

DISTRICT PLAN TEXT AMENDMENTS

KEY:

1. Text Amendments as Notified by Council and included in Proposed Plan Change 14

For the purposes of this plan change any unchanged text is shown as normal text or in **bold**, any text proposed to be added by the plan change as notified is shown as **bold underlined** and text to be deleted as ~~**bold strikethrough**~~.

Text in **green** font identifies existing terms defined in *Chapter 2 – Definitions*.

Where the proposed plan change contains a term defined in *Chapter 2 – Definitions*, the term is shown as **bold underlined text in green** and the wording to be deleted is shown as ~~**bold strikethrough in green**~~. New definitions in Chapter 2 and within a provision (including a rule) is shown as **bold green text underlined in black**.

Text in **blue** font indicates existing links to other provisions in the District Plan and/or external documents. These will have pop-ups and links, respectively, in the on-line Christchurch District Plan. Where the proposed plan change contains a new link, it is shown as **bold underlined text in blue**. Where a link is proposed to be deleted, it is shown as ~~**bold strikethrough in blue**~~.

2. Text as Recommended in s42A Reports

Text as recommended to be added within s42A reports is shown as **purple bolded and underlined**.

Text as recommended to be deleted within s42A reports is shown as ~~**purple bolded strikethrough**~~.

3. Text Amendments from Expert Conferencing/Joint Witness Statements

Text in **dark orange** font is recommended additional text from expert conferencing/joint witness statements.

Text in ~~**dark orange strikethrough**~~ is recommended deleted text from expert conferencing/joint witness statements.

4. Additional Text Amendments to s42A Reports in Response to Matters Raised During Hearings

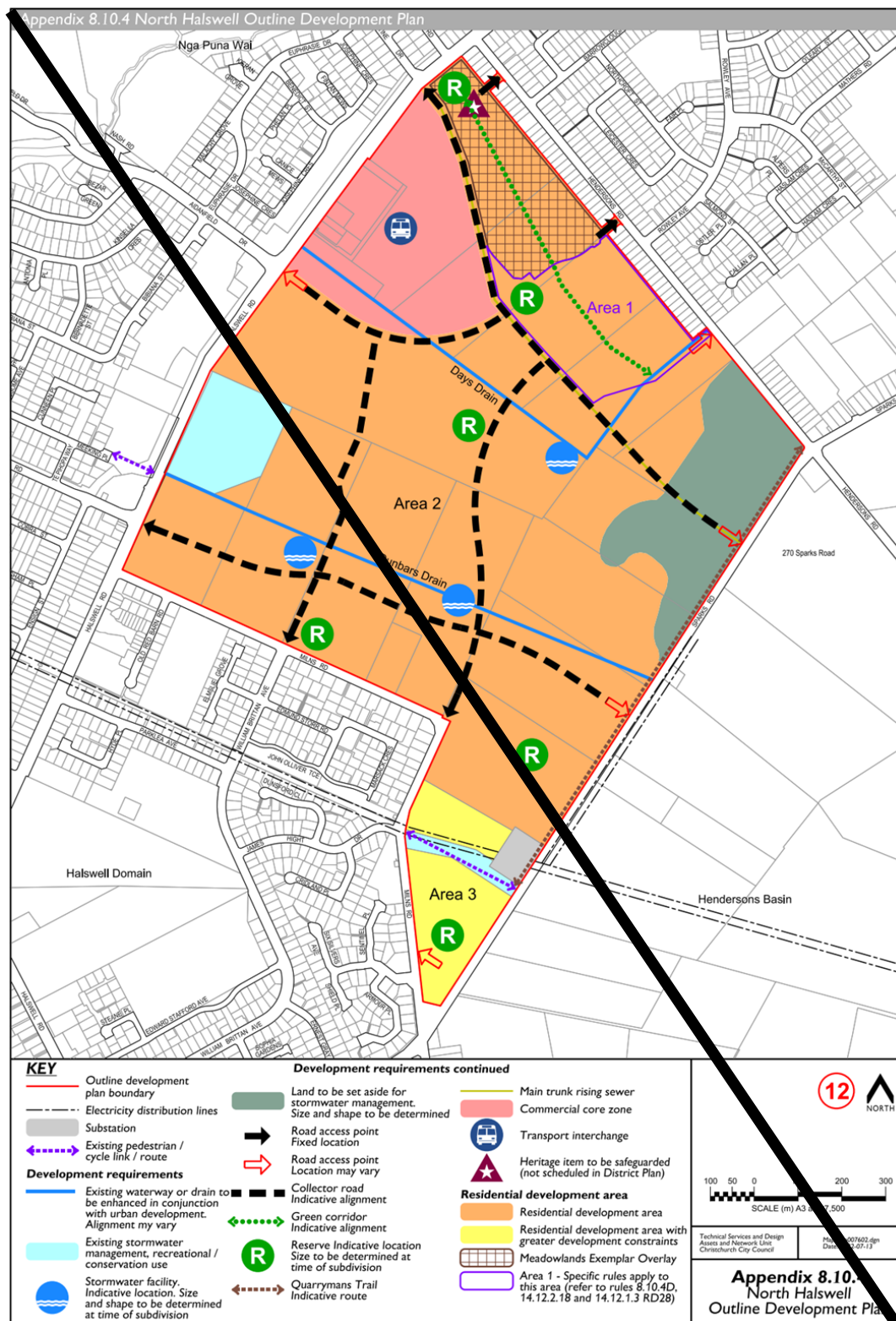
Text in **bold dark orange underlined** indicates text recommended to be added.

