as an identified arterial route and a recognised heavy vehicle route. Access from future growth areas onto Mosston Road can be adequately supported through the local internal road network and existing/proposed intersections at Fox Road and Fitzherbert Avenue.

2.17 Traffic modelling undertaken in the TIA indicates existing intersections have sufficient capacity to support additional access demands generated by the site.

3 Fitzherbert Avenue Intersection

Submissions

3.1 Submission 5 requests consideration is given to retaining the proposed indicative alignment of the Fitzherbert Avenue extension and its intersection with Mosston Road (see Figure 2). The submission also seeks the entrance to the Broadview Lifecare and Village at 108 Mosston Road to be relocated onto Fitzherbert Avenue rather than Mosston Road.

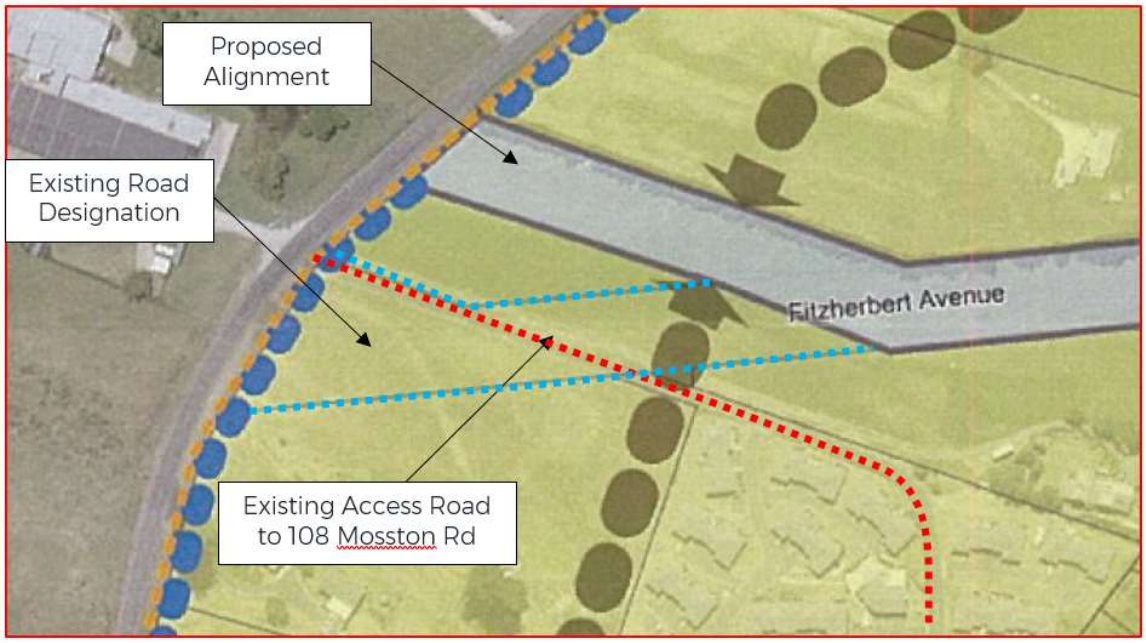

Figure 2: Existing Fitzherbert Avenue Extension Road Designation and Proposed Alignment

Discussion

3.2 The current roading designation for the Fitzherbert Avenue Extension and associated intersection with Mosston Road as shown within the District Plan connects to Mosston Road within the vicinity of the existing vehicle access to 108 Mosston Road. As shown within Figure 3, the proposed location of the intersection with Mosston Road outlined within the current designation has constrained visibility to the south resulting from curvature in the existing road alignment and hilly topography.

3.3 As shown indicatively within the Plan Change 53 Structure Plan, Council now propose to provide a new road designation for the Fitzherbert Avenue Extension to intersect with Mosston Road approximately 100m north of the current designated alignment. This arrangement would provide a safer intersection environment through enhanced sight lines and improved approach angles compared with the current designation.

3.4 The proposed alteration to the designation and associated design is currently being progressed by Council. Funding is allocated for the construction of the proposed Fitzherbert Avenue Extension in 2020/21 financial year.

3.5 With regards to connections to the Broadview Lifecare and Village site, the Plan Change 53 structure plan provides an indicative arrangement for internal roads within the proposed residential zone, including the area proposed for residential zoning to the south of the Fitzherbert Avenue Extension. As shown within the Structure Plan, a local road connection is proposed along the western side of the Broadview Lifecare and Village site, which would connect to the Fitzherbert Avenue Extension to the north (see Figure 4).

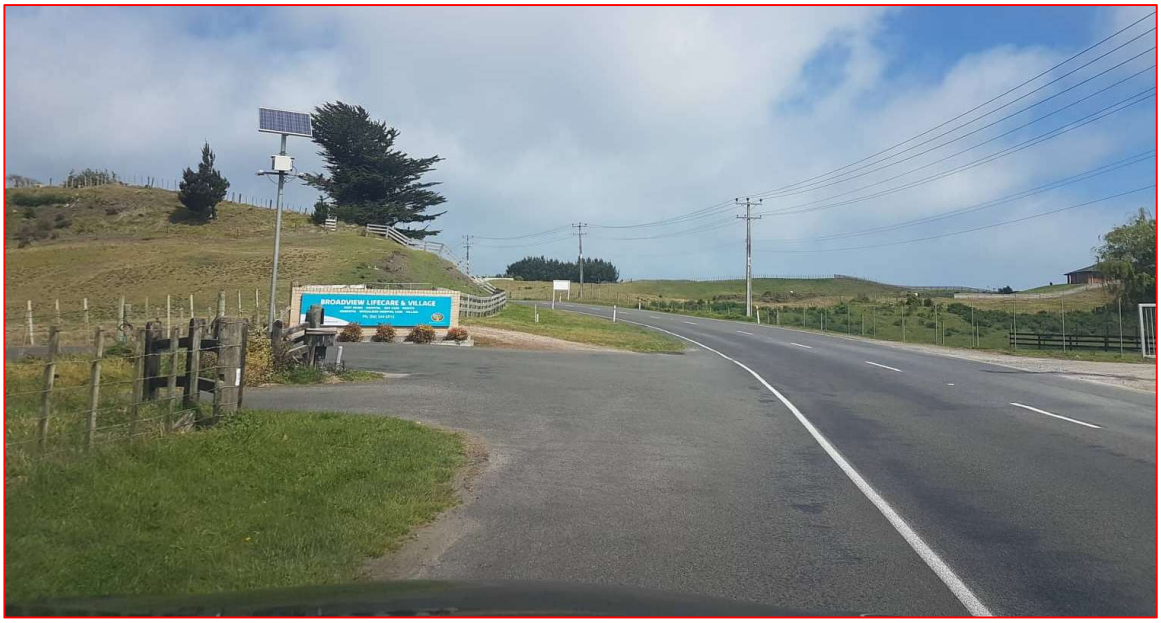

Figure 3: View Southbound from 108 Mosston Road

Figure 4: Existing Lifecare and Village Site, and Proposed PC53 Internal Roading Connections

3.6 The provision of the internal access road connecting to the Fitzherbert Avenue Extension would, in effect, remove the need for a dedicated access to be provided from the Broadview Lifecare and Village site onto Mosston Road. As such, the submitters request for removing access remains consistent with the wider objectives of applying the proposed Limited Access Road on Mosston Road as outlined within the Plan Change.

Summary

3.7 The proposed alignment of the Fitzherbert Avenue Extension and intersection with Mosston Road provides enhanced safety benefits compared with the alignment outlined within the existing road designation. The submitters suggestion for the existing access to 108 Mosston Road to be removed aligns with the wider intensions of the Structure Plan.

