

**BEFORE INDEPENDENT HEARING COMMISSIONERS
APPOINTED BY THE HAMILTON CITY COUNCIL**

IN THE MATTER of the Resource Management Act 1991 (**Act**)
AND

IN THE MATTER of an application for subdivision and land use consent
for the Amberfield development pursuant to the Act.

APPLICANT Weston Lea Limited

CONSENT AUTHORITY Hamilton City Council

**EVIDENCE-IN CHIEF OF ANTHONY THOMAS PENNY
FOR WESTON LEA LIMITED**

Dated: 12 April 2019

Solicitors on Record

WYNN WILLIAMS LAWYERS
SOLICITOR — LUCY DE LATOUR

PO Box 4341, Christchurch 8140
P 03 379 7622 F 03 379 2467 E lucy.delatour@wynnwilliams.co.nz

Counsel

R A MAKGILL
BARRISTER

PO Box 77-037, Mt Albert, Auckland 1350
P 09 815 6750 E robert@robertmakgill.com

SUMMARY OF EVIDENCE

1. My name is Anthony Thomas Penny and I am a traffic engineer. I summarise my evidence, according to the key headings in this statement, as follows:

Transportation networks

(Page 6)

- (a) The details of the transportation networks proposed for the Amberfield subdivision are referenced in the integrated transportation assessment (**ITA**) report submitted with the resource consent application which forms the basis for my evidence. In my opinion the cross-sections for all of the proposed roads and the permanent paths for pedestrians and cyclists are consistent with Hamilton City Council (**HCC**) standards and will safely and effectively accommodate pedestrians, cyclists, private motorists and buses.

Peacockes Road Upgrading

(Page 10)

- (b) With the confirmation of the Housing Infrastructure Investment (**HIF**) funding of transportation improvements for the Peacocke area, the circumstances associated with the upgrading of Peacockes Road have changed since when the ITA was prepared. It is now possible that the section of Peacockes Road north of the East-West Arterial will be upgraded directly to a minor arterial road standard by HCC. However, the applicant wishes to retain the option to upgrade Peacockes Road to a collector road standard as an interim measure if the HIF project is delayed. In my opinion this can be done effectively in stages and in a manner that is consistent with the minor arterial design and designation.

Traffic Access

(Page 14)

- (c) In terms of the wider access to the site, most traffic generated by the Amberfield subdivision will travel north along Peacockes Road to join the arterial road network. In the interim the majority of this traffic will use Bader Street with minor volumes using Dixon Road and Peacockes Road south to Raynes Road. I note that the projects for improving the Bader Street corridor and constructing the new roundabout on Ohaupo Road south of Dixon Road have now been confirmed for implementation. Once the new HIF bridge across the Waikato River has been constructed significant volumes of Amberfield traffic will use that route.

Traffic Assessment*(Page 15)*

- (d) Considerable additional traffic modelling has been undertaken since the application was lodged and that indicates different levels of effects resulting from traffic generated by the subdivision at the traffic signal-controlled intersections of Bader Street and Lorne Street with Normandy Avenue. However, there was agreement between the experts in the transportation caucusing that the effects on the wider transportation network of traffic generated by the proposed subdivision could be managed by monitoring and implementing mitigation measures as necessary. I consider that this remains the case.

Transportation Mitigation Measures*(Page 18)*

- (e) It was also agreed in caucusing that the HIF project, including the bridge across the river, will provide the ultimate mitigation of the traffic effects associated with the subdivision. HCC projects for improvements along the Bader Street corridor and for a new roundabout on SH3 south of Dixon Road will also assist in the short term.
- (f) The applicant is also proposing measures that will mitigate the traffic effects that could occur prior to the HIF project. These include upgrading Peacockes Road adjacent to the subdivision to a collector road standard, providing a shared path along Peacockes Road to the north, undertaking minor safety improvements along Peacockes Road to the south and improvements at the traffic signal-controlled intersections of Bader Street and Lorne Street with Normandy Avenue.

Transportation Consent Conditions Discussed in Caucusing *(Page 21)*

- (g) The draft transportation consent conditions agreed in caucusing included traffic monitoring at specific locations in the road network providing access to the Amberfield subdivision (and mitigation if necessary). This is to commence after 350 lots have been developed at Amberfield and cease on completion of the HIF river bridge. The draft conditions also included slightly different mitigation requirements if more than 500 lots are developed before the river bridge is opened but did not impose an absolute cap on development.
- (h) I also note that the draft monitoring condition threshold for assessing efficiency effects on the SH3 approaches at the Normandy Avenue intersections with Bader Street and Lorne Street has been indicated at the level supported by Mr Alasdair Gray (being 55 seconds) and not the higher level (80 seconds) supported by

Shaun Lion-Cachet (representing NZTA and HCC as submitters) and myself in caucusing. In my opinion the higher threshold is more appropriate.

- (i) I support the inclusion of conditions of consent requiring the preparation of a construction traffic management plan (**CTMP**) and a transportation network management plan (**TNMP**) to ensure that adverse traffic effects associated with each stage of development are avoided, remedied or mitigated.

Transportation Issues Raised in Submissions

(Page 23)

- (j) I have reviewed all of the submissions that have raised transportation issues, including those from the road controlling authorities, and responded accordingly. I do not consider that there are any issues raised in submissions that cannot be addressed and that would prevent the subdivision being consented.

Transportation Issues Raised in Section 42A Report

(Page 31)

- (k) While the Section 42A report has raised a lot of transportation issues, the overall conclusion is that “the adverse effects of the development can be managed to an acceptable level.”
- (l) Concern is expressed in the transportation report (Appendix F of the Section 42A report) about the road cross-sections proposed for the subdivision but I note that these meet HCC standards and have been supported by HCC staff (Appendix G (d) of the Section 42A report).
- (m) The Section 42A report also suggests wording of the traffic monitoring condition which is inconsistent with the draft conditions agreed in caucusing. It introduces a potential cap on subdivision development at 500 lots unless the HIF bridge has been opened. This is not necessary with the monitoring condition and should be changed in my opinion so that there is no absolute cap at 500 lots.
- (n) The traffic monitoring condition included with the Section 42A report has adopted 55 seconds as the threshold for delays on the Normandy Avenue intersection approaches. As I stated at the caucusing and as explained in the body of my evidence, I consider that the threshold should be 80 seconds.

Conclusion

(Page 37)

- (o) As a result of my involvement in the design and assessment of the transportation components of the proposed subdivision and my participation in caucusing, I have

concluded that with the measures proposed to mitigate adverse effects and the transportation related conditions proposed to monitor efficiency, safety and accessibility effects as the subdivision is developed, there are no transportation reasons why the Amberfield subdivision application for resource consents should not be granted.

INTRODUCTION

2. My name is Anthony Thomas Penny.

Qualifications and Experience

3. I am a traffic and transportation engineer from Christchurch. I am a Fellow of the Institute of Professional Engineers of New Zealand, an APEC Engineer and a registered international professional engineer. I hold a Bachelor Degree in Mathematics and a Bachelor Degree in Civil Engineering from the University of Canterbury.
4. My experience includes over 40 years in traffic engineering and transportation planning with the Christchurch City Council, the Department of Transport in the United Kingdom, the MVA Consultancy in Hong Kong and consultants Traffic Design Group Limited (**TDG**) and Stantec in New Zealand. I have worked as a traffic engineering specialist on projects throughout New Zealand for over 30 years having been engaged by local authorities and private concerns in many centres to advise on the full range of transportation issues covering safety, management and planning matters.

Involvement in the Proposed Development

5. In this matter I have been retained by Weston Lea Limited (**Weston Lea**) to prepare a statement of evidence on its application for land use and subdivision consent from the HCC for the Amberfield development in the Peacockes Structure Plan area.
6. I am familiar with the application site and surrounding environment having visited the site on many occasions to observe current road layouts and traffic patterns along Peacockes Road and on the wider access routes to the site.
7. I supervised the preparation of the ITA report that accompanied the application for consent for the Amberfield subdivision. I also provided input to the design of the subdivision transportation facilities that involved integration with land use planning and other design and environmental assessment considerations.
8. In preparing this evidence I have relied extensively on the ITA that was prepared as part of the assessment of environmental effects (**AEE**) submitted with the resource consent application.

9. I have also read and responded to the following documents:
 - (a) The Hamilton City Council's Section 92 request;
 - (b) The submissions relating to traffic and transportation matters including those from the New Zealand Transport Agency (NZTA) and Hamilton City Council;
 - (c) The Hamilton City Council's Section 42A report, including Mr Alasdair Gray's report.
10. I have also taken part in caucusing with other transportation experts representing HCC and NZTA in order to identify agreement (and disagreement) on as many issues as possible relating to the submissions of their clients on the Amberfield application.

Scope of Evidence

11. In my evidence that follows I address:
 - (a) The general background to the transportation related aspects of the application (including the ITA).
 - (b) The transportation networks provided for by the subdivision application concentrating particularly on those elements that have been questioned by submitters.
 - (c) The upgrading of Peacockes Road to provide safe and efficient access to the subdivision and the wider access to the site.
 - (d) The assessment of traffic effects associated with the application. This section of my evidence includes an explanation of the additional traffic modelling that has been undertaken since the application was lodged.
 - (e) Mitigation measures that address the traffic effects of the subdivision.
 - (f) The draft transportation conditions of consent produced in the caucusing by the transportation witnesses.
 - (g) The submissions relating to the transportation and traffic related effects of the application.
 - (h) The transportation elements of the Section 42A report.
 - (i) My conclusions regarding the traffic and transportation effects associated with the application.

CODE OF CONDUCT

12. I have read the Environment Court Code of Conduct for expert witnesses and agree to comply with it.
13. I confirm that the topics and opinions addressed in this statement are within my area of expertise except where I state that I have relied on the evidence of other persons. I have not omitted to consider materials or facts known to me that might alter or detract from the opinions I have expressed.

BACKGROUND

14. The proposed Amberfield subdivision is a non-complying activity partly for transportation reasons. Accordingly, the consent application had to include a masterplan including the intended transportation elements of the subdivision and a broad integrated transportation assessment.
15. Under the Operative Hamilton District Plan¹ (**District Plan**), development of land within Stage 2 of the Peacockes Structure Plan Area was originally planned to follow the construction of a new bridge across the Waikato River. At the time the application was submitted, the programme of works for the construction of the bridge had not been confirmed by HCC (as it was reliant on Government funding via the HIF). Therefore, the application was based on the possibility that development of the Amberfield subdivision could precede the completion of the bridge.
16. At that time, it was expected that the subdivision would contain 1,000 residential lots with future provision for a neighbourhood centre. The proposal is now based on a maximum of 833 residential lots. A larger area of the site centred on the neighbourhood centre has been omitted from the current consent application so that it can be developed in the future, with higher density residential uses as well as commercial activity likely.
17. The HIF projects include the extension of Wairere Drive across a new river bridge to Peacockes Road and the construction of the East-West Arterial as indicated in Figure 13 of the ITA² which is attached to my evidence. They also include upgrading of Peacockes Road to an urban (minor arterial) standard north of the East-West Arterial.