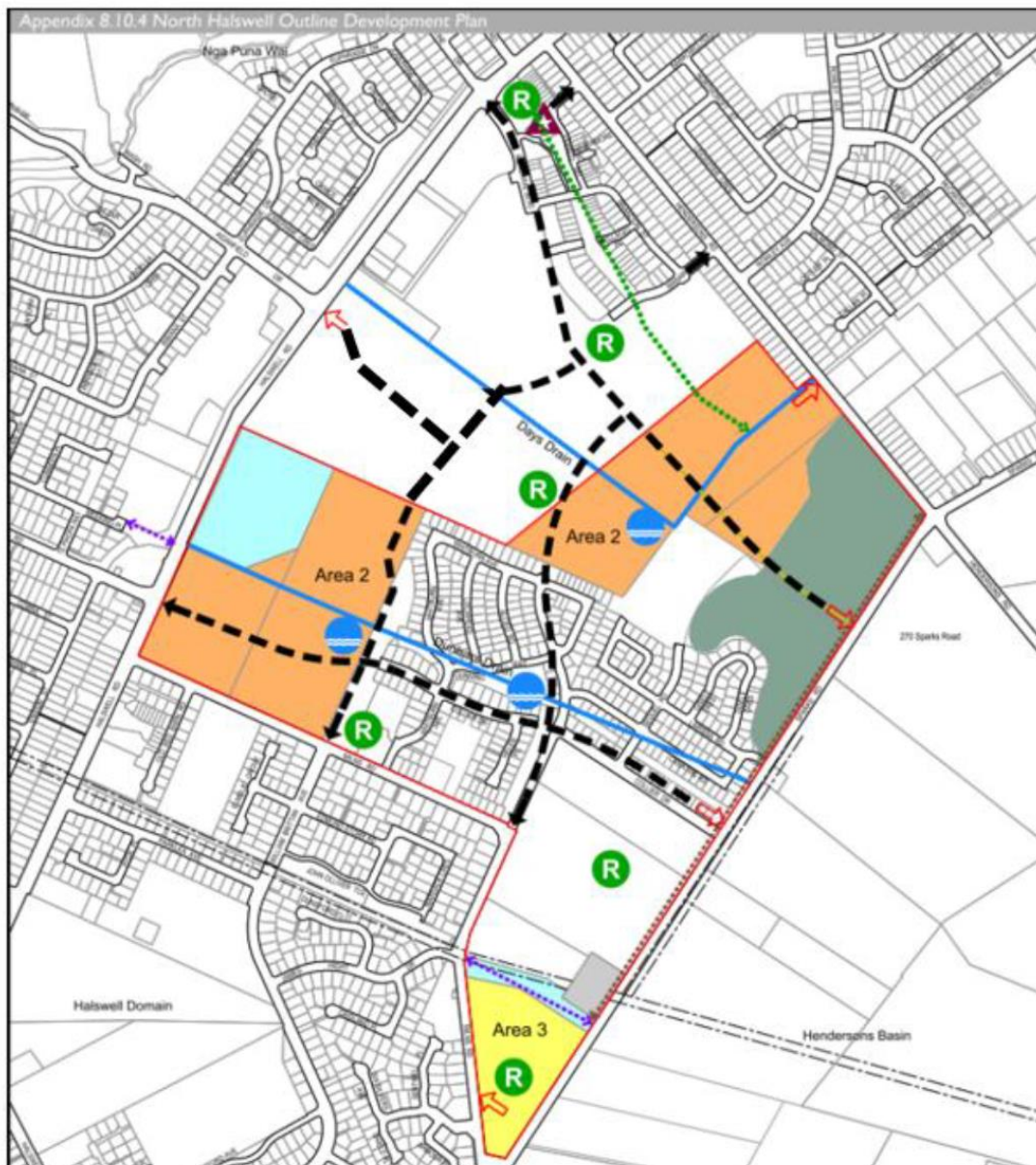
Text in ~~**bold dark orange strikethrough**~~ indicates text recommended to be deleted.

