

Appendix 5

Roading/Traffic Evidence - Oliver Brown MWH

BEFORE WAIMAKARIRI DISTRICT COUNCIL

IN THE MATTER

the Resource Management Act 1991

AND

IN THE MATTER

Application by Westpark Rangiora Limited

FOR

Private Plan Change 26 – Westpark
Rangiora Limited, Lehmans & Oxford
Roads, Rangiora

STATEMENT OF EVIDENCE BY OLIVER GREIG KILFORD BROWN

on behalf of the Waimakariri District Council

INTRODUCTION

QUALIFICATIONS AND EXPERIENCE

1. My full name is Oliver Greig Kilford Brown. I reside in Christchurch and currently hold the position of senior traffic engineer with MWH New Zealand Limited, a position I have held since 2004. I hold a Bachelor of Civil Engineering from the University of Canterbury. I am a graduate member of the Institute of Professional Engineers New Zealand.
2. I have fifteen years' experience in traffic engineering, including four years with Napier City Council doing road design and construction and 1 year as a project manager for Sinclair Knight Merz involved with urban design and construction projects.
3. I work as a senior traffic engineer, with road safety focus, and project manager on projects throughout New Zealand, Australia and Fiji.
4. The evidence I present is within my area of expertise, except where I state that I am relying on information provided by another party. I have not knowingly omitted facts or information that might alter or detract from the opinions I express.
5. I have a good understanding of the proposal. I am familiar with the environments of Rangiora and the subject site.

SCOPE OF EVIDENCE

6. I have been requested to comment on behalf of Waimakariri District Council about the impact of the traffic and road design of the Westpark Plan Change and the resulting impacts on the surrounding network including (but not exclusive to) Lehmans Road and Oxford Road. In this light, I have considered in particular the transportation issues raised by the application and submissions/further submissions received on Private Plan Change 26 – Lehmans Road & Oxford Road (PC26) from Westpark Rangiora Limited (the applicant), and some 39 submitters and

have focussed on:

- a. Internal transport provisions proposed for the plan change area
 - b. Access to the site from adjoining roads (Lehmans Road, Oxford Road & Elm Drive extension)
 - c. Function and performance of the surrounding district road network
 - d. Road Safety
7. My evidence is based on a meeting held at **Waimakariri District Council (Council)** Offices on 16th April 2015 with the Council Roding Manager, desktop analysis and recent site visits. It is not based on detailed analysis or original survey data.

REVIEW OF TRANSPORT ASSESSMENT

TRANSPORT CONTEXT OF THE SITE

8. Based on my site visits, I generally concur with the description of the site location and the surrounding transport networks presented in the applicants **Integrated Transport Assessment (ITA)** (Section 2).
9. A housing development is proposed as part of the Westpark plan change area which is located within the boundaries of Oxford Road to the south, Lehmans Road to the west, Arlington Park subdivision to the north and Private Plan Change PO18 to the east. This development is at the western edge of Rangiora.
10. Aurecon New Zealand Limited was commissioned by the applicant, Westpark Rangiora Limited, to undertake an ITA for the proposed private Westpark plan change. This was presented in Appendix D as part of the Private Plan Change application for the development.
11. The ITA road safety analysis does not indicate any existing road safety issues or trends on the adjacent roads and intersections, with one

recorded crash in the last 5 years.

12. This 15 ha development is proposed to accommodate a minimum of 140 residential properties by changing the zoning from Rural to Residential 2.

INTERNAL TRANSPORT PROVISIONS PROPOSED FOR THE PLAN CHANGE SITE

13. The **Outline Development Plan (ODP)** presents one north-south local road linking Oxford Road to the internal east-west urban collector road, and continuing north-east connecting to the PO18 north-south urban collector road. There are four cul-de-sacs linking to the north-south local road.
14. The pattern of roads links with the adjacent Arlington Park subdivision to the north and PO18 to the east.
15. The proposed internal north-south connection is shown as a local road. The **West Rangiora Structure Plan (WRSP)** identified this link status to be determined at rezoning and ODP time. The proposed local status is considered appropriate considering the WRSP proposes to designate Lehmans Road as collector status and the PO18 north-south link will be collector status. Further, the ITA analysis (Section 8.1 page 16) anticipates the north-south traffic volumes to be less than 1,000 vehicles per day, which is consistent with a local road status.
16. The Westpark proposed north-south local road cross section (ITA Section 8.6 page 20 Figure 14) is 30 metres wide boundary to boundary catering for the road reserve and stormwater reserve identified in the WRSP. I consider this to be appropriate. I note there is a 10 metre wide recreation reserve shown in the WRSP, and presented in the ODP, which I also support for its non-motorised user provisions.
17. The proposed 30 metre wide local road reserve, for the aforementioned

north-south road, is sufficiently wide to adequately cater for the District Plan Rules relating to transport in Section 30.1.1.9. Road reserve widths are not presented for the remaining local roads, however there is no reason why consistency with the District Plan (Section 30.1.1.9) cannot be achieved at subdivision stage.