¹ Rule 3.4.6

² ITA, Chapter 4

TRANSPORTATION NETWORKS

18. The Amberfield application includes a masterplan for the development (Figure 1 attached to my evidence) which shows the proposed transportation networks within the subdivision and access points to the subdivision site from Peacockes Road.
19. The ITA includes (in Chapter 4) descriptions of the transportation networks proposed for private vehicles, public transport, cyclists and pedestrians. These networks are described further as follows.

Road Access and Internal Road Network

20. The subdivision road network will be connected to Peacockes Road which will provide all access between the subdivision and other areas. There will be three new side roads off Peacockes Road north of the future East-West Arterial and five to the south providing access to the subdivision. The access roads link through to the riverside (or the gully) together with other pedestrian/cyclist links to Peacockes Road ensuring effective connectivity and permeability. A series of roads running parallel to the river and Peacockes Road provide for the secondary distribution of vehicles.
21. The hierarchy of roads associated with the subdivision has been designed based on consideration of user demand and amenity. In general, the road reserve and carriageway widths comply with the HCC minimum design standards contained in the District Plan while avoiding over-width carriageways which can encourage vehicles to travel at higher speeds. In addition, traffic calming facilities have been included in the subdivision design such as roundabouts at intersections to ensure that vehicle speeds are appropriate for the local residential environment.
22. Footpaths that meet HCC minimum width standards and recessed parking bays are provided on all roads to ensure a high level of amenity and safety.
23. The minimum standards in the District Plan for road reserve and carriageway widths for “local (low volume)” residential streets serving no more than 20 lots are 9m and 5.5m respectively. The proposed low volume street types D1, D2 and E defined in Figures 18a and 18b of the ITA all meet these minimum standards. The carriageways are all 5.6m wide and the road reserve widths range from 13.5m to 16.4m.
24. Since the application was submitted the road network in the North-East area of the subdivision has been modified as indicated in the Figure 2 attached to my evidence

which is from Urbanism+'s addendum to their urban design report (Appendix A to the Assessment of Environmental Effects Addendum). This involved the introduction of two new road types detailed in Figures 2.4 and 2.5 of the addendum. These are both low volume local roads and both have 5.6m wide carriageways and road reserve widths that exceed the 9m minimum standard in the District Plan.

25. The minimum standards for "local" residential streets are 20m for the road reserve width and 6m for the carriageway width. All the remaining street types within the subdivision are classified as local roads and have road reserve widths of 20m. Those roads without on-road cycle lanes have 6m wide carriageways while those roads with cycle lanes have carriageways widths of 9.6m including two 1.8m wide cycle lanes.
26. I note that the District Plan standard for local roads does not require cycle lanes and states that local roads are expected to have "cycling on road shared in movement lane" (Table 15-6a in Appendix 15-6 of Volume 2 of the District Plan). In my opinion having on-road cycle lanes on the local roads linking Peacockes Road and the riverside paths is a justified and safe widening of the carriageways because they are relatively short or calmed by roundabout controlled intersections that restrict vehicle speeds.
27. It is proposed that the section of Peacockes Road south of the East-West Arterial will be upgraded to a collector road and that it will match the HCC standard for a collector road with a 23m wide road reserve and a 9m wide carriageway. This will require 3m of the Weston Lea land on the east side of Peacockes Road to be vested in the Council.
28. If the northern section of Peacockes Road is upgraded to a collector road prior to being reconstructed as a minor arterial road then it is proposed that it will also comply to the HCC standards with a road reserve width of at least 23m and a carriageway width of at least 9m.
29. The Council standards for a minor arterial included in the District Plan specify that the road reserve and carriageway width should be based on "specific design" with "case by case consideration." There are however minimum specifications requiring two 3.5m wide traffic lanes and a 3m wide flush median. The proposed design more than matches those specifications with an 11m wide carriageway with kerb and channel replacing the stormwater swales included in the original design that was undertaken

by Aecom. The road reserve will be 29m wide and is based on the original design but includes a 3m wide shared path on both sides of the road.

30. The main access to the subdivision will be provided by the upgraded Peacockes Road (which is addressed further below) but the transportation networks within the subdivision have also been designed with provision for external links both to the north and south to ensure connectivity and integration with future transportation networks and adjacent development. In this regard I particularly note that a riverbank shared path for cyclists and pedestrians will be provided that may form part of the planned Te Awa path.

Pedestrian and Cycle Networks

31. The subdivision contains an extensive network of both on-road and off-road links for pedestrians and cyclists to encourage these active modes and to reduce the amount of travel by private vehicles. Off-road cycleways are proposed in the form of wide pathways along Peacockes Road and the Waikato River bank that will be shared with pedestrians. These paths provide for the major demands which are expected to be generated longitudinally by the generally linear form of the subdivision.
32. A comprehensive network of cycleways / footpaths or shared paths are proposed to service the Amberfield subdivision and to link with the wider network of paths proposed under the Peacocke Structure Plan. The street network has a grid base with on and off-street paths that support accessibility and permeability for pedestrians and cyclists.
33. The cycle links between Peacockes Road and the river bank path (and other roads) are provided along the lateral roads by cycle lanes rather than off-road cycleways for several reasons:
 - (a) Cyclist demands are unlikely to be high enough to justify off-road facilities,
 - (b) The lateral roads are relatively narrow so it is not possible to locate cycleways sufficiently far from property fences and driveways to ensure safe sight distances,
 - (c) The lateral roads are not long so cycleways would be short which is not normally practical,

- (d) At intersections with longitudinal roads the lateral roads either do not have priority or are controlled by roundabouts so it would not be practical to provide convenient links between off-road cycleways,
 - (e) The lateral roads block lengths are short and so with potentially inconvenient crossings linking cycleways cyclists would choose to ride on the road,
 - (f) On-street parking on the lateral roads will not be intensive because the adjacent properties are residential so cycle lanes will not be adversely affected by car doors opening,
 - (g) Traffic speeds on the lateral roads will not be high with the short block lengths and lack of priority at intersections.
34. With the majority of longitudinal cycling demand accommodated by the cycleways along the river and Peacockes Road, I do not consider that it would be necessary to also provide off-road cycle facilities along the internal longitudinal road running parallel to Peacockes Road. Indeed on-road cycle lanes are also considered undesirable because traffic volumes are expected to be relatively low and providing cycle lanes that are not well utilised gives the impression of a wider road which encourages higher speeds, particularly with low traffic volumes.
35. It is better in such situations for cyclist to “share the road” with other vehicles as indicated by the District Plan and as they will have to do at the roundabout controlled intersections provided along this long internal road to calm traffic. Sharing the road in itself provides a calming influence on traffic between the roundabouts.

Future Public Transport Networks

36. While future decisions regarding public transport within the subdivision will need to be made by other stakeholders, particularly Waikato Regional Council (**WRC**), I understand that bus routes will primarily use Peacockes Road.
37. The internal road network for the subdivision includes two road loops (ITA Figure 24 attached to my evidence) with carriageways and intersections that are designed to accommodate buses turning back at the end of a proposed new service. An interim loop is shown north of the East-West Arterial which could operate after the development (which is scheduled to start at the north end of the subdivision) has extended that far. An ultimate loop is shown near the southern end of the subdivision.
38. It is also possible that bus services will be introduced before the above loop roads are constructed. This is a decision to be made by the WRC and will require flexible

routeing and potentially temporary turning facilities for early stages as the subdivision development progresses. I understand the applicant is happy to assist with providing such temporary facilities.

PEACOCKES ROAD UPGRADING

39. To accommodate the volume of traffic that will be generated by the Amberfield subdivision Peacockes Road only needs to be upgraded to a collector road standard. However, the District Plan indicates the full length of Peacockes Road adjacent to the subdivision site as a future Minor Arterial road.

Peacockes Road north of the East-West Arterial

40. As part of the now confirmed HIF project (and in particular the Southern Links roading proposals) it is possible that the section of Peacockes Road between the future river bridge link and the East-West Arterial could be upgraded by HCC to a minor arterial road standard in time to provide access to the early stages of the Amberfield subdivision. This could avoid the need for the applicant to upgrade the road as part of the subdivision but the timeframe for the HIF works is not guaranteed.
41. Therefore, if the HIF project is substantially delayed there is a possibility that the applicant could be required to upgrade this northern section of Peacockes Road (as well as the southern section) to a collector road standard.
42. As part of the Southern Links roading proposals, a preliminary design for a minor arterial road has been prepared for the road controlling authorities by Aecom covering the section of Peacockes Road between the proposed new river bridge link and the East-West Arterial. The purpose of this design was to identify a roading designation for its construction. The designation provides for land acquisition to accommodate significant construction cuts on the west side of Peacockes Road opposite the northern sector of the subdivision site and generally smaller fill batters on the Weston Lea property along the east side.
43. To avoid an even larger cut on the west side of Peacockes Road, the Aecom design moved the alignment of the upgraded road substantially to the east with the road extending approximately 18m beyond the existing road reserve. This realignment, plus the areas required for fill batters, resulted in a designation over an extended area of land owned by the Adare Company Limited (a related company of the applicant, Weston Lea Limited).

44. As part of planning for the Amberfield subdivision application the original design for the upgrading of Peacockes Road to a Minor Arterial standard was refined by TDG to better match the existing land form, to reduce construction costs and to reduce the amount of land required for earthworks.
45. As discussed with the HCC at the time and since then through caucusing, a revised cross-section is also proposed for the minor arterial replacing the swales with kerb and channel with alternating bio-retention stormwater facilities and recessed kerbside car parking but retaining the same road formation width. Off-road shared pedestrian/cyclist paths are also proposed on both sides.
46. The revised design proposed as part of the application also enables the flexibility to upgrade the existing Peacockes Road to a collector road standard in the interim (if HCC does not proceed with the HIF minor arterial) or to a minor arterial road directly.
47. If the HIF project were delayed and Peacockes Road were upgraded to a collector road by Weston Lea, this could involve the incremental upgrading of sections of the road from the north at the same time as the adjacent stages of the subdivision are developed. This would ensure that the respective traffic access effects which are dominated by traffic to/from the north are mitigated effectively.
48. The staged upgrading of Peacockes Road would require firstly a transition between the existing road north of the subdivision and the upgraded section of road at the northern most intersection providing access to the subdivision (E1) as shown in Figure 17 of the ITA. Each subsequent section of upgrading would extend the collector road standard to the south to the next subdivision stage's access intersection. As with the first section at E1, there would be a transition on the south side of that intersection linking into the existing road.
49. The earthworks for the subdivision have been designed so that levels at the proposed new road boundary will match the equivalent levels of the revised road design removing the need for all of the current designation being required for the road formation. This will also enable the flexibility for the subdivision access roads to be connected to Peacockes Road if it were initially upgraded to a collector road standard with minimal change required when the HIF minor arterial upgrade occurs.
50. For the collector road upgrade the kerb and channel, stormwater detention facilities and car parking bays on the eastern side of the road would be constructed on the

same horizontal and vertical alignments as the minor arterial design so that it could be easily upgraded to the future minor arterial. The shared path and berms proposed for the eastern side could also be constructed to the minor arterial design to avoid later, albeit minor, changes.