4 Lincoln Road Development

Submissions

4.1 Submission 9 Request seeks land located to the south of Lincoln Rd to be included within the PC53 residential zone. This is supported by Further Submissions 1-4. The submission also proposes potential road linkages between 105 Lincoln Road and Fox Road.

Discussion

4.2 The primary focus of the submission relates to the inclusion of land located to the south of Lincoln Road to be included within the Plan Change 53 zone.

4.3 The submitter outlines the potential for a link road to be created through the potential sub-division at 105 Lincoln Road, providing a road connection between Lincoln Road to the north and Fox Road to the south (see Figure 5). This indicative alignment would pass through land proposed to be zoned residential in Plan Change 53, between 92 and 94 Fox Road.

Figure 5: Proposed Linkages to 105 Lincoln Road

4.4 In principle, a connection is supported as it will provide both improved connectivity and network permeability compared with a cul-de-sac or private right of way arrangement.

4.5 The preferred alignment and formation of the local road would need to adhere to the requirements of the Whanganui District Council Sub-Division Standards and the relevant requirements of NZS4404:2010 (in terms of design and formation). It is expected that this would be established in more detail through the sub-division consent phase.

Summary

4.6 On the basis of the above, no amendment or alteration to the proposed Plan Change 53 is suggested as a result of the submissions. Any potential road connections between Lincoln Road and Fox Road would be considered beneficial, and would be established in more detail through the sub-division consent process

5 PC53 Road Designation – Northern Alignment

Submissions

5.1 Submission 3 and Further Submission 5 seeks the alignment of the northern portion of the Plan Change 53 road designation (between the proposed reserve on its southern extent and Fox Road on its northern extent) further east of its current proposed location. The submission notes this will enable subdivision to occur on both sides of the road at 113 Fox Road.

Discussion

5.2 The proposed alignment outlined within the submission would relocate the northern extent of the designation to an alternative location on Fox Road, approximately 35m further east of the proposed designation road alignment outlined within the Plan Change (see Figure 6).

Figure 6: Proposed Alignment within Further Submission 5

5.3 The proposed road alignment designation shown within the Structure Plan currently utilises a 35m wide parcel of land that currently facilitates access to 113 Fox Road. The existing land parcel could accommodate the full road designation width without impacting on land located on either side of the proposed designation (i.e. properties 113A and 115 Fox Road). The proposed alignment identified by the Submitter would instead pass through the western extent of the land parcel at 113A Fox Road.

5.4 From a traffic safety and operational perspective, both the existing and proposed alignments would provide clear sight lines in both directions from their proposed intersections with Fox Road.

5.5 The proposed location outlined in the submission would provide additional separation distance between its intersection with Fox Road and Mosston Road. This would provide additional stacking to support vehicles accessing Mosston Road from Fox Road under future traffic demand scenarios; however, the assessment undertaken within the Traffic Impact Assessment indicates that sufficient stacking space is proposed within the alignment as it currently stands (approximately 100m).

Summary

5.6 On the basis of the above, both the current proposed road designation outlined within the Structure Plan and the proposed road alignment designation proposed by the submitter is consider practical from a transport safety and operational perspective.

6 PC53 Road Designation – North-South Connection

Submissions

6.1 Submission 11 seeks the proposed alignment of the road connection between Fitzherbert Avenue and Fox Road to terminate either side of the land parcel at 130 Mosston Road, and for the proposed shared path to be provided along the eastern side of Mosston Road between Springvale Road and the Titioki Wetland. It also proposes that the on-road cycle lanes on Fitzherbert Avenue continue West to Mosston Road as an off-road shared path (see Figure 7).

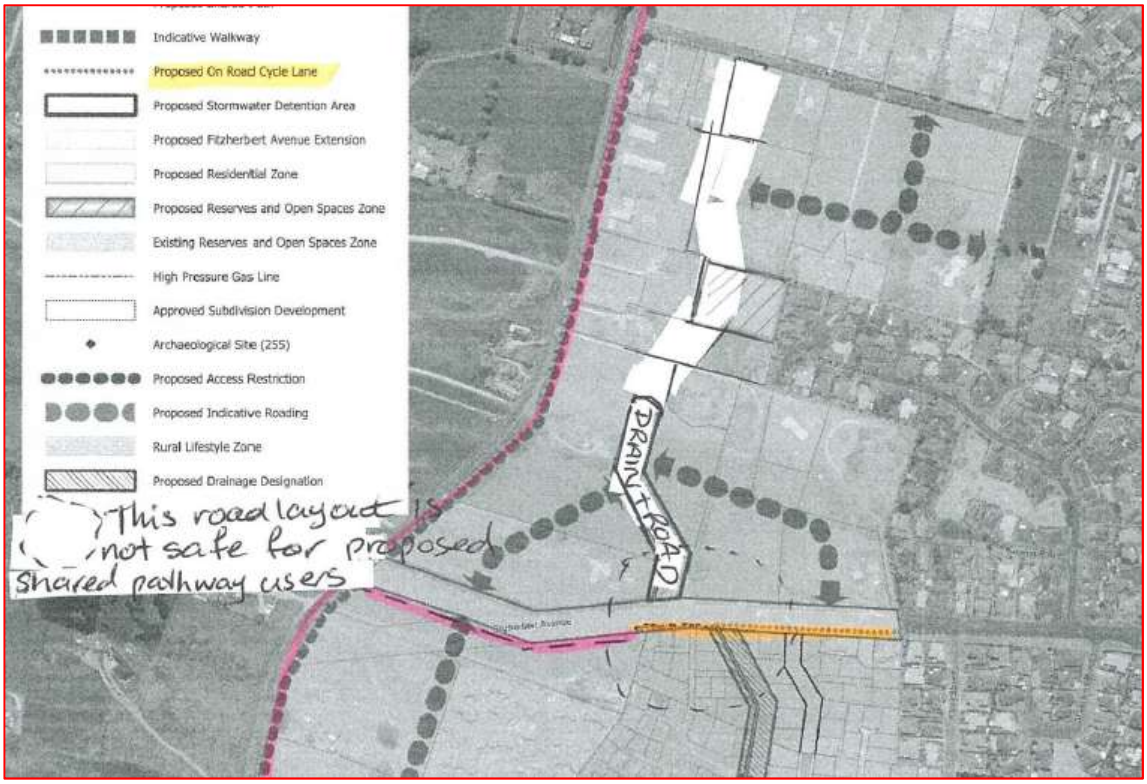

Figure 7: Proposed Alterations to Road Designation and Cycleways (Submission 11)

6.2 It should be noted that severance of the property could be minimised by realigning the proposed route to the eastern extent of the block, although this would have implications on the location of the proposed reserve. Irrespective of this, the road would still encroach on the property, and the response below focuses on the need for providing a north-south connection from a transportation perspective, rather than its alignment.

Discussion

6.3 The proposed road designation outlined within the Structure Plan provides a north-south road and shared path connection between Fox Road and Fitzherbert Avenue through the northern portion of the proposed Plan Change 53 site. This response focuses initially on the transport benefits of providing a north-south connection for active modes (pedestrians and cyclists), and then presents the wider benefits of providing a north-south road link through the site.

6.4 The Whanganui Active Transport Strategy (2017) seeks to achieve a "walk and cycle-friendly district that provides healthy and sustainable travel choices for commuting to everyone". The Strategy provides an indication of the future cycle routes and indicative timeframes for developing the network (see Figure 8).

6.5 The indicative cycle network includes a connection aligning with the proposed north-south road designation through the Plan Change 53 site and an east-west connection along Fitzherbert Avenue (including the extension). The Strategy also indicates a future route on Mosston Road south of the Fitzherbert Avenue intersection.

6.6 These proposed routes will provide multiple connections to other key strategic routes throughout the Whangnaui cycle network. The proposal to provide a north-south shared path connection through the Plan Change 53 site is consistent with wider Council strategies.