18. A 20 metre wide road reserve with an additional 5 metre wide recreation reserve is proposed for Lehmans Road. It is possible that the recreation reserve will need to cater for equestrian activity from south of Oxford Road with Rangiora Racecourse and Ashley River located further north. The 5 metre reserve is likely to be too narrow to safely cater for mixed equestrian, walking and cycling.

19. If the needs of pedestrians and cyclists are considered in isolation, the minimum recreation reserve width required is 4.5 metres, comprised of a 2.5 metre wide shared path and 1.0 metre clearance both sides of the path to objects, such as landscaping or fencing, which may cause injury to a cyclist if collided with. This is a minimum width and does not cater for landscaping, utilities or consideration of Crime Prevention Through Environmental Design. While the proposed 5.0 metre wide reserve safely caters for pedestrians and cyclists, it could limit Council's options within the road corridor and recreation reserve to provide landscaping.

20. Therefore, from a traffic perspective, a 5.0 metre wide minimum recreation reserve is recommended for pedestrian and cycle use only, and a 10 metre wide recreation reserve provided if equestrian use is anticipated. The greater width would also be consistent with the WRSP, which presents a 10 metre wide recreation reserve.

21. No details are provided of the east-west collector road (Elm Drive extension) connecting Lehmans Road to PO18. However there is no reason why consistency with the District Plan (Section 30.1.1.9) cannot be achieved at subdivision stage.

22. No connection is proposed to the Brick Kiln Lane group of properties east of Westpark. It is recommended that a road corridor is provided from the eastern most north-south local road to the Westpark boundary by extension of the east-west local road. This link ensures future connectivity and is consistent with the link detailed on the PO18 ODP. In the interim, this could be a pedestrian and cycle link, as discussed below.

23. A range of Pedestrian and Cycle links and facilities are indicated on the ODP and typical road cross sections and these appear appropriate. The connections from cul-de-sac heads to adjacent roads and connection to the PO18 subdivision are strongly supported. Connections should also be provided from the eastern most north-south cul-de-sacs north to the proposed east-west collector, south to the stormwater management area and east towards Brick Kiln Lane.

24. The local purpose reserve on the northern side of Oxford Road will cater for pedestrians and cyclists, however there is no connection further east to the PO18 subdivision and to the existing footpath on Oxford Road as detailed in the WRSP. A suitable connection along the northern side of Oxford Road to the PO18 subdivision boundary is required in conjunction with this development at the time of subdivision. Also of note, but outside the scope of this application, is that the local purpose reserve detailed in the WRSP on the northern side of Oxford Road is not provided adjacent PO18 between the north-south collector and the western boundary. This will be required to ensure future connectivity.

ACCESS TO THE SITE

25. Access to the site is proposed in the application documents to be by way of two new vehicle intersections onto the existing network, each on Oxford Road and Lehmans Road, and two internal links to the adjacent PO18 subdivision. There are walking and cycling facility access points

onto Oxford Road and Lehmans Road, and one connection to PO18.

26. Currently there are three vehicle accesses onto the northern side of Oxford Road and four onto Lehmans Road, two either side. All existing accesses appear to meet the District Plan requirements for separation to existing intersections (Table 30.7) and to each other (Table 30.4).
27. The access on Oxford Road, located 200 metres east of Lehmans Road, provides vehicle access to 5 lots, and is likely to generate about 40 vehicle movements per day. This should be considered as an access or vehicle crossing (when considering spacing of accesses/intersections).
28. The ITA makes no assessment of the proposed intersection spacing externally or internally. My assessment, based on the supplied ODP and scaling from aerial photos, indicates the proposed intersections with Oxford Road and Lehmans Road are non-compliant with the District Plan (Table 30.7) with the existing posted speed limits.
29. On Lehmans Road, the minimum intersection spacing permitted in the District Plan (Table 30.7) is 800 metres for a speed limit of 100 km/h. Scaling from aerial photos indicates that the proposed Elm Drive extension intersection is 580 metres from Oxford Road and 250 metres from the proposed northern T-intersection that will be formed when the Lehmans Road bypass is constructed. The posted speed limit on Lehmans Road would need to be reduced to 70 km/h for the proposed intersection spacing to be compliant with the District Plan.
30. Council have confirmed the bypass speed limit will not be 100 km/h, and is likely to be 70 or 80km/h. Council also confirmed the bypass is programmed for construction in 2021 – 22.
31. Whilst it would be ideal to have Lehmans Road operate at 70km/h in recognition of the urban fringe demands on it and due to intersection

spacing, this would be difficult to achieve (given the requirements detailed in the Land Transport Rule "Setting of Speed Limits 2003; Rule 54001 and amendments). I believe that an 80km/h speed limit in the vicinity of the Plan Change land, and along the future Lehmans Road bypass, could be warranted and realistic in the future as development occurs.