Text in **bold orange text underlined in black** indicates text that was proposed to be deleted in the s42A report but is now recommended to be reinstated.

8.10 Appendices

Appendix 8.10.4 — North Halswell Outline Development Plan





8.10.4.A CONTEXT

- a. North Halswell ~~Future Urban Zone new neighbourhood~~ is located between the established settlements of Hillmorton and Halswell and immediately opposite the newer neighbourhoods of Aidanfield and Milns Estate. The extensive Hendersons Basin ponding area lies to the east. Nga Puna Wai Reserve and Sports Hub is located to the North West and Halswell Domain to the south. Views are afforded across Hendersons Basin to the Port Hills. Two watercourses traverse the neighbourhood from west to east - Days Drain and Dunbars Drain. High voltage distribution lines cross the southern end of the neighbourhood and there is an associated substation fronting Sparks Road. A new **Key Activity Centre** ~~and an adjacent exemplar comprehensive housing development (Meadowlands)~~ **are is** planned at the northern end of the neighbourhood. This area has been farmed since the mid-19th Century. Spreydon Lodge, at the northern end of the neighbourhood dates back to 1856 and was the farmhouse for Spreydon Farm. It is now one of the oldest houses remaining in South West Christchurch. Harness racing stables were established here in the 1980's.

8.10.4.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is provided in the [South West Area Plan, Christchurch City Council, April 2009](#).

8.10.4.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in Rules [8.7.1 - 8.7.4](#) or the matters for discretion in [8.8](#). They are not requirements for the purposes of Rule [8.6.11\(a\)](#) or Rule [14.12.2.16](#).
 - i. This ~~development area new neighbourhood~~ is to be established around the **Key Activity Centre** (zoned ~~Commercial Core~~**Town centre**) proposed as a **mixed use** village centred focused around a main street. This will form a focus for the community.
 - ii. Enhancement of the existing waterways will provide recreational and amenity corridors aligned to provide views to Hendersons Basin and the Port Hills.
 - iii. Spreydon Lodge is to become a feature of the new neighbourhood, providing a link to the past.
 - iv. There are trees along field boundaries and in the southern corner of the neighbourhood, some of which may be suitable for retention.
 - v. Development is to have a good interface with adjacent **roads** and the **subdivision** design is to encourage a consistent interface treatment along the length of the **road**.
 - vi. Along Sparks Road and Halswell Road, where there is to be no direct **vehicle access** from properties, the neighbourhood is not to turn its back on the **road**. Instead appropriate treatment is required to complement the frontage of Hendersons Basin and Aidanfield and provide a high quality approach to the **Key Activity Centre**.

- vii. Where existing properties are to remain or where the boundary of the **Future Urban Zone RNN** abuts properties in the **Medium Density Residential Zone Residential Suburban Zone** (Hendersons Road), larger section sizes adjacent to them, and planting buffers may be required.
- viii. To help mitigate the impact of distribution lines, special interface treatments such as deeper **allotments** and **boundary** planting may be required for adjacent properties.
- ix. Residential development is to border the **Key Activity Centre**. It is to be of a design and scale which is compatible with retail development on one side and residential development on the other.
- x. Higher density is to be focused around the **Key Activity Centre**. Smaller pockets of higher density can be located throughout the area, this may be close to **collector roads** or where there are open outlooks.