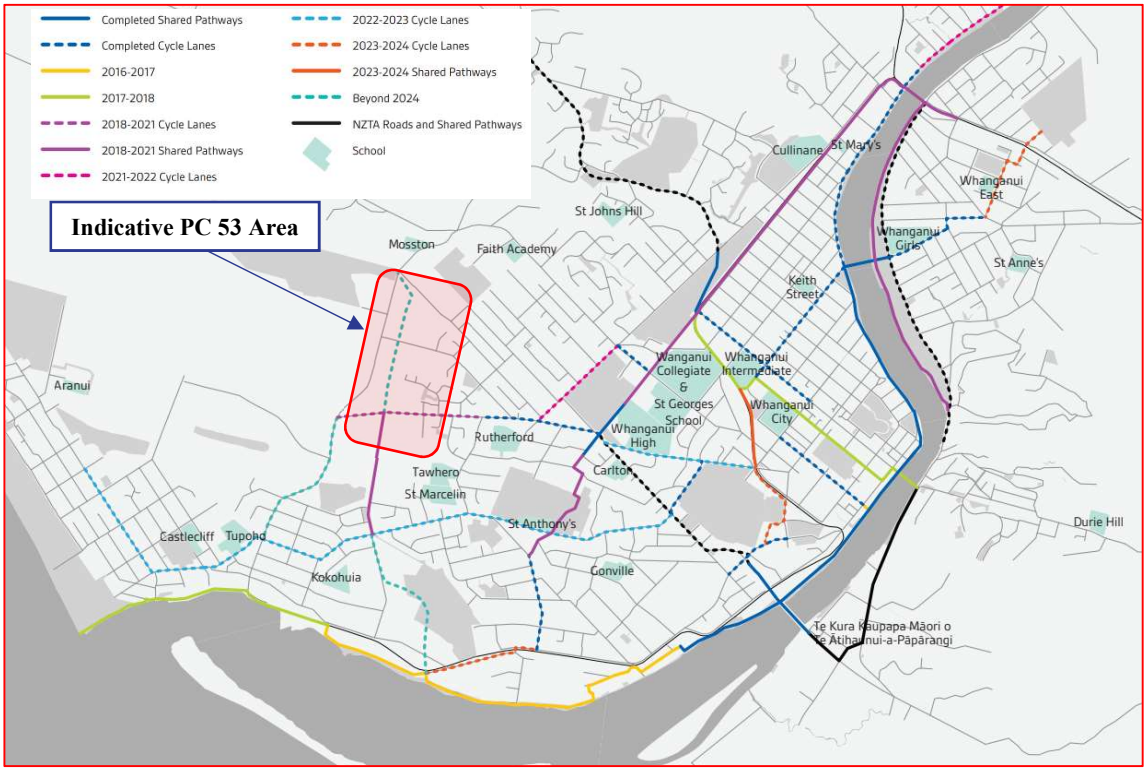

Figure 8: Proposed Cycle Network (Whanganui Active Transport Strategy, 2017)

6.7 The following suggestions outlined within the submission relating to the provisions for cycling are supported, and align with the wider strategic direction outlined within the Active Transport Strategy:

i. Providing a cycleway linkage on Mosston Road south of the Fitzherbert Avenue Extension as indicated within the Active Transport Strategy;

ii. Continuation of cycling facilities (whether shared path or on-road cycling facilities) on the Fitzherbert Avenue Extension west of the proposed Plan Change 53 road designation to provide connections with the proposed future facilities on Mosston Road.

iii. Providing a shared path facility on Fitzherbert Avenue extension between the indicative shared paths proposed within the Plan Change 53 Structure Plan.

6.8 From a transport planning perspective, the provision the north-south connection supports network permeability and connectivity through the proposed residential zone within the Plan Change area. Permeability is the extent to which an urban area permits the movement of people by walking or cycling.

6.9 Good urban planning that promotes network permeability for walking and cycling is based on five key principles: safety, coherence, directness, attractiveness and comfort. A brief assessment of both the proposed north-south shared path connection and the alternative route on Mosston Road is shown within **Appendix A**.

6.10 This indicates that the proposed connection through the PC53 site provides better alignment with desired transport outcomes for residential growth areas, when planning for active modes (pedestrians and cyclists).

6.11 On the basis of the above, even if a north-south road connection was omitted from the Plan Change 53 site, it would be preferable to retain a walking and cycling connection between the two “halves” of the residential zone to support connectivity and permeability for active modes and maintain access to local destinations such as local reserves.

6.12 In addition to providing active mode connectivity, the provision of a connected north-south road corridor between Fox Road and Fitzherbert Avenue also provide a number of other transport benefit, including:

i. The connection would provide potential resilience benefits to the network. In the event of a route closure on Mosston Road, Fox Road or Fitzherbert Avenue it could be used as a local temporary alternative route for general traffic, although heavy traffic should be discouraged from using the route. Larger detours would be required in the absence of a north-south road connection.

ii. Providing connectivity and permeability through the Plan Change site increases the attractiveness and practicality of servicing future residential areas by public transport. Providing a north south connection would optimise potential catchments and ease of access for residents to potential future public transport routes;

iii. Limited north-south connectivity would reduce potential route choice from the growth area onto the wider transport network. In the absence of a connected north-south road, all access to the northern portion of the site would be facilitated by Fox Road, whilst access to the south would be facilitated by the Fitzherbert Avenue extension.

This may have implications on wider network performance and the timing of potential infrastructure improvements. The Fox Road / Fitzherbert Avenue intersection has been identified as requiring future upgrades within the TIA; however, increased volumes of traffic on Fox Road approach resulting from limited north-south connections through the Plan Change area may result in a quicker deterioration in the performance of the Fox Road / Fitzherbert Avenue intersection than currently assessed.

It should be noted that the effects of limiting north-south connectivity through the Plan Change on intersection performance have not been assessed within the Traffic Impact Assessment.

Summary

6.13 From a transportation perspective, providing a north-south connection would provide transportation benefits in terms of network permeability and connectivity for active modes, as well as wider traffic benefits relating to resilience, accessibility and route choice.

Matthew Phillip Evis

11th October 2019

Appendix A – Cycle Route Planning Principles

Cycling Needs	Submission request for Mosston Road Route (Fitzherbert Ave to Fox Rd)	Proposed PC53 Road Designation Route (Fitzherbert Ave to Fox Rd)
Directness Cycle routes should be direct, based on desire lines, and result in minimal delays door to door. Parking facilities should be in convenient locations. Indirect cycle routes or excessive delays may lead cyclists to choose more direct routes with greater risk. Some cyclists are unlikely to divert to safer routes greater than 10 percent extra in length	Provides a direct connection between proposed Mosston Road cycling facilities south of Fitzherbert Avenue and Mosston. Less direct for existing and future residents located within the PC53 site. Less direct connections will increase travel time and distance required to access the facility, and reduce potential usage. Additional connections from the residential zone onto Mosston Road would be adviseable – these would require additional route protection.	Locating the shared path centrally to the proposed growth area provides more direct walking and cycling connections for residents. Directness of route is expected to increase usage compared with a Mosston Road shared path alignment. More direct connectivity to proposed shared path linkages to the south of Fitzherbert Avenue compared with Mosston Road alignment.
Coherence Cycle routes should be continuous and recognisable, link all potential origins and destinations, and offer a consistent standard of protection throughout. To be recognisable, cycling routes should use consistent standards and design.	At a strategic level, the route would provide wider connections to proposed future routes on Mosston Road (south of the Fitzherbert Avenue) and Fitzherbert Avenue. The route would bypass the PC53 site, providing less coherent connections to residential growth areas in PC53. It is expected that any cycle facility would be designed to relevant standards irrespective of route.	At a strategic level, the route would provide connections to proposed future routes on Fitzherbert Avenue, and to Mosston Road (south of the Fitzherbert Avenue). The route would provide a coherent connection to potential origins and destinations within the PC53 site. It is expected that any cycle facility would be designed to relevant standards irrespective of route.
Safety Cycle routes should be safe, provide personal security, and limit conflict between cyclists and others. Traffic speed and volume affect cyclists' safety. As these increase, it may be more desirable to separate cyclists from motorists. Safe provision at intersections is crucial. Public lighting and other features that improve personal safety are also crucial. Cyclists should always have available a convenient route that provides a high level of personal safety.	Mosston Road has higher traffic volumes and traffic speeds compared to those expected within the proposed residential zone. Users would also be required to cross two busy intersections at Fox Road and Fitzherbert Avenue. Limited on-street frontages can create perceived or actual safety issues as a result of limited passive surveillance.	Lower "urban" traffic speeds can be enhanced through good street design. The route would cross collector roads in midblock areas away from intersections, with better sight lines and reduced potential conflict points. Active frontages on local streets can create passive surveillance and a greater sense of security for pedestrians/cyclists.
Attractiveness Cycle routes should integrate with and complement their surroundings, enhance public security, look attractive and contribute in a positive way to a pleasant cycling experience	Primarily a utilitarian roadside environment with little or no interesting features for pedestrians or cyclists. Crossing of busy intersections may deter pedestrians or cyclists from using route.	Opportunities to provide an interesting and engaging roadside environment as part of the internal road design. Proposed route provides linkages to local points of interest, including proposed reserve.