32. At 80 km/h the spacing to the northern bypass T-intersection would still be non-compliant (550 metres required), but spacing to Oxford Road will be compliant. I consider this an acceptable compromise, with some 10 seconds of travel time (at 80 km/h) between the northern bypass T-intersection with the northern section of Lehmans Road and its intersection with Elm Drive extension exceeding the minimum of 5 seconds recommended in Austroads.

33. Considering the proposed Lehmans Road bypass has a curve at the northern extent of Westpark, with a T-intersection on the outside of the curve, it is important for the intersection spacing to be maximised to ensure superelevation related to the curve has ended and the road cross fall returned to standard before the Elm Drive extension intersection.

34. To permit implementation of the proposed Lehmans Road bypass the ODP identifies land to be allocated for this purpose. I have not seen the proposed Lehmans Road bypass curve design at this location, and therefore am unable to comment on whether the allocated land is sufficient to permit implementation of a compliant collector road.

35. On Oxford Road, the minimum intersection spacing permitted in the District Plan (Table 30.7) is 220 metres for a speed limit of 70 km/h. Scaling from aerial photos indicates that the proposed local road intersection is 150 metres from Lehmans Road and 240 metres from Brick Kiln Lane. The posted speed limit on Oxford Road would need to

be reduced to 50 km/h for the proposed intersection spacing to Lehmans Road to be compliant with the District Plan.

36. The ITA has assumed the Oxford Road speed limit will be reduced to 50 km/h as an extension of the existing urban speed limit. This is considered reasonable. As part of standard processes, the Council will periodically review speed limits and this should be satisfactory to respond to issues and the development of the area as they arise.

37. However, the speed limit should be analysed and processed through the prescribed speed limit setting (by-law) process by the Council, which must occur outside this application process.

38. The ITA demonstrated (Section 6) that intersection sight distances compliant with the District Plan can be attained with the existing speed limits.

39. All internal intersection spacing appears compliant with the District Plan except for the proposed Elm Drive extension (urban collector) / local intersection, which appears to have a spacing of 100 metres to Lehmans Road where 125 metres is required at 50 km/h. It is acknowledged that Austroads guidelines indicate that the minimum travel time between intersections should not be less than 5 seconds, which at 50 km/h is 70 metres, and that this is exceeded in the ODP. I am comfortable that the reduced intersection spacing, by 25 metres, is unlikely to create any operational or safety issues. However, given the intersection will be on a collector road providing a key east-west traffic link it would be desirable if spacing compliant with the District Plan could be provided.

40. The ITA Section 8.2 identifies that the Oxford / Lehmans intersection current traffic volumes meet the requirement for a WDC Type C junction, which provides for right turn bays and left turn tapers, and that the current intersection does not have these. It further notes additional traffic

volumes attributable to this subdivision are minor and do not in themselves warrant an intersection upgrade and the future upgrade will be triggered when the by-pass road is created. I concur with this assessment.

41. ITA assessment of the Oxford Road / New Local Road intersection recommends construction of an urban standard intersection with right turn bay. I concur with this, and further note that full urban street lighting of the intersection will be required.

42. Street lighting of this intersection will create inconsistent lighting levels along Oxford Road, with the extent of urban street lighting currently being at Acacia Avenue. This creates a safety issue for vehicle drivers, and will require extension of the street lighting. This can be addressed at the time of subdivision application.

43. ITA Section 8.4 recommends the proposed Lehmans Road / Elm Drive extension intersection be based on WDC Standard Rural "T" Junction Type A Standard Drawing 261B. However, Standard Drawing 261B, which is specified for constrained locations, should be replaced with Standard Drawing 261A, and the pavement area constructed consistent with a Type C junction Standard Drawing 263A. This ensures the pavement constructed now is not compromised by future widening (when the bypass is opened) and ensures the future collector function of Lehmans Road is protected.

FUNCTION AND PERFORMANCE OF THE SURROUNDING DISTRICT ROAD NETWORK

44. The ITA has focused on the function and performance of Oxford Road and Lehmans Road and existing intersections adjacent the plan change site. I have discussed the geographic area considered with Council who confirm it is appropriate and that the wider network effects of traffic generated by the development were evaluated through the West Rangiora Structure Plan process .