8.10.4.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule 8.6.11(a) and Rule 14.12.2.16 are described below and shown on the accompanying plan.

1. INTEGRATION

- a. Properties are to front onto Milns Road.
- b. There are multiple land owners within this ODP area and a number of existing properties. **Subdivision** designs shall provide for good connectivity between different land ownership areas through **road**, open space and pedestrian and **cycle way** linkages. Vegetation to be planted around **electricity distribution lines** must be selected and/or managed to ensure that it will not result in that vegetation breaching the **Electricity (Hazards from Trees) Regulations 2003**.

2. DENSITY VARIATIONS

- a. The shape of Area 3, coupled with access limitations and its proximity to the substation and distribution lines may limit its development capacity. Rule 8.6.11(b) density exemptions apply to this constrained area.

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. Community (neighbourhood) parks throughout the neighbourhood and recreational routes along enhanced waterways, including the green corridor **identified on the ODP, through and in association with the Meadowlands Exemplar development.**
- b. ~~For the land within Area 1, t~~The green corridor identified on the ODP shall be fronted by residential lots on both sides of the corridor, with vehicular access from the rear only.

4. ACCESS AND TRANSPORT

- a. A **collector road** to run from the Halswell Road/Dunbars Road intersection to Sparks Road. This **road** to be capable of accommodating a bus route. This access will need to be integrated with the existing signals.

- b. A **collector road** to run from the Halswell Road/Augustine Drive intersection through the neighbourhood to Sparks Road or Hendersons Road, providing access to the **Key Activity Centre**. This intersection is to be signalised.
- c. A **collector road** to run northwards extending from William Brittan Drive.
- d. A **collector road** to run northwards extending from Milns Road.
- e. A third signalised connection with Halswell Road between Augustine Drive and Dunbars Road may be required to provide access to the **Key Activity Centre**.
- f. A fully interconnected **local road** network across the site that achieves a high level of **accessibility** and connectivity for people, including opportunities for walking, cycling and public transport and services and that provides connections with Hendersons Road and Milns Road and the new **collector roads**.
- g. A network of pedestrian/cyclist routes, including the major **cycle way** (Quarrymans Trail) within the **development area** ~~new neighbourhood~~ and linking the surrounding communities with each other, Halswell Domain, the **Key Activity Centre**, Nga Puna Wai Reserve and Sports Hub and Hendersons Basin.
- h. Extension of the Quarrymans Trail being a major **cycle way** to follow along Sparks Road (where it will be part located within **road reserve** and partly within the ODP area) and/or through the ODP area.

5. STORMWATER

- a. Within the ponding area of Hendersons Basin, there shall not be a net increase in the flood water elevations for any storm events up to and including a two per cent **annual exceedance probability** design storm of 36 hour duration.
- b. Days Drain and Dunbars Drain shall be naturalised and enlarged to convey a critical two per cent **annual exceedance probability** storm event from their respective contributing catchments and the slopes of the waterway banks shall be 1m vertical in 4m horizontal average or flatter. Days and Dunbars Drains shall be realigned to discharge into the future **Council** stormwater **wetland** to be constructed at 270 Sparks Road.
- c. First flush sedimentation and detention basins adjacent to Sparks Road to service new development and 38 hectares of existing developed catchment, excepting the sub-catchment in the southernmost part of the ODP area draining to the Milns stormwater facility.
- d. There are known to be **springs** throughout the neighbourhood, these are to be identified and safeguarded.
- e. The indicative stormwater management area at the eastern corner of the **Outline Development Plan** Area is to be the primary treatment and detention area for the full development area. As an alternative option which will reduce the overall area of stormwater land required along Sparks Road, first flush treatment basins may be shifted upstream to service sub-catchments, as indicated on the **Outline Development Plan** Area, subject to engineering design acceptance from the **Council**. It is expected that any upstream (first flush) treatment basins will discharge directly to the Council **wetland** at 270 Sparks Road either via separate pipe system or via Dunbars or Days Drains, with overflow discharging into the detention basins.
- f. All first flush and detention facilities shall be designed with regard to the 'six values' approach to stormwater management and other relevant design criteria outlined in the CCC Waterways, Wetlands and Drainage Guide. The overall first flush and detention system shall provide "Full Flood Attenuation" for a 2