51. A collector road would include a 9m wide carriageway rather than the 11m wide carriageway of the minor arterial. If Weston Lea did proceed with the collector upgrade in advance of HCC's works, the wider carriageway could be constructed if the HIF upgrading were scheduled to closely follow the collector road upgrading required for the subdivision.
52. In my opinion it would only be necessary for kerb and channel, bus bays, lighting and a berm with appropriate stormwater provision (swale) to be provided on the western side whether the minor arterial road or the collector road is constructed initially. This would avoid needing to reconstruct kerbside parking, detention facilities and shared path on the west side when the locations of future side roads and accesses on that side of Peacockes Road have been determined.

Peacockes Road south of the East-West Arterial

53. Council staff have advised that the rationale for the section of Peacockes Road south of the East-West Arterial being classified a minor arterial in the District Plan is to future proof for the long term possibility that it might be needed as a link to the Waipa District land inside the Southern Links Bypass if it were to be developed for urban use. However, this section of Peacockes Road is predicted by the Waikato Regional Transport Model (**WRTM**) to carry traffic volumes that do not justify the construction of a minor arterial for a very long time.
54. Therefore, it is proposed that when the adjacent sections of the Amberfield subdivision are developed south of the East-West Arterial, the existing Peacockes Road will be upgraded to a collector road standard only. To facilitate this upgrade, land will be vested with Council to allow the existing road reserve to be widened by 3m on the eastern side to the 23m required for a collector road.
55. Given that this road is expected to operate in this format for many years, the preliminary design for the upgrade of the existing road produced as part of the subdivision design includes improvements to the vertical alignment to ensure a high standard facility.

56. The extent of the reconstruction on the west side of the road will be the same as proposed for the northern section with the permanent stormwater facilities, parking bays and path omitted until adjacent development occurs and access facilities are constructed. If upgrading to minor arterial standard of the southern section of Peacockes Road is required in the future it would still be possible by widening the road reserve to the west.

TRAFFIC ACCESS

57. Peacockes Road north of the subdivision will provide the main access route to the Amberfield site. It is currently a rural standard road with no footpaths and no cycle lanes.
58. The majority of the traffic using Peacockes Road to/from the north will use Norrie Street and Bader Street to access Normandy Avenue (SH3) via the traffic signalised intersection of Normandy Avenue/Bader Street. The Council is proposing to implement safety and traffic improvements for the Peacockes Road – Norrie Street – Bader Street route including the construction of new cycling facilities, revised pedestrian crossings and traffic calming in the vicinity of the local shops on Bader Street and possibly a roundabout at the Waterford Road/Peacockes Road/Plateau Drive intersection. These improvements are scheduled to be implemented within the next two years.
59. Other traffic will use the Waterford Road-Dixon Road route for access to the Fitzroy area and to local facilities along Ohaupo Road including schools. Since the earlier assessment undertaken for the ITA, it has been confirmed by the road controlling authorities that a new roundabout will be constructed on Ohaupo Road (SH3) south of Dixon Road within the next two years. The Council is also proposing to construct a short length of the East-West Arterial from the roundabout and a link between the East-West Arterial and Dixon Road to make it easier for drivers using the Dixon Road route to turn right off and onto SH3 at peak times.
60. A relatively small volume of traffic generated by the Amberfield subdivision will travel south along Peacockes Road to Raynes Road prior to the construction of the East-West Arterial. Most of this traffic will use Raynes Road to travel towards the airport and SH21. However, some traffic will travel the short distance along Raynes Road to turn left onto SH3.

61. Once the new HIF river bridge is completed much of the traffic generated by the Amberfield subdivision is expected to use the new routes provided by the bridge link including the convenient access to Wairere Drive and the Waikato Expressway.

TRAFFIC ASSESSMENT

62. The traffic effects assessment reported in the ITA was based on a significant transportation assessment using the Waikato Regional Transportation Model (**WRTM**) that I co-ordinated in 2016. That assessment of the proposed subdivision's traffic effects was based on the road network as it existed at that time. The Wairere Drive link extension to SH1 and the full Waikato Expressway were the only additional works included in the modelling of the projected traffic volumes on the future road network.
63. The assessment indicated that the existing network with the committed future roading projects outlined above and with the specific mitigation measures outlined in Chapter 8 of the ITA (and the next section of my evidence) would be able to accommodate most of the traffic generated by the Amberfield subdivision safely and efficiently without significant adverse effects.
64. Alternative traffic modelling was undertaken by both the Council and NZTA to inform their submissions using two different software packages. These modelling exercises both predicted higher traffic effects at the Normandy Avenue intersections with Bader Street and Lorne Street than were predicted in the ITA and presumably led to the road controlling authorities concluding that the effects should be monitored at various stages of the subdivision. HCC and NZTA both proposed that if suitable measures could not be implemented to mitigate any significantly adverse effects identified through monitoring then development would be halted until the new HIF bridge is completed.
65. I do not agree with the alternative modelling results because neither package is properly capable of modelling the complex interactions between the two intersections on Normandy Avenue. Further, the intersections interact with other intersections along Normandy Avenue and Lorne Street which affects traffic flow arrival patterns at the two intersections in question. Neither the HCC nor NZTA modelling included these effects.
66. Accordingly, I commissioned a microscopic simulation model that is able to take all of these matters into account. It indicated that the traffic effects of the subdivision

would be less adverse than those predicted by HCC/NZTA's modelling. It also indicated that the traffic signal settings at the Normandy Avenue intersections could be modified to more efficiently accommodate the future flows and mitigate the effects of traffic generated by the Amberfield subdivision.

67. There are several reasons for the traffic effects at Normandy Avenue being less than expected by the submitters.
 - (a) First, the traffic generation indicated for the subdivision by the official WRTM model is relatively low. In my opinion this is not surprising for an urban development area that will initially be separated from the existing main urban area of Hamilton. That is because residents in such areas plan their travel more carefully. This involves both ride-sharing and trip-chaining. The latter involves, for example, people rigorously undertaking more than one task on a single trip away from home.
 - (b) It is expected that traffic generation will also be moderated by facilities provided to encourage cycling particularly to the existing urban area and by the possible introduction of a bus service at an early stage of the subdivision development (although the traffic assessment has been done on the worst case scenario of there being no bus service).
 - (c) Development of the subdivision will commence at the northern end which is closest to the urban boundary. Accordingly, I would expect that the shared path proposed along the east side of the existing rural section of Peacockes Road between the subdivision and the urban road boundary will prove attractive to cyclists and commuter cyclists in particular. They will be able to connect with existing off-road paths that directly link Peacockes Road to the path along the river bank beside Cobham Drive to the city centre.
 - (d) I also note that the WRTM modelling was done on the basis of no commercial development at the Amberfield site. This is also a worst-case scenario because it results in more trips off site.
 - (e) Another reason the effects at Normandy Avenue are not predicted to be as adverse as some submitters might expect is because with the opening of the Waikato Expressway some traffic will divert away from SH3. For example, traffic currently using SH3 to access eastern and northern parts of Hamilton

as well as destinations further north, will divert to SH21 past the airport to SH1 and then onto to the Expressway which at least initially will have relatively low volumes and be free flowing. For these reasons traffic volumes on Normandy Avenue will be less that might otherwise be anticipated.

- (f) Further, as predicted by the WRTM model not all traffic generated by the Amberfield subdivision will be additional to the traffic currently utilising Normandy Avenue. This is due to a redistribution effect of dwelling locations and traffic. For example, it is predicted that some people living in areas further south along SH3 and working in Hamilton would move to the new development at Amberfield.
- (g) The new roundabout to be constructed on Ohaupo Road (SH3) south of Dixon Road was noted in the ITA but not included in the ITA modelling because it was not confirmed at the time that the modelling was undertaken. The new roundabout will enable people from the Peacockes Stage 1 Structure Plan area to get access to SH3 more easily reducing the amount of traffic that would otherwise use the Waterford Road-Peacockes Road-Norrie Street-Bader Street to access SH3. The new roundabout on SH3 will also make it easier for Amberfield traffic to access SH3 from the Waterford Road-Dixon Road route for travel to local retail and school destinations. Both of these consequences produce more capacity on Bader Street for traffic generated by the Amberfield subdivision and further reduce effects at Normandy Avenue.

- 68. Despite my opinion that the traffic effects associated with the Amberfield development will be less than predicted by HCC and NZTA, I expect that as the proposed development of the Amberfield subdivision proceeds the delays for vehicles at the Normandy Avenue intersections with Bader Street and Lorne Street will increase and that mitigation measures will be necessary.
- 69. The Council's roading improvement projects for the Bader Street-Norrie Street-Peacockes Road route are proposed as mitigation measures to enable further development of Stage 1A of the Structure Plan area beyond the 500 lot limits stipulated in Rule 3.4.6.1(i) of the District Plan. However, these measures which are proposed to be implemented by the Council in the near future will also help to mitigate potential amenity and safety effects along the route associated with the additional traffic generated by the Amberfield subdivision.

70. The traffic assessment of the proposed Amberfield subdivision indicates that the section of Peacockes Road adjacent to the subdivision need only be upgraded to a collector road to accommodate the traffic generated by the subdivision. Accordingly, as explained above Weston Lea require the option to upgrade the section of Peacockes Road north of the East-West Arterial to a collector road standard as an interim measure if the HIF project upgrading to a minor arterial is delayed significantly.
71. The WRTM modelling indicates that the section of Peacockes Road south of the East-West Arterial will not attract sufficient volumes of traffic to justify its upgrading to a minor arterial standard for a very long time. Accordingly, it is proposed that the section adjacent to the subdivision south of the East-West Arterial will only be upgraded to a collector road as part of the subdivision development.
72. I address construction traffic effects further below in response to matters raised in the Section 42A report as it was not a matter specifically addressed in the ITA.