Cycling Needs	Submission request for Mosston Road Route (Fitzherbert Ave to Fox Rd)	Proposed PC53 Road Designation Route (Fitzherbert Ave to Fox Rd)
	Mosston Road currently has no streetlighting. Attractiveness of travelling along this route at night is limited.	As an urban street, streetlighting within the internal road network would increase the attractiveness of using this route at all times of the day.
Comfort Cycling routes should be smooth, non-slip, well maintained and free of debris, have gentle slopes, and be designed to avoid complicated manoeuvres.	Largely a design matter. Both options are likely to have similar levels of user comfort.	

Appendix 5B

Ms King (formerly Ms Yukhnevich) – Ecologist

Memorandum

To	Damien Wood
Copy	Brenda O'Shaughnessy
From	Melanya Yukhnevich
Office	Whanganui
Date	24 September 2019
File	5-WD027.00
Subject	Springvale Plan Change & Notice of Requirement.

Following a review of the submissions received for the Springvale Notice of requirement and Plan Change 53 further clarification was sought in regard to the original ecological assessment provided as part of the Notice of Requirement process.

The submissions that required further ecological assessment are described below:

Submission 9 – David and Jacque Flintoff (3F Developments Ltd).

This submission seeks the inclusion of a large property located at 105 Lincoln Road (Figure 1) which was not assessed as part pf the original ecological assessment.

Figure 1: property 105 Lincoln Road, photo taken from the road.

A site visit was conducted on the 24th of September 2019 (this assessment was conducted from the road, as landowner permission had not been obtained), in conjunction with a review of aerial photographs. This assessment found that this property is predominantly grazed exotic pasture, of low ecological value. There are a few areas of vegetation located within the property likely for shelter belts. It is unlikely that these provide any valuable habitat for native or exotic fauna.

From an ecological perspective the development of this property into residential lots, will likely have minimal adverse effects on the ecology of the area as a whole. However, it is important to note that there is a shallow drainage channel along the southwest boundary of the property (Churton Creek) which flows through Whanganui township. If this property was developed as part of Plan Change 53 further ecological assessments would be required to ensure that there were no adverse effects on Churton Creek from the potential residential activities such as a stormwater discharge to the creek.

Should this property be included in Plan Change 53 a hydrological assessment should be undertaken to better understand the hydrology of Churton Creek and the associated effects of residential development in this area. Baseline water quality monitoring of Churton Creek will also be required to understand the current state of the water quality and to measure changes over time to ensure that any discharges to the creek do not result in reduced water quality.

Submission 12 – Springvale Development Whenua Combined Hapū (Te Rūnanga o Tupoho & Te Kaahui o Rauru)

Refers to the Cultural Values and Cultural Impacts Assessment, provided by the Springvale Whenua Combined Hapū. This report identifies areas of Karaka Trees of cultural significance, these are located in the vicinity of Buxton and Fox Roads. These were not identified in the original ecological report, which focused primarily on Titoki Wetland.

A site visit was conducted on the 24th of September 2019. This site visit identified many small areas of remnant native vegetation on street frontages of both Buxton and Fox Roads (Figure 2 & 3) these areas contained common native and exotic species. These native areas included Karaka trees (*Corynocarpus laevigatus),* totara (*Podocarpus totara),* broadleaf (*Griselinia littoralis),* lemonwood (*Pittosporum euginoides),* Kohuhu (*Pittosporum tenuifolium),* Kowhai (*Sophora microphylla),* cabbage trees (*Cordyline australis),* Karo (*Pittosporum crassifolium), and* five finger (*Pseudopanax arboreus).* These areas were also found to contain common exotic species, likely planted for amenity purposes.

Figure 2: Karaka trees, located in a stand of remnant native vegetation along Buxton Road.