percent **annual exceedance probability** storm of 36 hour duration in accordance with **Council's** South West Area Stormwater Management Plan. Internal and external batter slopes of basins shall be 1m vertical in 4m horizontal average or flatter and 5 metre average landscaped setbacks from all residential **allotments** is required.

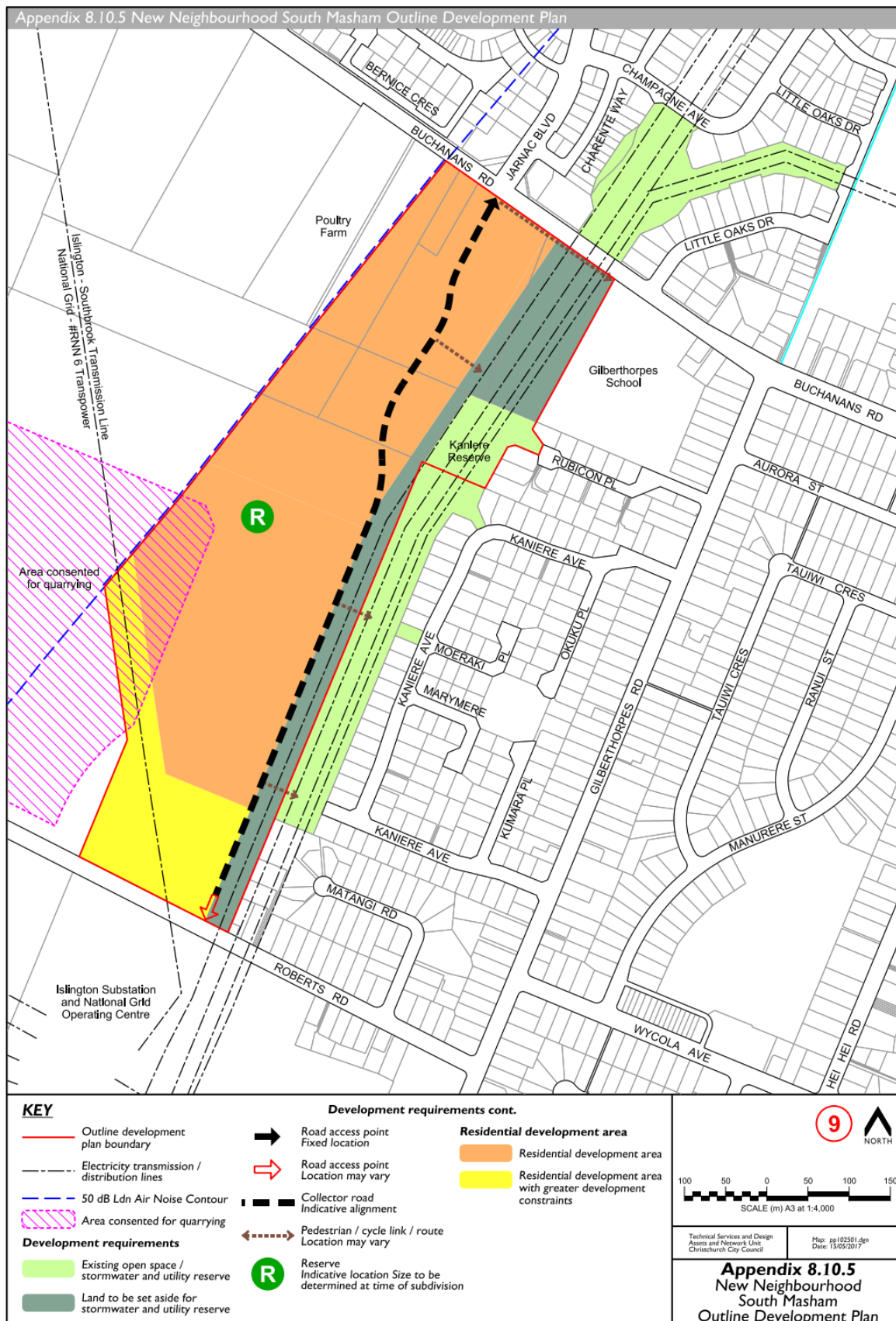
6. WATER AND WASTEWATER

- a. A pressure pump system to service the neighbourhood and the pump chamber for each **allotment** shall have a minimum total storage volume equal to 24 hours average sewer flow from the source.
- b. The approved sanitary sewer outfall for any proposed residential **allotments** will be the South East Halswell pressure sewer network. This includes pressure mains along Sparks Road and along the northern **collector road**, which will be constructed by **Council**. ~~In the case of the Meadowlands Exemplar the outfall will be to the Pump Station 42 catchment until the South East Halswell pressure sewer network is available, at which time these sites shall be connected to the South East Halswell pressure sewer network.~~
- c. Full high pressure water reticulation will be required to service development within the **Outline Development Plan** area. Water supply infrastructure requirements and any upgrades needed will be determined following the development of a water supply master plan for the Halswell **Future Urban Zone Residential New Neighbourhoods**.

7. STAGING

- a. ~~Except for the Meadowlands Exemplar, t~~There are no staging requirements other than those relating to the provision of infrastructure.

Appendix 8.10.5 South Masham Outline Development Plan



8.10.5.A CONTEXT

- a. Located on the western outskirts of Christchurch this neighbourhood will integrate with and consolidate the established and developing residential community of Yaldhurst Masham, including Gilberthorpes School, the new neighbourhood of Delamain and Broomfield Common. Within the vicinity are a number of activities which need to be taken into account in the design of the residential community. A poultry farm is located immediately to the north-west. High voltage **transmission lines** run to the south west and distribution lines run to the east of the neighbourhood. The Islington substation and **National Grid** Operating Centre is located on the south side of Roberts Road. Consent has been granted for a **quarry** to be established in an area which includes part of the western edge of the neighbourhood. To the north is Christchurch International Airport and the 50 dB Ldn Air Noise Contour forms the western boundary to the neighbourhood.