MITIGATION MEASURES

73. There are two types of roading projects that will mitigate the traffic effects of the Amberfield subdivision. First there are future projects planned by the road controlling authorities which will improve the ambient road conditions to which the traffic generated by the subdivision will be added. The second type are mitigation measures proposed by Weston Lea.
74. The former roading projects include the construction of the Waikato Expressway and the Wairere Drive extension to SH1 by NZTA which were both included in the ITA and associated modelling.
75. Similarly, the Council's proposed improvements to the Peacockes Road-Norrie Street-Bader Street route, while technically mitigation for additional development in Stage 1, were included in the ITA because they will also mitigate the potentially adverse safety and amenity effects of the Amberfield subdivision traffic on the route.
76. The new roundabout to be constructed on Ohaupo Road (SH3) south of Dixon Road by the road controlling authorities may technically be required as mitigation for the effects of other development, but it will also mitigate the effects of traffic generated by the proposed Amberfield subdivision on the Bader Street route to Normandy Avenue. This is because it improves the alternative route for the traffic from the Peacockes Stage 1 areas using the Waterford Road – Peacockes Road – Norrie

Street - Bader Street route and increases the use of the Waterford Road-Dixon Road route by Amberfield traffic.

77. The road network upgrades associated with the HIF projects would enhance accessibility for the overall Peacocke area and significantly mitigate any adverse effects of Amberfield generated traffic on the existing transportation network.
78. However, the Amberfield subdivision application has been prepared and submitted on the basis of access being provided by the existing transportation network and the then committed future projects which at the time excluded the HIF works, with localised mitigation works. The applicant wishes to maintain this approach in case the current programme for implementing the HIF roading projects is delayed for whatever reason and the subdivision proceeds before the bridge is completed.
79. Accordingly, the second category of localised mitigation measures identified specifically for the Amberfield subdivision include the upgrading of the sections of Peacockes Road adjoining the site to an urban standard collector road at the same time as the adjacent stages of the subdivision are developed. This would include a 3m wide off-road shared path which will help mitigate road safety effects.
80. The existing rural section of Peacockes Road to the north of the subdivision is capable of accommodating all of the traffic that will be generated by the proposed subdivision safely and efficiently provided an off-road shared path is constructed along the eastern side of Peacockes Road to mitigate safety effects by separating pedestrians and cyclists from traffic on the existing carriageway. The temporary 2.5m wide shared path which would be constructed along the rural section of Peacockes Road between the current urban boundary and the subdivision will be retained in the interim prior to the HIF upgrades occurring.
81. In addition, it is proposed that a pedestrian/cyclist crossing/threshold will be provided at the urban boundary on Peacockes Road as part of mitigation measures associated with the Amberfield subdivision. This will calm traffic entering the urban area and provide an interface between existing footpaths and cyclist facilities and the shared pedestrian/cyclist path proposed to link the Amberfield subdivision with the urban area.
82. The second category of mitigation measures specifically identified for the Amberfield project also includes the proposal that has been identified through the ITA which

involves adding a northbound left turn lane at the Normandy Avenue/Lorne Street intersection to increase capacity and reduce delays at this critical intersection.

83. The recent simulation modelling has identified another mitigation option that would involve the traffic signal settings for the intersections along Normandy Avenue being modified to better accommodate the additional Amberfield traffic that has been predicted by the earlier WRTM modelling. In particular it is predicted that the cycle time could be reduced and the existing clearance phase (Phase B) removed to increase efficiency.
84. The potential for optimised traffic signal settings at the Normandy Avenue intersections to mitigate the effects of traffic generated by Amberfield, means that it is less likely that the mitigation measures involving adding a left turn lane on Normandy Avenue at the Lorne Street intersection would need to be implemented. However, it remains a possibility if monitoring of effects indicates that further mitigation is required for more stages of the subdivision to be constructed ahead of the completion of the HIF bridge.
85. The southern section of Peacockes Road is relatively hilly and has a number of relatively sharp bends. It is proposed that some minor safety improvement works are implemented along this section of road to mitigate both existing safety issues and any incremental effects that might be caused by the additional traffic generated by Amberfield. These improvements involve the addition of advisory speed signs and chevron signs on existing bends where these are not already installed.
86. Only a relatively small volume of traffic generated by the Amberfield subdivision will travel south along Peacockes Road to Raynes Road. The road controlling authorities are separately considering solutions to the existing road safety issues at the Raynes Road intersections with Peacockes Road and SH3. They do not consider that Weston Lea should be required to mitigate any incremental effects that might be caused by the minor additional traffic generated by Amberfield (refer to NZTA Submission Section 7.2).
87. It is proposed that provision should be made for a future bus route running along Peacockes Road. This route might be able to be justified to service the first stage of the subdivision and this will be discussed with the Regional Council as the subdivision develops. Providing a bus route will help mitigate traffic effects by reducing the traffic generated by the Amberfield subdivision.

88. A Construction Traffic Management Plan (**CTMP**) will be required to mitigate the effects of construction traffic on the existing road network. The amount of construction traffic will be minimised by the overall balance expected to be achieved between the subdivision's earthworks cut and fill.
89. On the other hand, it is now likely that there will be interaction between the construction traffic for the subdivision and the HIF projects. Accordingly, conditions of consent have been proposed that require full cooperation and coordination between the construction teams for the respective projects to develop a CTMP that mitigates the effects of both projects.
90. A Transportation Network Management Plan (**TNMP**) will also be required to ensure and demonstrate how the transportation networks associated with each stage of the subdivision will operate effectively and safely. This again could involve the coordination of the two projects to identify any mitigation measures needed to ensure that for all stages of the subdivision development safe and effective access is available at all times and a condition of consent is proposed accordingly.

TRANSPORTATION CONSENT CONDITIONS DISCUSSED IN CAUCUSING

Traffic Effects Monitoring

91. Despite the planned roading improvement projects and the proposed mitigation measures with their potential for relieving the effects of traffic generated by the Amberfield subdivision, I do not consider that it is possible to predict with certainty that delays at the intersections on Normandy Avenue will remain at acceptable levels through to the completion of the subdivision. Therefore, I support the adoption of a monitoring condition which requires the surveying of delays at the Bader Street and Lorne Street intersections annually to determine if traffic efficiency has been compromised and further mitigation measures are required.
92. The draft monitoring condition that was agreed through the transportation caucusing process, also included reviewing road safety and pedestrian accessibility at the Normandy Avenue intersections and along the Bader Street-Norrie Street-Peacockes Road corridor to the Waterford Street intersection.
93. It also included monitoring road safety at the Odette Street/Normandy Avenue intersection and along the section of Raynes Road between (and including) its intersections with Peacockes Road and Ohaupo Road (SH3).

94. It was proposed that monitoring should only commence “within three months of 224c certificates having been issued for 350 lots” at Amberfield. If monitoring then shows that the thresholds relating to efficiency, safety or accessibility are exceeded then effective mitigation has to be implemented or be approved for implementation within 12 months, before further lots can be developed.
95. This monitoring of effects will require the early establishment of existing or baseline traffic efficiency, pedestrian accessibility and road safety levels. This will then enable comparisons with levels identified through the annual monitoring to identify if unacceptable changes have occurred.
96. In the case of road safety this involves there being no increase from the baseline specific and expected crash rates. For pedestrian and cyclist crashes it is expected that there should continue to be zero crashes involving death and serious injury. If these criteria are not met, then mitigation will be required that specifically addresses the reasons for the crashes that have occurred. In my opinion the cause of any crashes would need to be directly related to traffic generated by the Amberfield subdivision before the applicant could be expected to be responsible for mitigation.
97. During caucusing I proposed that the efficiency threshold for delays on all the approaches to the Bader Street and Lorne Street intersections on Normandy Avenue should be 80 seconds per vehicle on average. This is consistent with the submission from NZTA. The desirable delay threshold specified in the District Plan for roads such as Bader Street and Lorne Street is also 80 seconds. However, the District Plan threshold for state highways such as Normandy Avenue (SH3) is 55 seconds per vehicle. In my opinion the higher threshold of 80 sections is more appropriate for the Normandy Avenue approaches in this case because:
- (a) delays at state highway intersections in the vicinity are already higher than 55 seconds;
 - (b) the section of SH3 south of Lorne Street is split between Normandy Avenue and Ohaupo Road;
 - (c) higher delays can be tolerated when it is known that they are temporary and are a consequence of necessary housing development.
98. My opinion on this point was supported by the transportation expert (Mr Lion-Cachet) who is engaged by both NZTA and HCC in their role as submitters (refer to paragraph 5.4 in Joint Statement of the Transportation Witnesses (**JSTW**)). However, it was not

supported by Mr Gray who is representing HCC as the consent authority. I note that the lower threshold of 55 seconds has been included in the draft conditions and the conditions proposed in the Section 42A report.

99. It is intended that if the annual monitoring indicates that the effects assessment thresholds are exceeded and no other effective mitigation measures can be implemented then the subdivision development would be halted until the new Waikato River bridge is open
100. The draft conditions agreed in caucusing indicated that more than 500 subdivision lots could be developed provided that a solution is “implemented and operational to mitigate the adverse effects of development on the SH3 Normandy Avenue/Bader Street/Lorne Street intersections.” Mr Alasdair Gray’s report included as part of the Section 42A Report indicates that in his opinion, 500 lots should be an absolute cap on the subdivision development until the HIF bridge is open and the conditions proposed by HCC could be interpreted to support that. I address the proposed conditions further in the later section with my responses to the Section 42A report.
101. I anticipate that monitoring would continue until either the subdivision is completed or the HIF bridge is opened. It was agreed in caucusing that the monitoring of traffic effects would not be required after the opening of the bridge. (refer to paragraph 4.4 of JSTW)

Construction Traffic

102. A condition was included in the agreed draft conditions produced in caucusing that specifies that a Construction Traffic Management Plan (**CTMP**) will be required to mitigate the effects of construction traffic on the existing road network. Because it is now likely that there will be interaction between the construction traffic for the subdivision and the HIF projects, the condition required full cooperation and coordination between the construction teams for the respective projects.

Network Management

103. Similarly, a condition requiring a Transportation Network Management Plan (**TNMP**) was also proposed to ensure and demonstrate that at each stage of the subdivision development the associated transportation networks will operate effectively and safely. This again could involve the coordination of the two projects to ensure that for all stages safe and effective access is available at all times. The proposed TNMP

condition was based on the equivalent condition relating to the Southern Links network management plan.