45. The ITA (Section 2.3) provides traffic data for the adjoining roads and turning volumes at the Oxford / Lehmans intersection. These form a suitable basis for analysis.
46. A trip generation rate of 1.2 vehicle movements per dwelling in the peak hour has been adopted in the ITA, with approximately 68% of generated traffic exiting the site in the morning and 76% entering the site in the evening peak hours. The daily generation rate is **8 vehicles per day (vpd)** per dwelling. These are in accord with accepted values.
47. The trip generation presented in the ITA Section 8.1 fails to consider all trips generated by Private Plan Change PO18 by excluding the Farmland site. Evidence by Urbis TPD Limited, dated 31 July 2012, presented at the PO18 hearing detailed additional traffic related to Farmlands in Table 2, page 9. In summary, the Farmlands site will add 32 vpd on Oxford Road immediately west of Lehmans Road, 441 vpd on Oxford Road west of Oakwood Drive and 79 vpd on Elm Drive.
48. The trip distribution of PO18 was 70% southbound, therefore it is my opinion that connection of Westpark will attract minimal traffic from PO18 and therefore have minimal effect on the Westpark analysis presented.
49. It is also noted that the ITA presents the number of proposed households as 140, which is based on the WRSP minimum development intensity of 10 dwellings per hectare over the full ODP area. There are two errors in the ITA calculation as detailed below.
50. Firstly, the development intensity of 10 dwellings per hectare is over the full ODP area, with some exclusions, which for this development are the stormwater retention or treatment areas as detailed in the District Plan Chapter 1 Definitions for Net Residential Density. Based on the 15 ha

total area it appears about 1 ha is in stormwater retention or treatment areas, therefore the 14 ha used in calculations is reasonable.

51. Secondly, the WRSP minimum development intensity of 10 dwellings per hectare equates to a lot size of 1,000 m², however the Residential 2 zoning permits lot sizes down to 600 m² and allows for **Comprehensive Residential Development (CRD)**, which further intensifies land use to a lot size of 300 m². The plan change restricts the number of CRD lots to 35. Therefore the potential number of households, based on Residential 2 zoning (600 m²) and CRD (300 m²) and retaining 14 ha, is 250, some 78% greater than that adopted for evaluation. Further to this, I understand more widespread CRD is being sought for this site that could result with more lots being developed.
52. The analysis undertaken represents the minimum level of traffic effects and omits to consider the possible effects of higher density housing permitted in Residential 2 zoning. Without seeing a development Lot plan it is difficult to ascertain whether the presented analysis represents what is planned. It is my opinion that the development intensity will be higher than that analysed, and further analysis should be undertaken of the two proposed intersection and of Oxford / Lehmans.
53. Further, while the intersection Sidra modelling I refer to later indicates sufficient spare capacity at the intersections, this should be demonstrated.
54. The presented trip distribution through the day and geographically appear reasonable in the absence of detailed survey data and information.
55. These trip generation and distribution assessments, combined with the information regarding the existing traffic situation on the local network provide a picture of a potential future with the plan change area fully

developed (albeit at a lower development intensity than permitted in Residential 2 zoning). This then has been assessed for impacts on the network, particularly the functioning of nearby and new intersections.

56 The performance of the intersections is assessed either by reference to a table sourced from Austroads¹ or using the SIDRA software programme. This is considered a suitable methodology.

57 From a traffic capacity perspective, Section 8.2, 8.3 and 8.4 of the ITA demonstrate the proposed intersections will have sufficient capacity to cater for the expected traffic volumes (associated with the minimum permitted development intensity) with the worst Level of Service being C. As noted above, this analysis needs to include the land intensity permitted for Residential 2 zoning and Comprehensive Residential Development.

ROAD SAFETY

58 The ITA presents a summary of the recorded crashes in the adjacent network between 2009 and 2013 and any crashes reported to June 2014. There was one reported crash on Lehmans Road, and therefore the ITA concludes there is no indication of a crash problem or trend. I concur with the assessment presented, and note, as with the traffic capacity analysis, that the wider network effects have been considered by Council during development of the WRSP.

STRATEGIC PLANNING CONSIDERATIONS

59 The transportation aspects of overarching planning policy documents are not included in the ITA. However, Chapter 5 of the application provides the Section 32 Analysis that includes evaluation of transportation issues associated with the Canterbury Regional Land Transport Strategy, West Rangiora Structure Plan, Waimakariri Walking and Cycling Strategy, Land Use Recovery Plan, Canterbury Regional Policy Statement and limited consideration of the Waimakariri District Plan. Review of the above

¹ Austroads Guide to Traffic Management, Part 3 (Traffic Studies and Analysis)

information provided confirms the plan change is consistent.

CONCLUSIONS

- 60 Overall, the ITA concludes that the proposed plan change is consistent with the Land Use Recovery Plan and the West Rangiora Structure Plan and the expected traffic can be catered for within the site and on the adjacent network. I am in general agreement with this, except as noted below.
- 61 The 5 metre wide recreation reserve proposed for Lehmans Road is considered too narrow to safely cater for mixed equestrian, pedestrian and cycle use and limits Councils landscaping options if considering solely pedestrians and cyclists. From a traffic perspective, reserve should be 5.0 metres wide if catering for pedestrians and cyclists only and increased to 10 metres wide if catering for equestrians. The greater width is consistent with the WRSP.
- 62 The external intersection spacings are non-compliant with the District Plan with existing posted speed limits, however it is feasible that lower speed limits are warranted due to development. However, the speed limit should be analysed and processed through the prescribed speed limit setting (by-law) process by the Council, which must occur outside this application process. I am comfortable that with lower speed limits appropriate intersection spacing can be achieved.
- 63 The proposed Elm Drive extension (urban collector) / local internal intersection spacing to Lehmans Road is non-complaint with the District Plan. Given Elm Drive extension is providing a key east-west traffic link it would be desirable, though not critical, if the intersection spacing could be increased to comply with the District Plan.
- 64 The proposed Lehmans Road / Elm Drive extension intersection should be based on WDC Standard Rural "T" Junction Type A Standard Drawing 261A, not 261B as proposed and pavement constructed consistent with a Type C junction (SD 263A). Standard Drawing 261A retains the future collector function of Lehmans Road and the Type C junction pavement

area ensures the pavement is not compromised by future widening.