8.10.5.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide.

8.10.5.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in **8.7.1 - 8.7.4** or the matters for discretion in **8.8**. They are not requirements for the purposes of Rule **8.6.11(a)** or Rule **14.12.2.16**.
 - 1. The major distinguishing feature of this neighbourhood will be the green corridor to the east. Layouts will be designed to take advantage of its recreational and **amenity value**, while at the same time limiting the impact of the transmission and distribution lines and pylons and the Islington substation and **National Grid** Operating Centre.
 - 2. The way in which development interfaces with its surroundings is critical to the quality of this neighbourhood. Careful consideration of **road** alignments, pedestrian/cyclist access points, orientation of **allotments** and **boundary** treatments, is required.
 - 3. There will be no direct **vehicle access** from properties to Buchanans Road however the **subdivision** design should encourage housing to inter-relate well with Buchanans Road.
 - 4. There are a number of trees in the northern part of the neighbourhood which are to be considered for retention within the residential area. A sense of identity is to be created through incorporation of specific design features within the neighbourhood, such as street trees or **boundary** treatments.
 - 5. Higher residential densities are expected towards Buchanans Road and the green corridor.

8.10.5.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule **8.6.11(a)** and Rule **14.12.2.16** are described below and shown on the accompanying plan.

1. INTEGRATION

- a. Vegetation to be planted around **electricity distribution lines** must be selected and/or managed to ensure that it will not result in that vegetation breaching the **Electricity (Hazards from Trees) Regulations 2003**.

2. DENSITY VARIATIONS

- a. The **transmission lines**, the Islington substation and **National Grid** Operating Centre will place restrictions on development which may limit residential development capacity. Rule **8.6.11(b)** density exemptions apply to this constrained area.

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A community (neighbourhood) park in the centre of the neighbourhood.