TRANSPORTATION ISSUES RAISED IN SUBMISSIONS

Effects on External Road Network

104. In this section of my evidence I have addressed the various submissions received on the Amberfield subdivision application concerned with external traffic effects. The submissions from NZTA and HCC both cover this matter but these submissions have been addressed separately (see paragraphs 124-126 and 127-141 respectively). This issue has been the subject of extensive caucusing undertaken with NZTA and HCC transportation witnesses.
105. The other submissions which refer to the wider traffic effects of the subdivision include: submission No. 2 - Christopher James Hibbard, submission No. 3 – Scott Craig Robuson, submission No. 5 – Jenna Marsden, submission No 8 – Jennifer Helen Cumpstone, submission No. 10 – Janis Winifred Phillips, submission No. 14 – Catherine White, submission No. 26 – Neil and Carolyn Edwards, submission No. 35 – Alison Keehan, submission No. 39 – Diane Kay June, submission No. 46 – Sean McConnell, submission No. 51 – Alan Francis Westbrook and submission No. 55 – Selwyn June.
106. The wider traffic effects matters raised by these submissions are generally addressed by the earlier section in my evidence relating to the traffic assessment and the later sections dealing with the NZTA and HCC submissions. Accordingly, I have not separately addressed the wider network effects raised in these submissions further.

Normandy Avenue / Lorne Street Intersection Mitigation Proposal

107. Submission No. 12 by Peter H Bos opposes the possible mitigation proposal to add a left turn lane on the Normandy Avenue northbound approach at its intersection with Lorne Street. The intent of this proposal is to reduce delays along Normandy Avenue that are expected to increase as the Amberfield subdivision development progresses. It is only proposed to implement this mitigation work if the delays reach a defined level (80 seconds). It is expected that this level of delay will not be reached if, as expected, the new Waikato river bridge associated with the extension of Wairere Drive is completed prior to substantial development of the subdivision.

108. Mr Bos' concern is that the addition of the left turn lane could affect the "important walking and cycle link/route to hospital campus." He suggests that there needs to be a shared-use path and on-road cycle lanes on Normandy Avenue and along Lorne Street. The proposed mitigation works for Normandy Avenue do include an on-road cycle lane and it may be possible to provide a shared path in the vicinity as well.
109. However, the wider cycling and pedestrian facilities that Mr Bos has suggested are not directly related to the potential effects associated with the Amberfield subdivision. Accordingly, the facilities are not required mitigation measures and would need to be implemented as a broader City Council or NZTA improvement proposal. Similarly, Mr Bos goes on to propose (and support/recommend changes) to the proposals along Bader Street - Norrie Street – Peacockes Road that are proposed by the Council and not by Weston Lea Limited.
110. He also suggests the addition of a shared use path on the east side of Peacockes Road connecting with the proposed subdivision. That is what is proposed for Peacockes Road as part of the subdivision proposal. In the interim (prior to the upgrading proposed under the HIF project) a 2.5m wide shared path would be provided along the rural section of Peacockes Road north of the subdivision. This would be replaced with a permanent 3m wide facility when the full upgrading of Peacockes Road is completed under the HIF project.

Peacockes Road Rural Section

111. In Submission 8 Jennifer Cumpstone also expresses concern regarding the use of Peacockes Road by trucks. The concern is that the existing road is too narrow and "falling apart". The existing rural section of Peacockes Road adjacent to the subdivision will be completely reconstructed and widened significantly as the related development stages proceed. In the interim before the remaining section of Peacockes Road is upgraded as part of the Southern Links and HIF projects, some trucks associated with construction of the Amberfield subdivision will be required to use the existing sections of Peacockes Road. As is addressed in Mr O'Callaghan's evidence the number of trucks associated with construction will not be large because the subdivision earthworks have been designed such that cut and fill is in balance and there will be no need for major import or export of material associated with the earthworks. However, Amberfield will be responsible for any interim repairs required

to Peacockes Road due to the wear and tear from trucks associated with the construction.

112. This concern is also expressed by Neil and Carolyn Edwards in Submission 26. In terms of amenity this submission expresses concern regarding the traffic effects of the subdivision on Peacockes Road summarising their concerns with the statement “we will no longer be able to walk the dog along Peacockes Road.” In fact the mitigation proposals associated with Amberfield include the provision of a shared path along the east side of Peacockes Road linking the subdivision with the existing urban area. Currently there are no footpaths along this section of Peacockes Road and walking along Peacockes Road currently would either involve using the grass berm or the road carriageway. The net effect of the mitigation proposal in this regard is seen as positive.
113. I note that Submission 35 from Alison Keehan supports the provision of this shared path.

Public Transport

114. In Submission 46 Sean McConnell refers to proposals to provide for bus routes terminating in the Amberfield subdivision. The submission is correct in that “the developers had neither the authority nor responsibility to see such a concept to fruition.” However, the proposal has been discussed with the Regional Council who are responsible for authorising bus routes. The Regional Council indicated a desire to provide a bus service as soon as possible. As outlined above, WRC requirements for providing bus routes for the initial subdivision north of the East-West Arterial and for the full subdivision to the south have been accommodated within the design of the subdivision.

Construction Traffic

115. Submission 51 from Allan Westbrook specifically addresses the safety effects of heavy vehicles associated with construction of the subdivision. It correctly identifies that access would need to be either via Bader Street, Dixon Road or Raynes Road. Firstly, I reiterate that the subdivision construction is not expected to generate excessively large volumes of heavy vehicles. Concern is expressed about the use of Bader Street because of the number of young families living along that street. I note

that the Council has a proposal to improve pedestrian/cycle facilities along this route and also to provide traffic calming measures in the next two years.

116. Nevertheless, it would be possible for construction traffic to use Dixon Road (or Raynes Road) particularly given that it is proposed to build a new roundabout on Ohaupo Road (SH3) immediately south of Dixon Road with a short section of the proposed east/west arterial and a link to Dixon Road. This will enable traffic to more easily turn right onto and off SH3.
117. I further note that the construction of the HIF projects including the new bridge across the Waikato River will also require construction traffic access from SH3. As with the Amberfield subdivision, such temporary inconvenience is necessary to achieve the future benefits of new infrastructure on the one hand and new residential development on the other. In the long term all of these routes will benefit from reduced traffic volume as much of the traffic using Bader Street and Dixon Street in particular will be able to use the new river bridge and/or the new east/west arterial.
118. Submission 51 made by Alan Westbrook also refers to concerns regarding the narrowness of the width of Peacockes Road currently. The submission refers to the fact there are no footpaths or cycle lanes and no centrelines in some areas and “many blind and dangerous type corners for heavy vehicles”. I note that the Amberfield mitigation measures propose the addition of chevron signs and advisory speed signs for some of the bends referred to in this submission.
119. This submission, as with others, refers to delaying the Amberfield subdivision until the HIF roading projects and the new river bridge in particular are completed. This is not practical because the HIF project could be delayed or abandoned for some reason and could therefore indefinitely delay the subdivision. Further, in my opinion there is no transportation imperative against starting the subdivision development ahead of the HIF projects because the monitoring condition will guard against significant adverse traffic effects occurring.
120. Submission 55 from Selwyn June refers in particular to the traffic forecast used for the assessment of effects being “out of date”. While the traffic analysis was based on traffic counts recorded in 2016, the actual analysis of effects was conducted using traffic predictions derived from official WRTM traffic forecasts for 2021. These forecasts were based on approved land use projections which do include development that is occurring in the Dixon Street area (Peacockes Stage 1A). I

further note that both the City Council and NZTA approved the use of these traffic forecasts for the analysis of traffic effects.

Waipa District Council Submission

121. Waipa District Council (**WDC**) (Submission 63) expressed concern regarding the safety and efficiency effects of the traffic generated by the Amberfield subdivision on the SH3 intersections with Raynes Road and Dixon Road. As noted earlier in my evidence, a new roundabout is proposed on SH3 south of Dixon Road that will be operational before any traffic is generated by the proposed subdivision. This will resolve any concerns about the existing SH3/Dixon Road intersection.
122. NZTA and HCC have agreed in caucusing that the Raynes Road intersection is to be investigated separately to resolve current issues and that the minor amount of traffic that would be added from Amberfield would not cause an effect that would need to be independently mitigated.
123. WDC also note that Amberfield construction traffic could use SH3 and Raynes Road. WDC would prefer that this traffic does not use the Waipa section of Raynes Road which apparently only has “light duty pavements.” I understand that this matter could be addressed during the preparation of the CTMP and that heavy vehicles could be restricted from using that section of Raynes Road if that is considered appropriate.

NZTA Submission

124. The main aspect of the NZTA submission (submission 70) is the need for a traffic effects monitoring condition and that has been agreed through the transportation caucusing. In its submission in support of the subdivision NZTA suggested introducing monitoring after 100 lots have been developed. This was based on some additional modelling which, while better than the Sidra modelling used for the ITA and by HCC, still included considerable uncertainty.
125. During the caucusing NZTA’s expert agreed that the introduction of monitoring could be delayed until 350 lots have been developed. NZTA also submitted that the acceptable delay threshold for the Normandy Avenue intersections with Bader Street and Lorne Street would be “80 seconds on any approach.” I agree that this threshold value should be used for all approaches.

126. The NZTA submission notes the existing issues at the SH3/Raynes Road intersection and planned investigations. It records that the subdivision would have “fairly minor” effects on the intersection and that “it would not be reasonable to require Amberfield to mitigate them.”

HCC Submission (Submission 65)

127. The first transport related item in the HCC submission (Item 37 of the submission) refers to the need for all subdivision road corridor widths and layouts to be acceptable to all trunk utility providers. This matter was discussed during caucusing and it was agreed that I should outline the compliance with the minimum widths specified in the District Plan in my evidence (see paragraphs 21-29 above which address these). It was further agreed in caucusing that the utility issues and layouts, e.g. for wheelie bins, could be addressed during final design.
128. The applicant has agreed to discuss the provision of public transport infrastructure “from the establishment of the first dwellings” with HCC and WRC.
129. HCC have submitted that the shared path proposed along the river frontage should be 3m wide and be able to be integrated with Te Awa. The design has been undertaken on this basis.
130. Item 40 of the HCC submission refers to the staging of the subdivision residential development and the commercial area within the Amberfield subdivision. The road network has been designed with road corridors that provide links to the areas north and south of the subdivision site. Given development is expected to start from the northern boundary and Weston Lea’s related company Adare own the land to the south, I do not see any potential to “frustrate the development of adjacent land.” Similarly, the land on the west side of Peacockes Road could be developed at any time with appropriate upgrading of Peacockes Road.
131. Item 40 also refers to aligning the development of the commercial area with the development of the residential areas for transport efficiency reasons. The commercial area does not form part of the current application so I cannot comment other than to say that the traffic modelling did not include commercial development and the consequential reduction in traffic generation. However, if commercial development were to occur it would reduce the traffic effects that are to be monitored and increase the extent of residential development that could occur if the HIF project is delayed.