- 65 A transport connection is required east to the Brick Kiln Lane area to ensure future connectivity for all modes is maintained.
- 66 Land requirements for the proposed Lehmans Road bypass require confirmation to ensure sufficient area is provided to permit implementation of a compliant collector road.
- 67 The crash analysis and traffic capacity analysis area is consistent with Council requirements.
- 68 The traffic capacity analysis adopted the lowest permitted level of development allowed in the WRSP instead of the maximum permitted in the Residential 2 zone, including the 35 CRD lots. This results with traffic generation being underestimated by some 78%.
- 69 I would anticipate the applicant will provide further information regarding these at the hearing.
- 70 Issues that can be addressed during subdivision consent include:
- a) No information was provided for the east-west collector road (Elm Drive extension) or local road reserve width. Generally a subdivision matter and will need to comply with road design attributes at that time. It is acknowledged as a collector road on the ODP.
 - b) A pedestrian and cycle connection along the northern side of Oxford Road will be required as detailed in the WRSP.
 - c) Street lighting associated with the proposed Local Road / Oxford Road intersection will necessitate extension of the existing urban street lighting along Oxford Road from Acacia Avenue to this proposed intersection.

SUMMISSIONS

INTRODUCTION

- 71 Forty submissions have been received on the plan change request. I have reviewed the Council summary of submissions and identified 3 submissions that raise transportation matters. I have reviewed the 3 submissions and address the issues raised below.

SUBMITTER CONCERN: TRAFFIC DATA IS OUT OF DATE (SUBMISSION NUMBER 90)

- 72 One submission identified the traffic count data, which was presented in the ITA Section 2.3 page 4, was out of date and indicated traffic movements have increased since 2012. Further, the volumes do not consider peak movements on race days.
- 73 I agree that the traffic counts are dated given changes in traffic patterns and volumes following the 2010 and subsequent Canterbury earthquakes. However, it is typical to use aged data for analysis with adjustments based on more recent observations. In this case, intersection counts were undertaken in April 2014 at Lehmans / Oxford intersection and subsequently used for traffic analysis of that intersection and the proposed Local / Oxford intersection. The Lehmans / Elm Drive extension intersection did not warrant modelling based on low volumes.
- 74 I am comfortable that the base traffic volumes collected and used for analysis are appropriate.

SUBMITTER CONCERN: LEHMANS ROAD IS NOT A COLLECTOR (SUBMISSION NUMBER 90)

- 75 The District Plan identifies Lehmans Road as a Local road, whereas the application identifies Lehmans Road as a Collector. The ITA correctly identifies the Local road status in Section 2.2.2 page 3 and correctly identifies the WRSP proposes that the status be changed to Collector.

- 76 Based on the WRSP, it is correct for Lehmans Road to be considered Collector status for the traffic analysis.

**SUBMITTER CONCERN: PROPOSED ROAD BETWEEN TRANSMISSION LINES
(SUBMISSION NUMBER 90)**

- 77 The submission claims the proposed road (Lehmans Road bypass) between transmission lines is contrary to guidelines. The proposed Lehmans Road bypass was identified in the WRSP, and the ITA has appropriately considered and allowed for its future implementation. It is not the role of the Westpark applicant to determine whether the bypass meets guidelines, and therefore is outside the scope of this application.

**SUBMITTER CONCERN: THE PROPOSAL IS CONTRARY TO THE PROVISIONS AND SEQUENCING OF THE APPROVED WEST RANGIORA STRUCTURE PLAN AND LURP.
(SUBMISSION NUMBER 99)**

- 78 From a transportation perspective, the ODP is generally consistent with the WRSP with respect to the network layout and reserves permitting connectivity to adjoining land. My assessment identified the proposed Lehmans Road recreation reserve was not consistent (5 metre proposed instead of 10 metres) and I have recommended the ODP be amended to ensure safe provisions for non-motorised users. The WRSP Variation 1 identifies this area in the second sequencing period. From a traffic perspective, I consider it unlikely traffic issues will arise from early development of this site.

- 79 My understanding is that the LURP does not provide any sequencing, instead relying on greenfield priority areas and minimum densities.