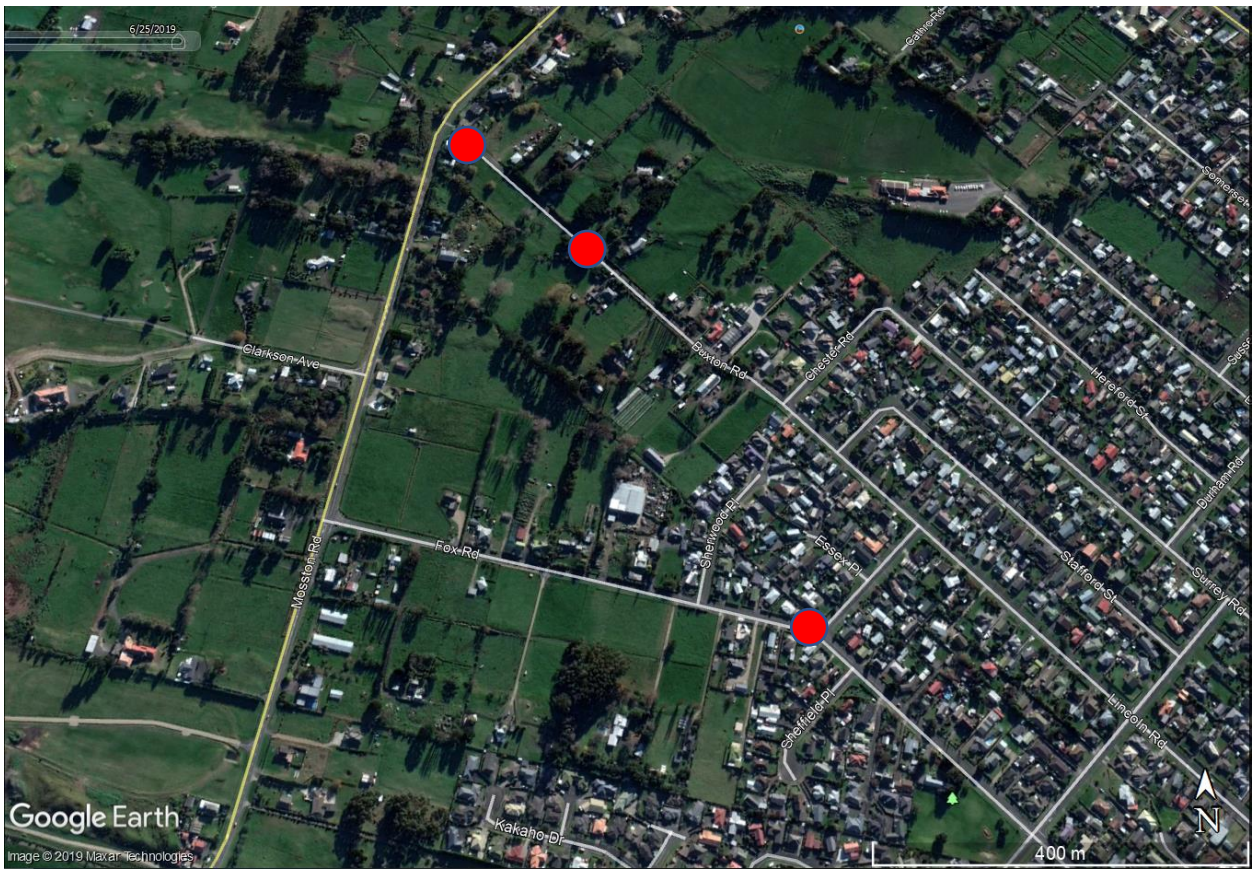

Figure 3: Identifies the approximate areas where Karaka trees were identified, this survey was undertaken from the road, therefore only street frontages were assessed. This was not an extensive survey and there could be other sites with Karaka trees present.

It is recommended that these areas of remnant native bush are not cleared as part of proposed plan change 53 or the notice of requirement. If this vegetation is removed further ecological assessments will be required to determine the presence/absence of threatened fauna species.

Appendix 5C

Mr Wood - Subdivision and Development Engineer

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WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

Plan Change 53 Submissions

03 October 2019

Planning Manager
Whanganui District Council
PO Box 637
Whanganui 4540

Dear Hamish & Brenda

Plan Change 53 submissions – email request for Technical information

Planning request for technical information 11th September 2019 (Email Brenda O'Shaughnessy to Damien Wood.)

1. Email requested information

On Wednesday 11th September 2019 Brenda O'Shaughnessy Planning Contractor sent an email requesting that the Councils Development Engineer as part of the Councils infrastructure group provide a formal response to the above plan change submission from Councils technical expert.

The following information was requested as part of the SW technical advice request:

- Realignment of designation on Moffit property at Fox Rd (Moffit further submission) – any implications for SW management?

2. Infrastructure response to request

Moffit submission:
The proposed realignment of the swale designation within the Moffit property and adjacent land appears to now involve an alignment that would require the acquisition of a residential dwelling. The original proposed alignment specifically attempted to avoid the need to demolish/remove residential dwellings. There is likely to be significant cost implications as a result of the proposed change these would require a change to the development contributions policy calculations for the Fox Road area.

Infrastructure does not support this proposed change.

Yours sincerely

Damien Wood
Development Engineer

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WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

12 November 2019

Planning Manager
Whanganui District Council
PO Box 637
Whanganui 4540

Dear Hamish & Brenda

Plan Change 53 submissions – email request for Technical information

Planning request for technical information 11th September 2019 (Email Brenda O'Shaughnessy to Damien Wood.)

3. Email requested information

On Wednesday 11th September 2019 Brenda O'Shaughnessy Planning Contractor sent an email requesting that the Councils Development Engineer as part of the Councils infrastructure group provide a formal response to the above plan change submission from Councils technical expert.

The following information was requested as part of the SW technical advice request:

- The extent of investigation to confirm the SW impacts of including the Flintoff property i.e. any works related to the existing proposed system and works to investigate implications for Churton Creek.
- Identification of the additional SW capacity required in the network to accommodate Flintoff site and the impacts for the urban SW network of adding in the Flintoff property (based on a development scenario of up to 10 residential lots and one lot for SW retention area as proposed.) (Flintoff submission)
- The impacts on the wider water and wastewater infrastructure network of including the Flintoff property and the potential for the additional residential lots. E.g. has anything other than SW management solutions changed since the GHD Structure Plan concluded the sites in the Buxton Road area were suitable for residential?
- Realignment of designation on Moffit property at Fox Rd (Moffit further submission) – any implications for SW management?
- Implications for SW management of stopping the designation road/ shared pathway at the O'Keeffe property boundary and piping the SW to Fox Road. (O'Keeffe submission)

4. Infrastructure response to request

Flintoff submission:
The following information has previously been acquired by our Wastewater and Stormwater teams as part of network modelling and growth investigations:

Churton Catchment A model report:
https://www.whanganui.govt.nz/files/assets/public/district-plan-changes/springvale-structure-plan/churton-creek-stage-a-system-improvements-report-maps-included.pdf
This report must be appended to this response. The entire report is relevant to the infrastructure position.

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Notwithstanding the need to consider the report in its entirety, the following pages contain important information that has directly informed the preparation of this report and the position of the Whanganui District Council infrastructure group:

- Section 3.3.6 Pages 6-7
- Section 3.4 Page 8
- Section 3.4.2 Page 9
- Section 4.0 Pages 10-11
- Page 34 – shows network capacity issues within existing residential zone, there is no capacity to connect
- Page 42 – shows network capacity following proposed network upgrades. There is still no capacity to connect

Bulk wastewater with Growth – Selected options:
https://www.whanganui.govt.nz/files/assets/public/district-plan-changes/april-2016-waste-water-modelling-selected-options.pdf
This report must be appended to this response. The entire report is relevant to the infrastructure position.

Notwithstanding the need to consider the report in its entirety, the following pages contain important information that has directly informed the preparation of this report and the position of the Whanganui District Council infrastructure group:

- Executive summary
- Predicted growth Areas page 13 (Note this is the cumulative page number not the page number at the footer of the report)
- Section 2.5.1 - 2.5.5 page 19-22 (Refer to above note)
- Section 4 Costs starting at page 32 (Refer to above note)
- System improvement map page 46

These technical reports have been used to assess growth projects and inform Council policies.

The reports identify the required growth projects and servicing limitations of the Springvale area.

Infrastructure has identified the projects necessary to facilitate growth within the Springvale Structure Plan area. The position of Infrastructure is that growth may be possible within the former Structure Plan Buxton Road area however any growth within this area must consider the wider Buxton Road area and how the servicing provisions of 3 waters and roading will be made.

Existing known issues to be addressed within a Buxton Road Structure Plan include:

- Capacity issues of the Churton Culvert and downstream Catchment.
- Stormwater design and servicing.
- RMA, Ecological and Iwi considerations for the potential diversion of the Churton Creek/Karamu Stream.
- The need to designation of land to enable the servicing and growth of the wider Buxton Road area.
- Historical connectivity between the Churton Creek (Karamu Stream) and the Whanganui River and downstream wetlands
- Wastewater system capacity issues and growth projects.
- Road network Connectivity.
- Geotechnical assessment of ground conditions within the wider Buxton Road area confirming suitability of land for residential development. This would also need to include an

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assessment of the potential for the creation of acidic soils as a result of changes to ground water levels.

The Buxton Road properties (Those indicated within the Flintoff submission) drain into the Churton Creek/Karamu Stream. While all other areas of proposed plan change 53 are serviced by the Springvale Swale. These are two very separate drainage catchments and require unique management measures. Such measures have not been investigated in detail for the Buxton Road area. This is illustrated on the plan below.

Adding the proposed Flintoff property to the existing system is not possible without downstream upgrades. The Churton Culvert is a capacity and it is not possible to add any additional flows to it without improvement. The implications of adding additional flow would be an increase in the flooding occurrences within the downstream network and potential for additional floors to be inundated.

The original structure plan intended for the Flintoff Development and the wider Buxton Road area to be serviced by the Springvale Swale and NOT the Churton Culvert. The current plan change does not include provisions for this to happen as the swale designation does not extend to the Churton Creek/Karamu Stream. The current plan change does not enable connection to the Springvale swale as the intervening land is in private ownership.