132. Item 41 of the submission refers to providing full sized road corridors and having a PDA to address the cost sharing of upgrades. I cannot comment on the PDA matter but I note that it is proposed that all internal subdivision roads have been “sized to service the full intended catchment.” As discussed in the section of my evidence relating to the upgrading of Peacockes Road, it is proposed that Peacockes Road be upgraded to at least a collector road standard which would accommodate the increased traffic volume resulting from full development of the subdivision.
133. In item 44 of the HCC submission, HCC sought that the applicant should upgrade the section of Peacockes Road adjacent to the subdivision to a minor arterial. HCC now accept that the section of the Peacockes Road south of the East-West Arterial could be upgraded to a collector road as part of the proposed subdivision (refer to paragraph 6.5a of JSTW). For the northern section the applicant wishes to retain the option to construct a collector road if the HIF upgrading to a minor arterial is not undertaken before the first stages of the subdivision development. It is proposed that the collector road design would be fully compatible with the later upgrading to a minor arterial at minimum cost.
134. Whatever general road standard is to be constructed for the upgrading of Peacockes Road, it will be necessary to only partially construct the western side of the road because the location of future side road intersections and driveways will not be known. Accordingly, as explained above the applicant proposes for the collector road upgrade that only kerb and channel, street lighting, bus stops and an interim stormwater swale should be constructed on the western side.
135. The HCC submission (Item 44) requires that a path, bus bays, “etc” are also provided on the western side. I interpret the “etc” to refer to car parking bays and stormwater detention facilities as proposed for the eastern side of the road. In my opinion it would not be appropriate to require these works on the western side of Peacockes Road because of the effect of future accesses and the cost inefficiency of the required modifications. Further the parking and the path would not be utilised until development occurs on the western side. Bus bays could be provided on the western side once the service requirements have been specified by HCC/WRC and the appropriate stop locations identified.
136. In Item 45 HCC requested a limit on the amount of development that should occur prior to the HIF bridge being open for operation. This concern regarding the traffic

effect on the existing road network has been allayed by the proposed monitoring condition of consent developed during caucusing that I have already addressed above.

137. Similarly, the concern regarding construction traffic management referred to in Item 46 has been allayed by the condition requiring an integrated CTMP.
138. Item 47 has been addressed by HCC itself preparing traffic improvement works for the Bader Street corridor.
139. The applicant accepts that the interim shared path proposed along the east side of Peacockes Road between the subdivision and the existing urban boundary will require Requiring Authority Approval as indicated in Item 48. However, it is not expected that the path would “need to be removed” by the applicant when the HIF upgrading of Peacockes Road commences because the construction will involve excavation of the area involved in any event and the provision of “new permanent strategic infrastructure.”
140. The applicant has minimised vested road corridors adjacent to reserves as requested by HCC in Item 49.
141. HCC’s experts have explained in caucusing that the submission (Item 50) regarding Peacockes Road south of the East-West Arterial being a minor arterial relates to the long-term requirements. As explained in paragraph 133 above, HCC accept that the southern section should be upgraded to a collector road as part of this subdivision while retaining the ability for further upgrading to a minor arterial at some stage in the future.

TRANSPORTATION ISSUES RAISED IN SECTION 42A REPORT

142. The transportation report produced by Alasdair Gray (Appendix F of the Section 42A report) raises many issues but concludes in paragraph 81 that “subject to appropriate conditions the adverse effects of the development can be managed to an acceptable level.” I address the more significant issues that have been raised in the following sections of my evidence.
143. I have reviewed the transportation related conditions of consent proposed by HCC in the Section 42A report. They are generally based around a set of draft conditions agreed through the transportation caucusing. Some minor changes have been

requested through the revised conditions presented with the evidence of Mr Serjeant. However, there are some conditions that require more significant changes in my opinion and those are outlined in the following sections of my evidence.

Road Cross-Sections

144. Concern is expressed in Mr Gray's transportation report (Paragraphs 12a, 22, 26, 70c and 73) about the road cross-sections proposed for the subdivision not necessarily being wide enough to accommodate utility services, stormwater treatment devices, refuse collection, other service vehicles and on-street parking. In Paragraphs 22 and 73 the need for specific conditions to address "potential disputes on standards" is raised in relation to road widths. However, no such conditions are included in the Section 42A report.
145. In any event, I note that the proposed road cross-sections all meet HCC standards as specified in the District Plan and have been supported by HCC staff (Appendix G (d) of the Section 42A report).
146. In Paragraph 70c it is suggested that "some stormwater treatment devices are wider than standard parking bays and intrude into carriageway clearances." This is not accurate. The devices are wider than the parking bays but the edge of the parking bays is defined by a dish channel which aligns with the edge of the devices. Therefore, they do not intrude into the carriageway.

Traffic Assessment

147. The Section 42A transportation report supports the use of the WRTM model to determine traffic generation, distribution and assignment. However it questions the use of an analysis year of 2021 suggesting a 10 year horizon would have been more suitable for analysis in the case of Amberfield. I do not agree because the main test using the model has been the effects of the development prior to the Southern Links or HIF project.
148. Other issues raised in relation to the uncertainty associated with modelling the effects of subdivision traffic at the Normandy Avenue intersections have been resolved through the introduction of the monitoring condition.

Traffic Monitoring Condition

149. The Section 42A report suggests wording of the traffic monitoring condition which is different and potentially inconsistent with the draft condition agreed during caucusing. Condition 16 in the Section 42A conditions is an amalgamation of paragraphs 31e and 31f from the JSTW draft conditions but with the insertion of the sentence at the end beginning with the words "This condition will be deemed to have been complied with..." This sentence could now be interpreted to mean that there will be an absolute cap on the subdivision development at 500 lots until after the bridge across the river is open.
150. My interpretation of the draft condition agreed in caucusing was that more than 500 lots could be developed before the bridge opening subject to "a solution being implemented and operational to mitigate the adverse effects of development to the satisfaction of the relevant road controlling authorities." It was on that basis that I agreed to the draft monitoring condition which I consider is more appropriate to that now proposed by HCC because an absolute cap is not necessary in circumstances where there is a condition requiring the monitoring of effects.
151. This preference is encapsulated in conditions 18 and 19 of the draft conditions proposed by Mr Serjeant in his evidence on behalf of the applicant. As an improvement to the previous conditions discussed in caucusing, the last sentence in condition 18 that implies a 500 lot cap has been deleted and a new condition 19 has been added which states:

Development beyond 500 lots may proceed irrespective of condition 17 above once the Hamilton Ring Road extension and bridge across the Waikato river are open to traffic.

A further condition 20 has also been added which I believe clarifies the status of the traffic monitoring:

Monitoring shall no longer be required once the subdivision has been completed or the bridge across the river is open to traffic.

152. I consider that these conditions are consistent with Item 4.4 of the JSTW which states "monitoring is not expected to be useful once the bridge over the Waikato River is operational."

153. This compares to the drafting of the proposed Section 42A condition which can be interpreted as meaning that only the 500 lot limit no longer applies after the bridge opens and that monitoring must be continued.
154. I note that the traffic monitoring threshold for the assessment of efficiency on the SH3 approaches at the Normandy Avenue intersections has been specified as 55 seconds average delay per vehicle in the Section 42A report conditions. I have outlined earlier in my evidence (Paragraph 107) that I consider that 80 seconds would be more appropriate and that this is supported by the road controlling authority, NZTA.

Passing Bay Condition

155. Condition 164 1(j) of the conditions of consent proposed by HCC in the Section 42A Report requires that the right of way (ROW) in Lot 1250 should include a passing bay. The ROW will provide access to more than 6 residential lots (8) and therefore under the District Plan Rule 25.14.4.1(h) it has been designed to have a 5.5m wide formation. Rule 25.14.4.1(j) requires a passing bay if the ROW is less than 5.5m wide and it is longer than 70m, or if there is not “unrestricted visibility along the entire length.” In this case the ROW is not less than 5.5m wide even though it is greater than 70m long (it is approximately 100m) and the visibility will not be significantly restricted. A passing bay would be unnecessary because the 5.5m width allows for safe two-way vehicle movements. In any event the rule could still be applied if the Council were concerned about visibility. Therefore, I recommend that the proposed condition is deleted.

Peacockes Road Upgrading

156. There is considerable confusion in the Section 42A report about the Weston Lea proposals for the upgrading of Peacockes Road and issues relating to the existing designation despite a series of discussions with HCC staff and it being raised in caucusing. The latter discussion was not recorded in the JSTW because it was not regarded as a transportation issue.
157. As noted previously in my evidence, Weston Lea proposes to upgrade Peacockes Road to a collector road standard in conjunction with the subdivision development if it has not already been upgraded to a minor arterial standard by the road controlling authority as part of the HIF works. Related conditions of consent are set out in Mr Serjeant’s evidence to reflect this.

158. In the main Section 42A report there is reference to the need for requiring authority approval for works being obtained ahead of the consent, but as noted in the transportation appendix (Paragraph 51), we were advised in caucusing that this would not be essential.
159. In Paragraph 58 of the main Section 42A report it is stated that "the applicant's proposed alignment for their collector road upgrade is not consistent with the requiring authorities current design for the arterial alignment." It was discussed with HCC at a very early stage of planning for the Amberfield subdivision, that the original design for upgrading Peacockes Road produced by Aecom which informed the designation, was somewhat idealistic and did not seek to minimise costs. It was intended as a worst case in terms of the designation definition.
160. Following the discussions with HCC staff and prior to the application being lodged, TDG staff (under my supervision) refined the design by altering the alignment of the northern bend to avoid land take on the west side and to better match the existing ground levels. The TDG design was based on a minor arterial cross-section that was very similar to the Aecom design except for using kerb and channel instead of swales. TDG used exactly the same centre line as Aecom for the straight section of Peacockes Road adjacent to the northern section of the subdivision.
161. TDG then developed a collector road option from the arterial design retaining exactly the same horizontal and vertical alignment for the eastern kerb to minimise costs for the later upgrade to a minor arterial. Accordingly, I do not consider it is correct to say the collector road design is "inconsistent" with the minor arterial design, even if HCC decided to stay with the Aecom "designation" design. That would only require different collector road design levels (and reverting to swales which HCC agreed should change because of the proposed urban environment), but it would not change the consistency with the arterial road. It would also not change the issues raised by Mr Gray.
162. Paragraph 49 of Mr Gray's report states the "subdivision layout ... matches the design of a collector road upgrade that does not align with the HCC design that informed the designation." The subdivision layout was not designed to match the collector road. It matches the TDG minor arterial alignment which is virtually the same as the Aecom design except it is based on the subdivision ground levels matching the design levels

at the road boundary. The subdivision levels could be altered to match the Aecom design road levels if necessary