SUBMITTER CONCERN: THE ODP DOES NOT PROVIDE FOR SUFFICIENT FUTURE EAST-WEST CONNECTIVITY BETWEEN BRICK KILN ROAD AND LEHMANS ROAD IN THE SOUTHERN PART OF THE AREA PROPOSED TO BE RE-ZONED (SUBMISSION NUMBER 99)

80 The ODP provides no connectivity in this area, and my assessment identified and recommended the ODP be amended to provide a road corridor from the eastern most north-south local road to the Westpark boundary by extension of the east-west local road. This is to ensure future connectivity for all modes.

SUBMITTER CONCERN: THE NEW "T" INTERSECTION ON OXFORD ROAD WOULD BE BETTER MANAGED THROUGH THE LEHMANS ROAD INTERSECTION IN THE LONGER-TERM (SUBMISSION NUMBER 99)

81 The ODP is consistent with the WRSP with respect to this intersection location and provides a functional connected network.

SUBMITTER CONCERN: THE ODP MAY NOT REPRESENT THE MOST APPROPRIATE LAYOUT AND ALTERNATIVE ROADING LAYOUTS SHOULD BE CONSIDERED THAT PROVIDE BETTER CONNECTIVITY TO ADJACENT LAND AND THE PROPOSED ROAD LAYOUT FOR PART RS968 THAT IS A SUBDIVISION APPLICATION BEFORE COUNCIL (SUBMISSION NUMBER 109)

82 This submission relates to connectivity to Private Plan Change 18 - Vermeulen & Woolston and Waters, which is located east of the Westpark application. PO18 ODP provides two east-west road corridors and one east-west pedestrian / cycle connection to the western boundary with Westpark. This was evaluated by Council and deemed to provide adequate connectivity to the adjacent sites (including the Westpark land) and was consistent with the WRSP.

83 The Westpark ODP provides vehicle and pedestrian / cycle connections to all available locations with PO18. Further to this, my assessment identified and recommended the Westpark ODP be amended to provide a road corridor from the eastern most north-south local road to the Westpark boundary by extension of the east-west local road to ensure future connectivity for all modes. This is consistent with that Local road east-west

connection presented in the PO18 ODP to Brick Kiln Lane, which I strongly support to ensure future connectivity.

84 It is my opinion that the Westpark ODP, with the recommended additional connection towards Brick Kiln Lane, provides appropriate connectivity with PO18.

Oliver Brown
Senior Traffic Engineer
MWH New Zealand Limited

15 May 2015

Appendix 6 National Policy Statement on Electricity
Transmission

5 Objective

To recognise the national significance of the electricity transmission network by facilitating the operation, maintenance and upgrade of the existing transmission network and the establishment of new transmission resources to meet the needs of present and future generations, while:

- managing the adverse environmental effects of the network; and
- managing the adverse effects of other activities on the network.

6 Recognition of the national benefits of transmission

Policy 1

In achieving the purpose of the Act, decision-makers must recognise and provide for the national, regional and local benefits of sustainable, secure and efficient electricity transmission. The benefits relevant to any particular project or development of the electricity transmission network may include:

1. maintained or improved security of supply of electricity; or
2. efficient transfer of energy through a reduction of transmission losses; or
3. the facilitation of the use and development of new electricity generation, including renewable generation which assists in the management of the effects of climate change; or
4. enhanced supply of electricity through the removal of points of congestion.

The above list of benefits is not intended to be exhaustive and a particular policy, plan, project or development may have or recognise other benefits.

7 Managing the environmental effects of transmission

Policy 2

In achieving the purpose of the Act, decision-makers must recognise and provide for the effective operation, maintenance, upgrading and development of the electricity transmission network.

Policy 3

When considering measures to avoid, remedy or mitigate adverse environmental effects of transmission activities, decision-makers must consider the constraints imposed on achieving those measures by the technical and operational requirements of the network.

Policy 4

When considering the environmental effects of new transmission infrastructure or major upgrades of existing transmission infrastructure, decision-makers must have regard to the extent to which any adverse effects have been avoided, remedied or mitigated by the route, site and method selection.

Policy 5

When considering the environmental effects of transmission activities associated with transmission assets, decision-makers must enable the reasonable operational, maintenance and minor upgrade requirements of established electricity transmission assets.

Policy 6

Substantial upgrades of transmission infrastructure should be used as an opportunity to reduce existing adverse effects of transmission including such effects on sensitive activities where appropriate.

Policy 7

Planning and development of the transmission system should minimise adverse effects on urban amenity and avoid adverse effects on town centres and areas of high recreational value or amenity and existing sensitive activities.

Policy 8

In rural environments, planning and development of the transmission system should seek to avoid adverse effects on outstanding natural landscapes, areas of high natural character and areas of high recreation value and amenity and existing sensitive activities.

Policy 9

Provisions dealing with electric and magnetic fields associated with the electricity transmission network must be based on the International Commission on Non-Ionising Radiation Protection. *Guidelines for limiting exposure to time varying electric magnetic and electromagnetic fields (up to 300 GHz)* (Health Physics, 1998, 74(4): 494–522) and recommendations from the World Health Organisation monograph *Environmental Health Criteria* (No 328, June 2007) or revisions thereof and any applicable New Zealand standards or national environmental standards.