Servicing of the Flintoff proposal would still rely on the Springvale Swale for servicing. (There is no capacity within the Churton Culvert for additional flow or volume).

Development within the Plan Change 53 area is to a piped Stormwater system, whereas the Buxton Road catchment requires the discharge of Stormwater to a water body (Stream) the consent implications of this have not been investigated as part of the Plan Change and will need to take into consideration the draft NPS Proposed Freshwater NES.

Infrastructure does not support this proposed change.

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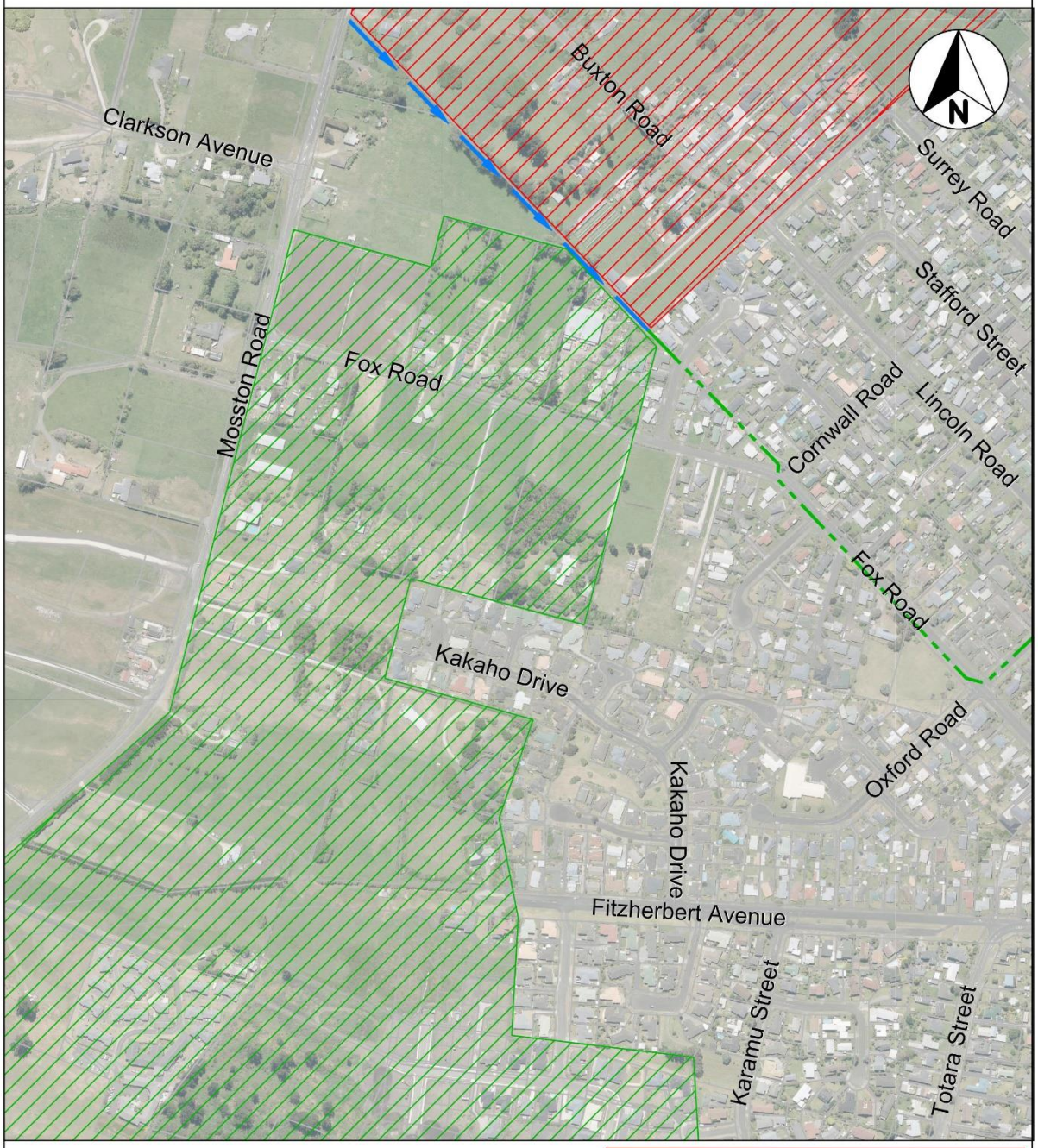
WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

Plan Change 53
Springvale Stormwater Catchments



Key:
- Karamu Stream
- Location of the Churton Culvert
- Area — Stormwater to Karamu Stream
- Area — Stormwater to Springvale Swale

Scale:1:5000

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WHANGANUI DISTRICT COUNCIL
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5. Infrastructure Position

The development and rezoning of the wider Buxton Road area requires a separate Plan Change process focused upon the specific site conditions and servicing needs of the area.

Implications of a commissioners decision to include the Flintoff property include:

- Swale and road designation would need to be extended from Fox Road to the Churton Creek, this is not able to be deferred as it is essential servicing required for the management of Stormwater as a result of Buxton Road Growth. The Flintoff submission cannot be accepted without this change to the designation.
- A new designation for Road will be required over the proposed connecting alignment indicated on the Flintoff submission. This has not been consulted on, but would form an essential part of the development.
- Immediate changes would be required to the Development Contribution's Policy for Buxton Road catchment to take into account the additional land and dwelling purchases necessary to provide the proposed connectivity and previously unforeseen servicing projects.
- Implications of the draft NPS-FM, Proposed Freshwater NES are likely to impact the ability of Council to provide the necessary Stormwater servicing provisions for the Buxton Road catchment. Diversion and discharge to Karamu Stream are likely to attract significant consenting costs and implications for design and treatment of Stormwater. While the draft NPS does not affect this Plan Change the outcomes of the plan change will need to comply with the future Policy Statement.

Infrastructure supports the retention of the swale and road designation as originally proposed.

Yours sincerely

Damien Wood
Development Engineer

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WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

03 October 2019

Planning Manager
Whanganui District Council
PO Box 637
Whanganui 4540

Dear Hamish & Brenda

Plan Change 53 submissions – email request for Technical information

Planning request for technical information 11th September 2019 (Email Brenda O'Shaughnessy to Damien Wood.)

1. Email requested information

On Wednesday 11th September 2019 Brenda O'Shaughnessy Planning Contractor sent an email requesting that the Councils Development Engineer as part of the Councils infrastructure group provide a formal response to the above plan change submission from Councils technical expert.

The following information was requested as part of the SW technical advice request:

- Implications for SW management of stopping the designation road/ shared pathway at the O'Keeffe property boundary and piping the SW to Fox Road. (O'Keeffe submission)

2. Infrastructure response to request

O'Keeffe Submission:

The proposed stopping of the road alignment through the O'Keefe property would result in the need for an alternative overland flow path design across the property, the extent of the required landscaping/earthworks would be at least comparable to the formation of a road way. This may be difficult to contain solely within the O'Keefe property and may necessitate works within adjacent parcels of land. The implications of the lack of connectivity would affect the other underground utility services and would result in the removal of residential street connectivity.

The District Plan requires that Cul de sacs are linked by an accessway to a neighbouring road, if the road formation was removed it would be expected that a linking accessway would be provided across the O'Keefe property. The implications of this have not been considered as part of the plan change and may still require the acquisition of land from the O'Keefe's by Council.

Previous investigations by infrastructure identified that the proposed Springvale Swale alignment is incredibly limited due to topographic constraints. GHD modelling utilising Council LIDAR information concluded the best possible swale alignment is that proposed by the designation. It is acknowledged as part of forming the swale alignment that significant earthworks may be necessary to contain the overland flow path of a 1 in 200 year (0.5% AEP) event. The use of a combination of piped primary flow and portion of secondary flow with the balance of secondary flow contained within an overland flow path is the preferred option, having the secondary flow path contained within the Road reserve presents the best possible outcome for protecting the flow path from obstruction, effects of scour and inundation of properties.