163. Matching the road and subdivision levels removes the need for the designation area beyond the road boundary and provides the opportunity for development within the designation. Mr Gray acknowledges this in his Paragraph 50 stating that such development "has been agreed between HCC and the applicant."
164. In Paragraph 51 his report states "if HCC's preferred minor arterial alignment differs significantly from the TDG collector road design there may be.... an extremely wide road corridor... a need to change the subdivision layout pressure on HCC to alter their design to match the collector." As noted above, the collector road design would be altered to match whatever minor arterial design HCC choose and so there would not be significant differences.
165. In his Figure 3 Mr Gray indicates that the road to vest on the east side of Peacockes Road is "expected to be 9m. Shown as 17.9m." He does not explain the basis of his expectation in the text but I assume it is based on the existing 20m road reserve width and the proposed 29m minor arterial road reserve width (not collector road width). The road to vest on the east side could only be 9m if the western boundary of the minor arterial was on the same alignment as the western boundary of the existing road.
166. As I noted before, the TDG design kept the Aecom centreline to avoid a reverse curve near the bend at the north end of the subdivision. This was questioned by HCC staff at an early stage but it was agreed that the TDG design was better even though it results in an "extremely wide road reserve" and "redundant space" within the existing road reserve on the west side. If the Aecom and TDG designs were both rejected and a new design were adopted for the HIF project with an alignment further to the west (possibly with a reverse curve) Weston Lea would modify the collector road design accordingly to maintain consistency. Despite not being required to vest as much land with such a design, the applicant supports the better design scheme without a reverse curve.
167. I would like to emphasise that the concerns raised in the Section 42A report regarding Peacockes Road only refer to the designation and the upgrading of the section north of the East-West Arterial. These concerns do not relate to the southern section of Peacockes Road which it has been agreed will be upgraded to a collector road in

parallel with the subdivision development but for which there is no existing designation.

Construction Traffic Management

168. The Section 42A transportation report suggests that the ITA did not adequately address construction traffic effects. The reason this was not addressed in the ITA was because of the uncertainty associated with access routes and the fact that resource consents of this nature typically contain a condition requiring the preparation of a CTMP in advance of construction commencing (but not in advance of the consent). In this case the number of heavy vehicle movements beyond the subdivision site will be limited because of the earthworks balance of cut to fill (which is described further in Mr O'Callaghan's evidence). These movements will also be restricted to collector roads and not concentrated at peak times. In addition, construction worker traffic will be travelling in the opposite direction to peak demands. Accordingly, the construction activity is not expected to create significant traffic movements (see Mr O'Callaghan's evidence) or related traffic effects (see Mr Gray's report paragraph 37). In any event the traffic monitoring required as a condition of consent will include the effects of construction traffic and so there is no need to undertake a particular assessment of construction traffic for the application.

Transportation Network Management

169. The Section 42A transportation report indicates that questions have been asked about the provision of facilities for public transport within the subdivision and comments that "no useful response" was received from me on behalf of the applicant. I have advised consistently including during caucusing, that the applicant would be happy to make provision to accommodate facilities for buses as soon as a service is provided. This would initially involve temporary bus stop and terminus facilities that would need to be altered as new stages are developed and until a suitable road loop is available such as shown in the ITA.
170. I note that the TNMP condition included in the Section 42A report requires the applicant to have "consideration of staged bus service infrastructure." The applicant supports this condition because a bus service provides an alternative mode for residents and helps to reduce traffic generated by the subdivision.

CONCLUSION

171. Having considered the transportation elements of the infrastructure identified for the proposed subdivision, of the wider access facilities and of the environmental effects, I conclude that the subdivision proposal includes networks for traffic, cyclist and pedestrian facilities that will ensure convenient and safe accessibility, connectivity and amenity. Furthermore I am satisfied that the successful integration of the internal subdivision networks with the adjacent sections of Peacockes Road will be assured by the latter's upgrading to either a minor arterial (if the Council proceeds with its planned works) or collector road standard by the applicant if the Council works have not proceeded.
172. I have concluded that the subdivision with some mitigation measures to the existing networks, will be provided with safe and efficient transportation links to adjacent areas and the wider networks during the various stages of development. However, I acknowledge the concern expressed by submitters, including the road controlling authorities, that unacceptable effects at the Normandy Avenue intersections with Bader Street and Lorne Street and along the Bader Street corridor could occur after substantial construction of the subdivision.
173. While I have identified improvements that could be implemented to mitigate this effect, I have agreed with the road controlling authorities' expert in caucusing that a monitoring condition of consent should be included to allay the concerns regarding the subdivision's traffic effects. If the monitoring identifies unacceptable effects that cannot be mitigated then the subdivision development would be halted until the new HIF river bridge is completed.
174. In my opinion with the measures proposed to mitigate adverse effects and the transportation related conditions proposed to monitor efficiency, safety and accessibility effects as the subdivision is developed, there are no transportation reasons why the Amberfield subdivision application for resource consents should not be granted.

Dated this 12th day of April 2019



Anthony Penny

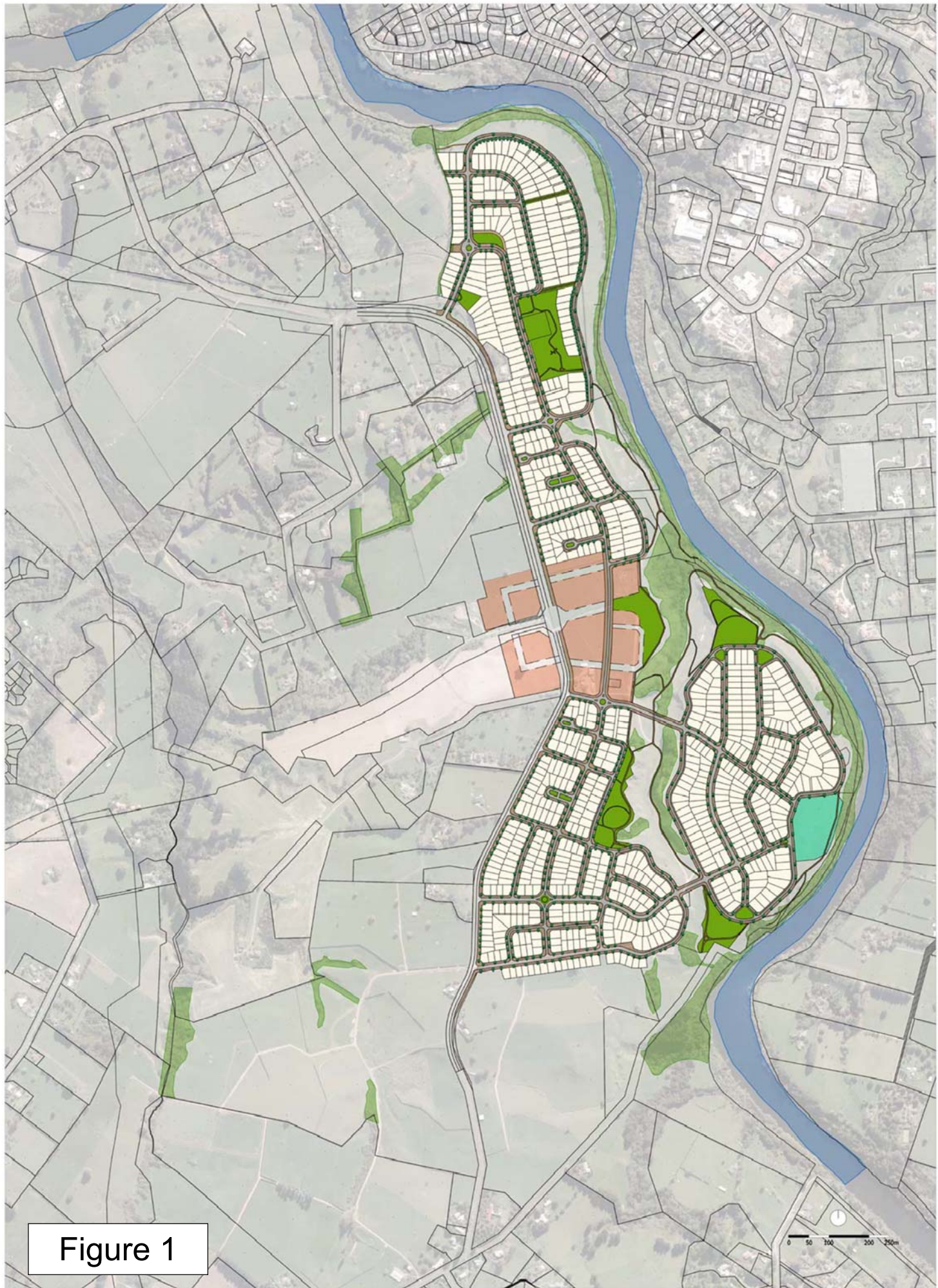
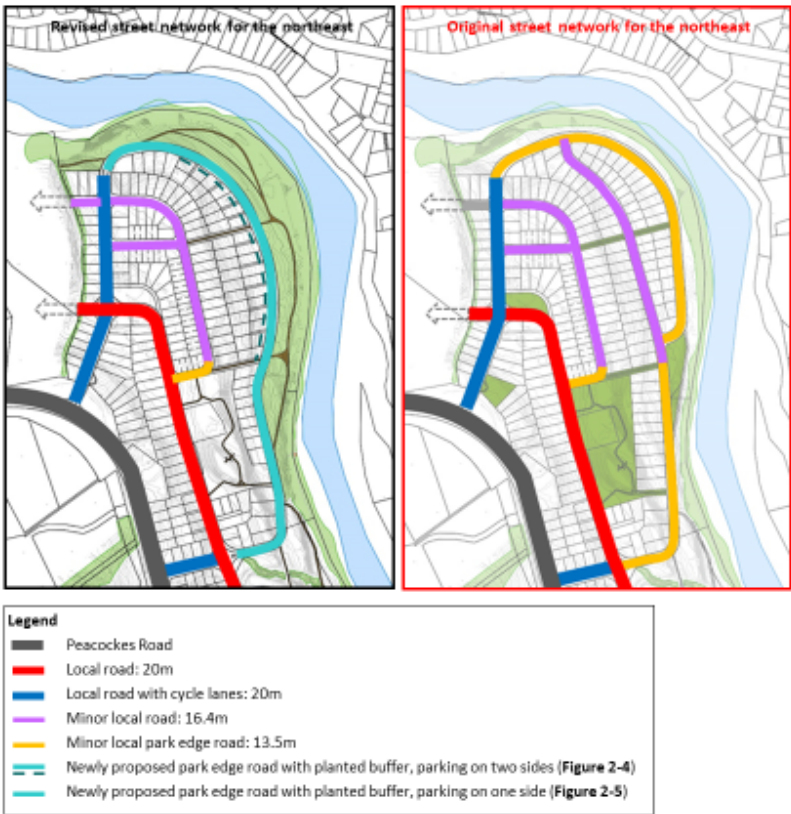