4. ACCESS AND TRANSPORT

- a. A **collector road** to connect with the collector road running between Buchanans Road and Yaldhurst Road (Jarnac Boulevard). This **road** is to be capable of accommodating a bus route.
- b. A footpath/**cycle way** to run from the **collector road** on the south side of Buchanans Road to Gilberthorpes School.
- c. At least three pedestrian/cyclist links from the neighbourhood to the green corridor to provide links between South Masham ~~Residential New Neighbourhood~~ **Future Urban** Zone and the existing residential area to the east.
- d. A fully interconnected **local road** network to link from the **collector road** to the western and eastern areas of the neighbourhood. This is to achieve a high level of **accessibility** and connectivity for people, including opportunities for walking, cycling and public transport and services.

5. STORMWATER

- a. Extension of the drainage and **utility** reserve which runs underneath the distribution lines.
- b. A surface water management system consisting of above ground soil adsorption and infiltration basins and rapid soakage chambers is to be provided to treat the first flush of run-off and dispose of stormwater to ground soakage for all events up to and including the critical 2 percent **annual exceedance probability** storm. The design of the system is to have regard to the transmission and distribution lines and the proximity of the Airport for risk of **birdstrike**.

6. WATER AND WASTEWATER

- a. A reticulated gravity wastewater system will be required within the Outline Development Plan area with outfalls to Roberts Road and the intersection of Buchanans and Gilberthorpes Roads. At least two thirds

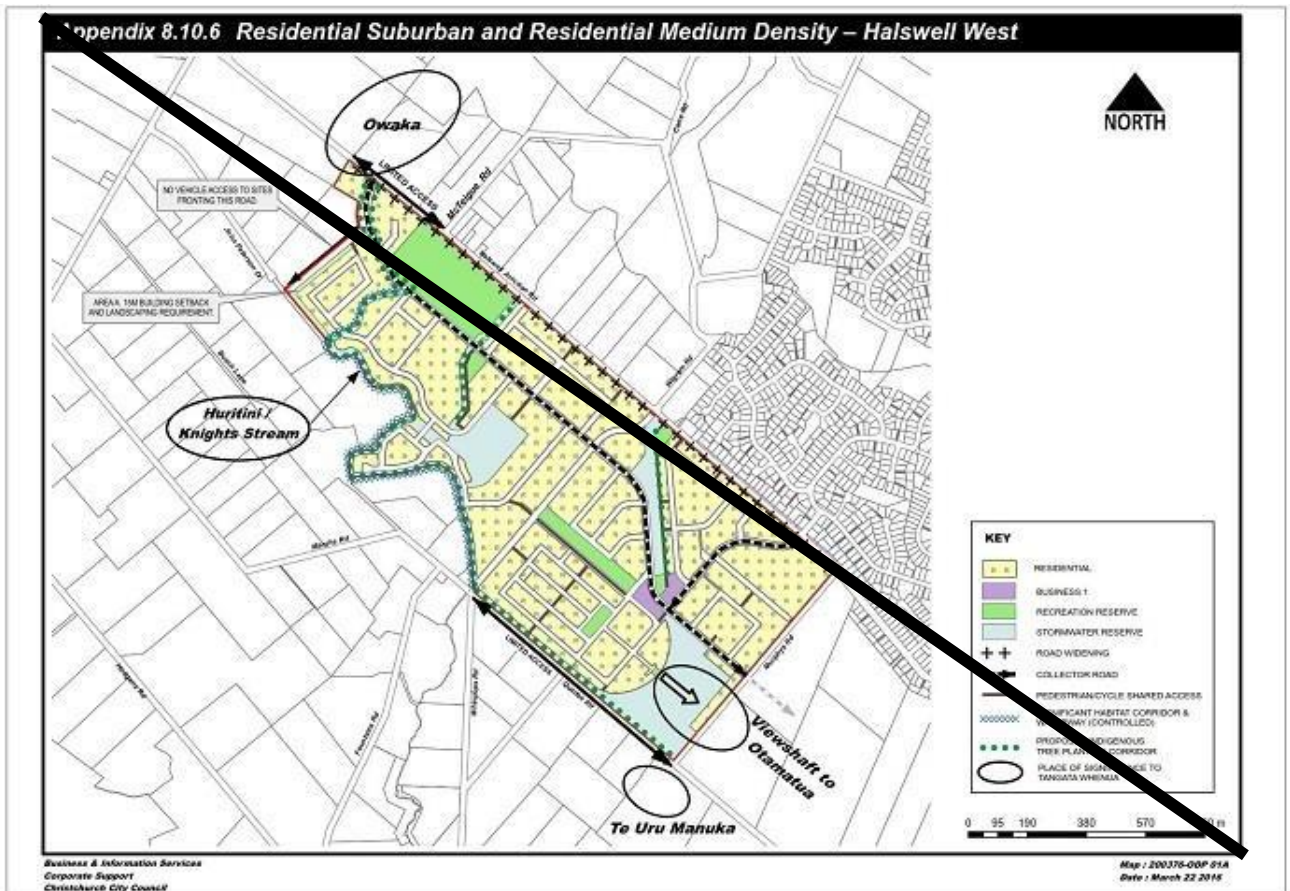
of the allotments within the Outline Development Plan area are to discharge to the outfall at the intersection of Buchanans and Gilbertthorpes Roads.