8 Managing the adverse effects of third parties on the transmission network

Policy 10

In achieving the purpose of the Act, decision-makers must to the extent reasonably possible manage activities to avoid reverse sensitivity effects on the electricity transmission network and to ensure that operation, maintenance, upgrading, and development of the electricity transmission network is not compromised.

Policy 11

Local authorities must consult with the operator of the national grid, to identify an appropriate buffer corridor within which it can be expected that sensitive activities will generally not be provided for in plans and/or given resource consent. To assist local authorities to identify these corridors, they may request the operator of the national grid to provide local authorities with its medium to long-term plans for the alteration or upgrading of each affected section of the national grid (so as to facilitate the long-term strategic planning of the grid).

Appendix 7 Flood modelling map



Appendix 8 Proposed Outline Development Plan



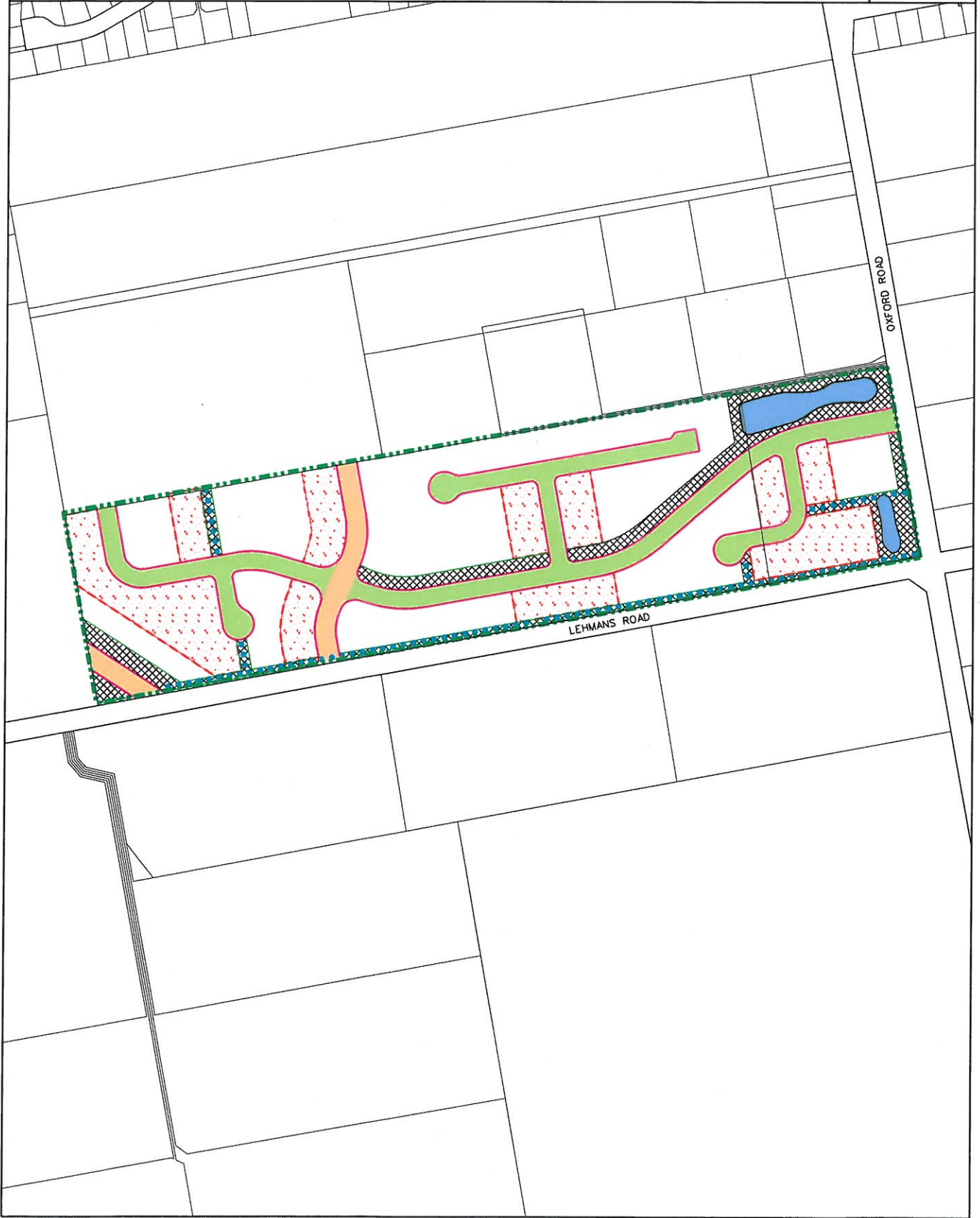
- OUTLINE DEVELOPMENT
PLAN AREA
- EXISTING ROAD
- LOCAL ROAD
- URBAN COLLECTOR ROAD
- PROPOSED ROAD DESIGN
- PEDESTRIAN
CYCLEWAY ACCESS
- STORMWATER
MANAGEMENT AREA
- LOCAL RESERVE
- COMPREHENSIVE
RESIDENTIAL
DEVELOPMENT AREA