Figure 1

Figure 2



Figures 2-4 and 2-5

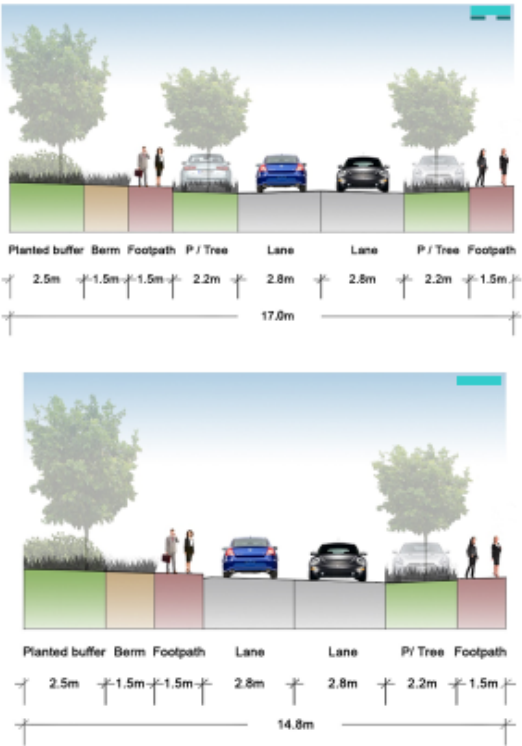
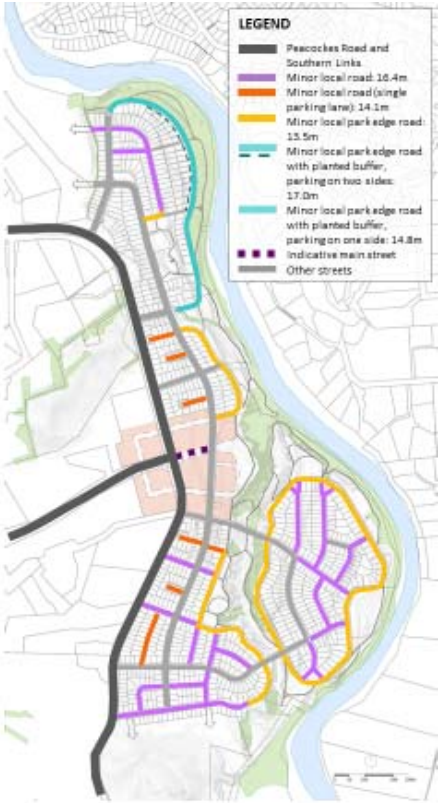


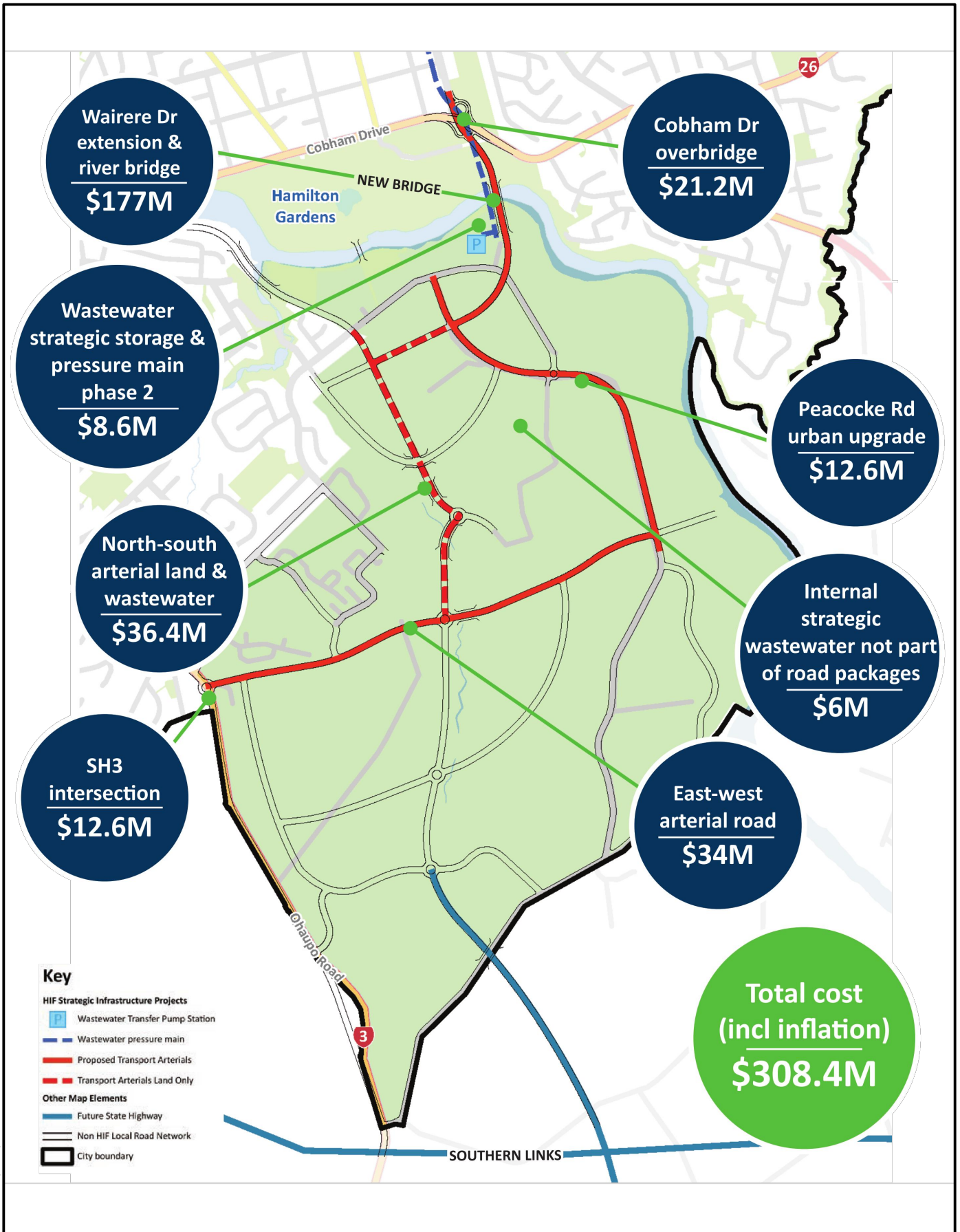
Figure 3-1



Figure 3-2



Wednesday, May 9, 2018 12:02:58 PM 0 20mm @ A3





REVISION	DATE	DESCRIPTION

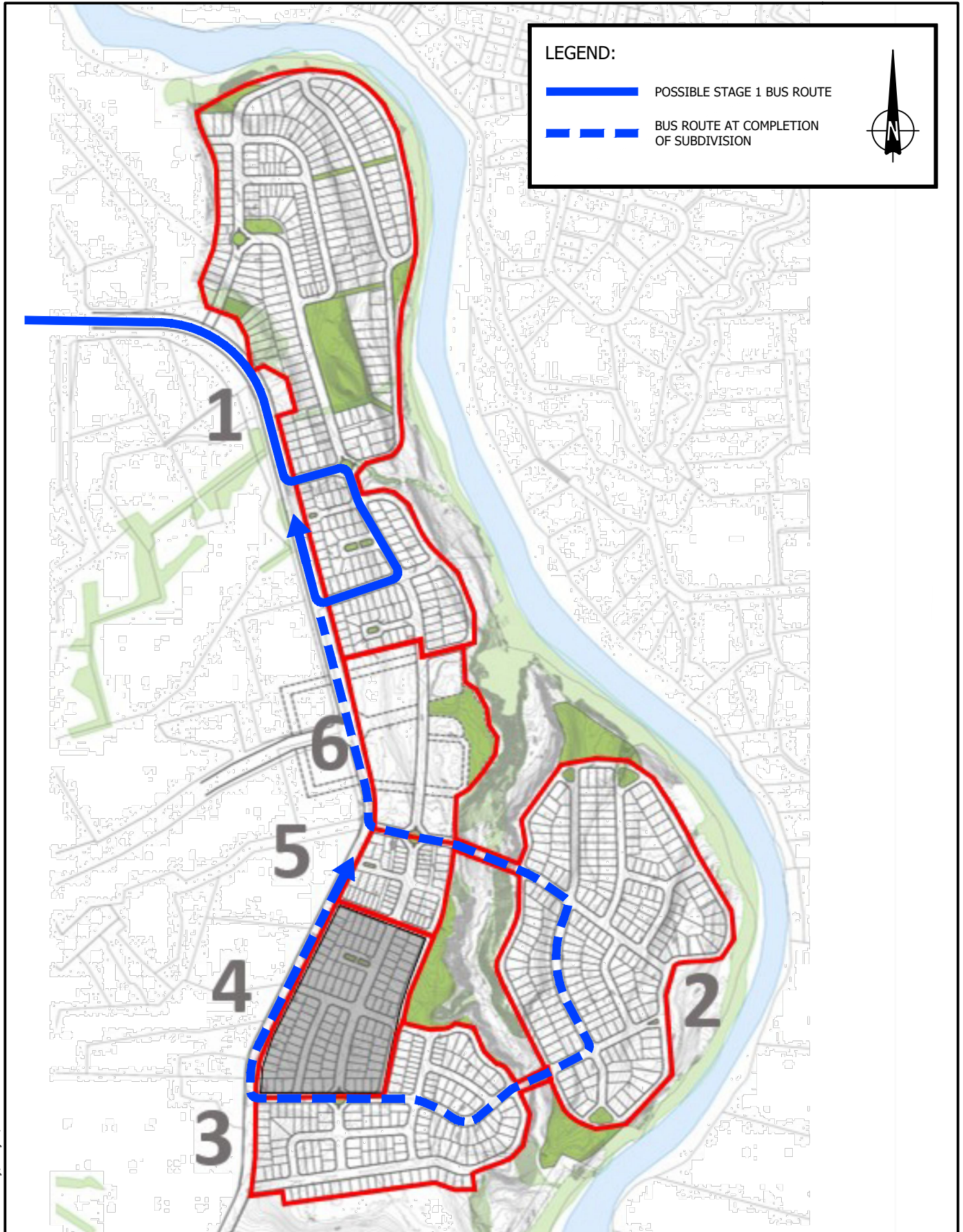
WESTON LEA LTD - AMBERFIELD SUBDIVISION

Initial Access Intersection - Peacockes Road

DRAWN: MP
 DATE: 09/05/2018
 SCALE: 1:1000 @ A3
 DWG NO:13646N5B



Wednesday, May 9, 2018 12:07:11 PM 0 20mm @ A3



WESTON LEA LTD - AMBERFIELD SUBDIVISION

BUS ROUTES



24

SCALE: NTS