Infrastructure does not support this proposed change.

Yours sincerely

Damien Wood
Development Engineer

Appendix 5D

Mr Hunt – Acoustic Expert

MalcolmHuntAssociates
noise and environmental consultants
Telephone 04 472 5689 Fax 04 473 0456
mha@noise.co.nz www.noise.co.nz

Date of Issue:	1 October 2019
Client:	Brenda O'Shaughnessy Senior Resource Management Planner Planning **Wanganui District Council**
Project Reference:	**Reverse sensitivity noise effects of Plan Change 53 on activities at 111 Mosston Road**
Document version:	Rev 3
Document Status	Amended Final
From:	Malcolm Hunt, noise advisor to Whanganui District Council

Re: Noise Advice – Plan Change 53
Reverse sensitivity noise effects of Plan Change 53 on activities at 111 Mosston Road

Brenda,

As requested, we have reviewed Plan Change 53 (PC 53) and submissions received following public notification of the plan change and associated documents. PC 53 facilitates the provision of land for residential development in the Springvale area. PC53 is said to achieve high quality amenity residential areas through provision of integrated transport networks to public spaces or adjacent zones. PC53 addresses potential impacts on the Heavy Vehicle Route as well as potential ecological and cultural values.

We have been requested to advise on reverse sensitivity noise matters referred to within Submission 5 (Reference number 281071947194811) which alleges potential adverse noise effects for existing activities at 111 Mosston Road, should PC 53 be approved. This concern relates to land becoming zoned for residential purposes which lies opposite the submitters site at 111 Mosston Road where an established cluster of heavy engineering fabrication businesses have long been established. The concerns largely relate to land opposite 111 Mosston Road becoming zoned Residential as indicated in Appendix Two to PC 53.

We understand these activities involve steel fabrication which takes place during normal daytime working hours. Our assessment is based on the above comparison district plan permitted activity and the provisions of an existing resource consent condition regarding noise from activities taking place at 111 Mosston Road.

Below we set out our assessment of the scale and significance of potential reverse sensitivity noise effects on existing businesses at 111 Mosston Road. We comment below on the resource consent condition regarding noise which, while signalling a certain amount of noise is provided for on the site, the limits are not considered enforceable for the reasons explained.

The assessment below uses a comparison of district plan permitted activity noise rules applying to activities taking place at 111 Mosston Rd with and without PC 53 proposed re-zoning on land opposite the site in place. The aim has been to assess whether PC 53 re-zoning (if approved) would result in any material changes in noise limits applying to the established activities at 111 Mosston Road, or indeed if there are any additional noise-related district plan expectations on these activities, should the proposed residential zoning proceed.

Reverse Sensitivity

Reverse sensitivity has the potential to arise in situations such as PC53, where a sensitive development (residential dwellings) proposes to locate near existing industrial activities. The general presumption in the RMA is that in the first instance environmental effects of an activity should be internalized within its boundaries. This is a valid response to the reverse sensitivity noise concerns raised in Submission 5. However, if this cannot be achieved other avoidance, mitigation or remediation measures are then considered where necessary to manage reverse sensitivity.

Resource Consent

Council records show a 1973 resource consent (T & CP Hearing 10/12/73) which sets a noise limit of '90 decibels' in condition 7 as follows;

7. Noise generated not to exceed 90 decidels measured at any point on the legal boundary of Aitchisons block of land, and the Company to comply with all provisions of the Clean Air Act.

While Condition 7 purportedly limits noise at the site boundary to '90 decibels' this limit is uncertain and imprecise as no New Zealand Standards or noise units are mentioned. Condition 7 is considered virtually unenforceable. However, what Condition 7 signals that the consent authority did purposefully allow for noise from the (then) proposed industrial activity but also stipulate noise should be limited in magnitude, when measured at the site boundary. This would naturally result in noise effects at more distant receiver sites which Council must have been comfortable with.

In terms of quantifying this 'authorised' level of noise emission, it is considered meeting Lmax 90 dB at the site boundary would result in a noise effect at the closest potential residential receiver location across Mosston Road approximately equivalent to that which would be permitted currently under the District Plan permitted activity noise standards for activities in the rural zone.

District Plan Performance Standards Applying to 111 Mosston Road

111 Mosston Road is zoned *Rural General* under the operative Whanganui District Plan (Operative 15 January 2018). Chapter 17 of that plan sets out the permitted activity environmental noise standards for this site, as follows;

The

17.5.6 Rural Environment
Activities in the Rural Production Zone, Rural Lifestyle Zone or Rural General Zone shall comply with the following:

a. Noise emissions shall not exceed the following limits at any point within the notional boundary, unless provided for elsewhere in this section.

NOISE LIMIT dB LAeq(15min)			**LAFmax dBA**
Daytime 6.00am-7.00pm	**Evening** 7.00pm-10.00pm	**Night time** 10.00pm-6.00am	**Night time** 10.00pm – 6.00am
50	**45**	**40**	**75**

district plan sets daytime and night time noise limits which apply within the "Notional Boundary" of dwellings. The district plan defines this boundary as "*a line 20 metres from the exterior wall of a dwelling or the legal boundary where this is closer"*.

An annotated aerial photograph (provided by WDC) attached to this memo as **APPENDIX 1** shows the approximate distance in metres to each existing dwelling in the area. The red annotations show the closest notional boundary lies at a distance of 59 metres from closest possible activity on site at 111 Mosston Road, should PC 53 be approved. Notional boundaries currently lie as close as 96 metres to activities at 111 Mosston Road, whereas under the proposed plan change this may reduce to 59 metres (in theory at least – the exact distance will depend on the location of the dwellings allowed within the proposed Residential Zone.

In assessing the scale and significance of potential reverse sensitivity effects on activities taking place at 111 Mosston Road we observe;

1. Based on reduced distance to the closest notional boundary locations, should PC 53 be approved, activities currently taking place at 111 Mosston Road which may be 'just compliant' with the LAeq 50 dB daytime noise limit (at the closest existing notional boundary in Rural General zone) will need to reduce in noise emission level at source by 4.2 dB to remain compliant at the closest hypothetical notional boundary should PC 53 be approved. This is considered a small reduction (for example, site fencing will typically reduce noise received off-site by 10 dB).

2. It is important to note there is no evidence to suggest activities taking place at 111 Mosston Road emit elevated noise such that noise emissions are just compliant with district plan noise Rule 17.5.6 under the existing planning regime. The submitter indicates a good relationship with neighbours. Council advises no records of noise complaints for this site. District Plan Rule 17.5.1 requires all activities implement best practice options to minimise adverse noise effects. Control of noise at source is arguably the best approach to avoid reverse sensitivity noise effects in the first place.

3. The potential for reverse sensitivity noise effects for activities taking place at 111 Mosston Road (if any) are mitigated (reduced) due to the presence of significant daytime ambient sound in the area mainly caused by road traffic passing the site. The following relates;
    a) Mosston Road is primary collector road and is a key route linking areas to the south of the city including the residential suburb of Castlecliff and the Heads Road Industrial Area to the north of the city, including State Highway 3. Daily traffic passing the site is understood to be ADT 4,494 vehicles per day with 6% Heavy Vehicles.
    b) As shown on **APPENDIX 1**, the proposed Fitzherbert extension will join Mosston Road directly adjoining the plan change area where the closest dwellings may be located to the activities at 111 Mosston Road.