NOTE:
Disclaimer - refer to map legend sheet



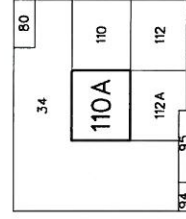
Metres
0 50 100 150
Scale 1:5,000(A4)

Westpark, Rangiora
Outline Development Plan
183

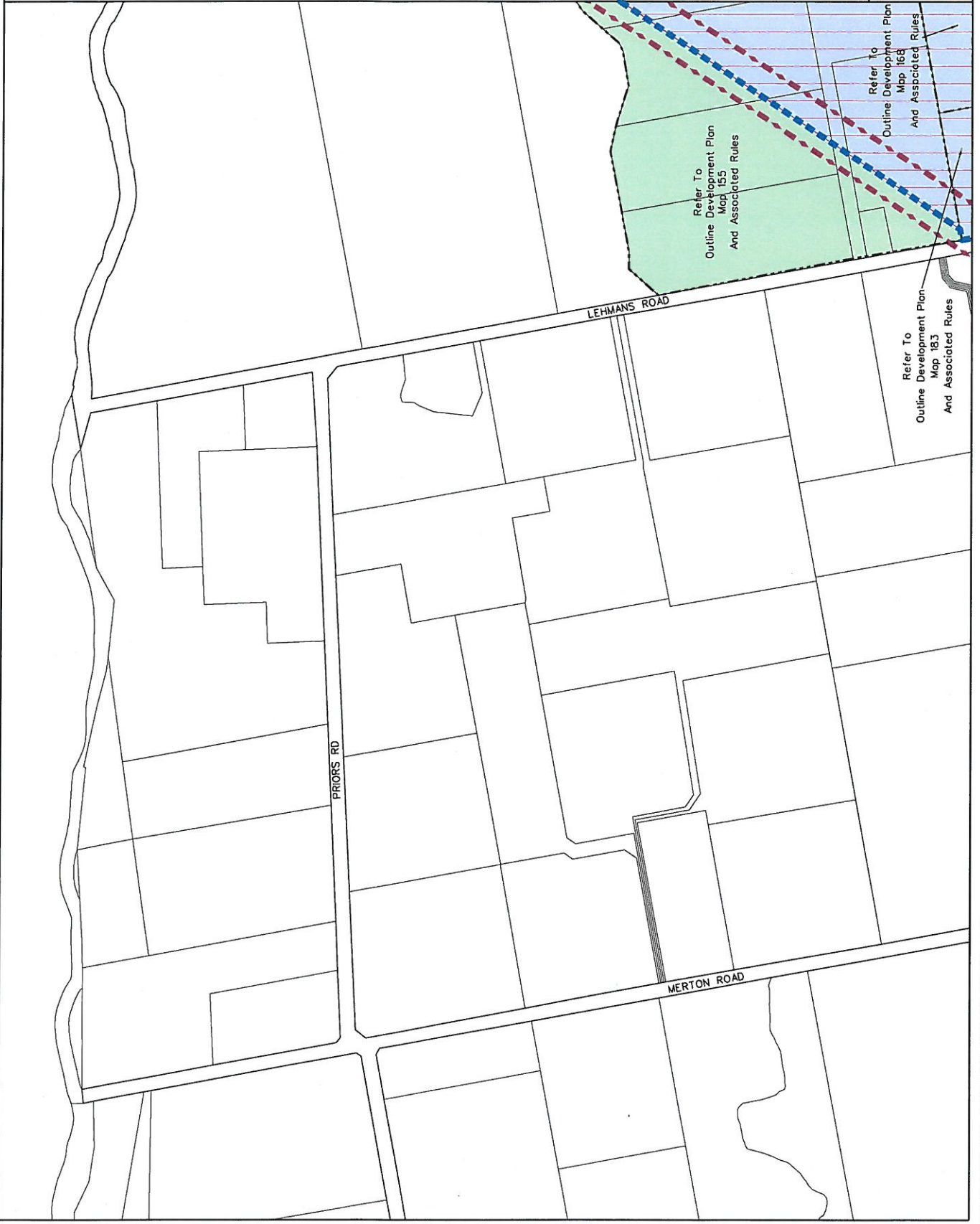


Appendix 9 Proposed District Plan Maps

NOTE:
Disclaimer - refer to map legend sheet



Rangiora 110A



NOTE:
Disclaimer - refer to map legend sheet



Metres

0 60 120 180

Scale 1:7,500 (A4)

34	110A	110
	112A	112
94	95	46
		116

Rangiora

112A

Refer To
Outline Development Plan
Map 168
And Associated Rules

Refer To
Outline Development Plan
Map 183
And Associated Rules

OXFORD RD