    The overall result will be greater daytime sound from vehicles received at the closest (potential) new residential sites on the PC 53 land due to existing and future road traffic passing through this area. Ambient sound will likely exceed LAeq 55 dB during the hours of operation of the existing industrial activity. Thus, noise from compliant engineering activities at 111 Mosston Road is considered unlikely to be noticeable and will not therefore be likely to trigger noise complaints (and therefore reverse sensitivity noise effects) within sites proposed to be residentially zoned within the Springvale structure plan area.

4. The above reverse sensitivity noise effects (if any) mean apply whether or not PC53 proceeds with retention of a Rural Lifestyle zone buffer area as was originally proposed in the GHD Structure Plan 2011 (updated 2018). There is therefore no reason to retain the buffer in the structure plan area near 111 Mosston Road, as was originally proposed in this area.

Summary & Conclusion

MHA have assessed potential reverse sensitivity noise effects for existing activities taking place at 111 Mosston Road due to land nearby becoming zoned for residential purposes. We have considered the purported noise limit set out at Condition 7 to a 1973 consent for these activities, however for technical reasons Condition7 is of limited use in the current assessment. The main assessment has been based on a comparison of the relevant noise limits (should PC 53 be approved) with those currently in place due to the existing zoning and operative district plan provisions.

We have found a small reduction in maximum noise emission may need to occur should the closest PC 53 zone land opposite 111 Mosston Road be used for residential purposes, as proposed by PC 53. There is a theoretical need to reduce maximum allowable noise by 4.2 dB from activities within 111 Mosston Road to account for the compliance location (notional boundary) being located around 37 metres closer (compared to the distance to the closest existing notional boundary in the Rural General Zone). This reduction is not considered significant given a noise barrier fence can typically reduce noise levels by 10 dB within adjacent sites.

As above, we do not consider the theoretical reduction in noise buffer distance to elevate risks of reverse sensitivity noise effects on activities at 111 Mosston Road, compared to the default current situation. To a large extent, the risks of reverse sensitivity noise effects already exist in relation to the proximity of nearby dwellings in the Rural general Zone.

We have identified current and future levels of ambient sound due to road traffic passing through the area as a significant factor mitigating against potential reverse sensitivity noise effects of PC 53 on activities taking place at 111 Mosston Road.

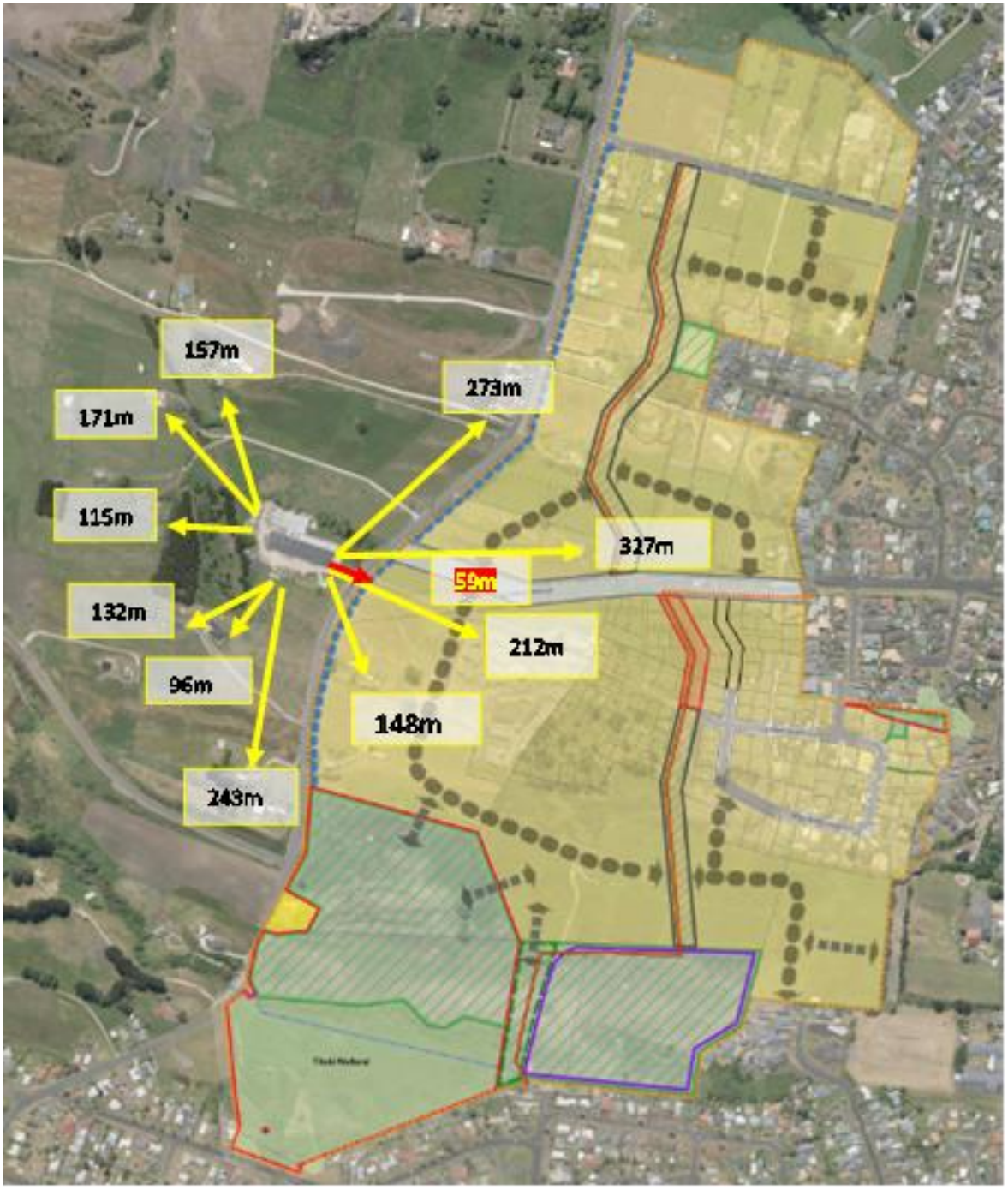
Overall, the presence of significant daytime ambient noise and the duty to avoid unreasonable noise incumbent on persons carrying out industrial activities on a rural site support our conclusion that reverse sensitivity effects are no more than minor for activities taking place at 111 Mosston Road, should PC 53 be approved.

Please do not hesitate to contact the writer if any of the above requires further clarification.

Yours faithfully,

Malcolm J Hunt
B.Sc., M.E.(mech), Dip Public Health

Appendix 1 – 111 Mosston Road distances to closest dwellings



O'Shaughnessy, Brenda

From: Malcolm Hunt <mha@noise.co.nz>
Sent: Thursday, 31 October 2019 6:01 PM
To: O'Shaughnessy, Brenda
Cc: Hamish Lampp
Subject: Re: 111 Mosston Rd query

Hi Brenda
The relatively small distance sound will travel means that wind will have virtually no effect in increasing sound received downwind. We do find that sound levels can be increased by say 2 to 4 dB downwind, but this is when the propagating distance is 1 to 2 kilometres. In this case the small distances involved mean there is virtually no effect.
Regards
Malcolm

From: O'Shaughnessy, Brenda <brenda.oshaughnessy@wsp.com>
Sent: Thursday, 31 October 2019 12:20:06 PM
To: Malcolm Hunt <mha@noise.co.nz>
Cc: Hamish Lampp <Hamish.Lampp@whanganui.govt.nz>
Subject: 111 Mosston Rd query

Hi Malcom
I suspect you are on holiday – but just in case:

A quick question, the submitter for 111 Mosston is concerned that the prevailing wind will take noise from his property across to our proposed residential zone.

NW is generally the prevailing wind - which does look to encourage transmission of noise in the wrong direction. Any tips as to whether that might be expected to make no, some or significant difference to noise effects? Does it perhaps just exacerbate the road noise influence?

Regards
Brenda

Brenda O'Shaughnessy
Principal Planner

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