- b. Full high pressure water reticulation will be required to service development within the Outline Development Plan area. The connection points to Council's water supply network are to be on Buchanans Road directly opposite the site boundary, and on Roberts Road.

7. STAGING

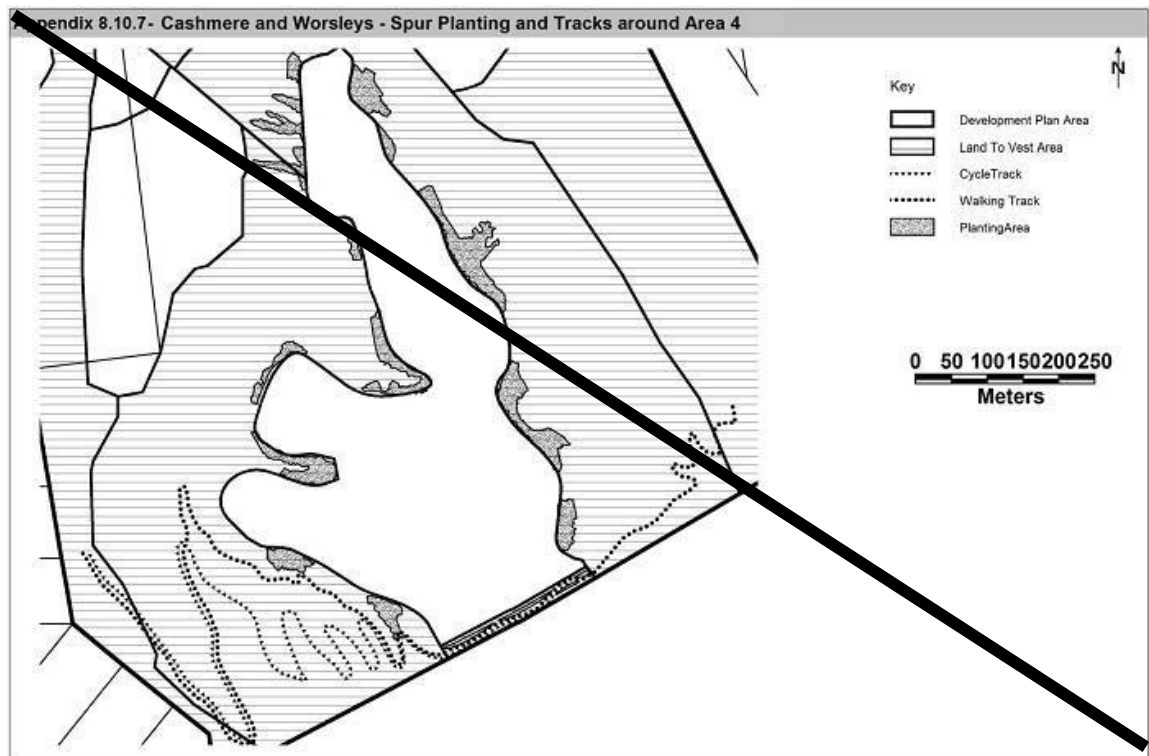
- a. Development is anticipated to commence from Buchanans Road. The development of the south western area of the neighbourhood will be delayed until quarrying ceases.

~~Appendix 8.10.6 Residential Suburban and Residential Medium Density Halswell West~~

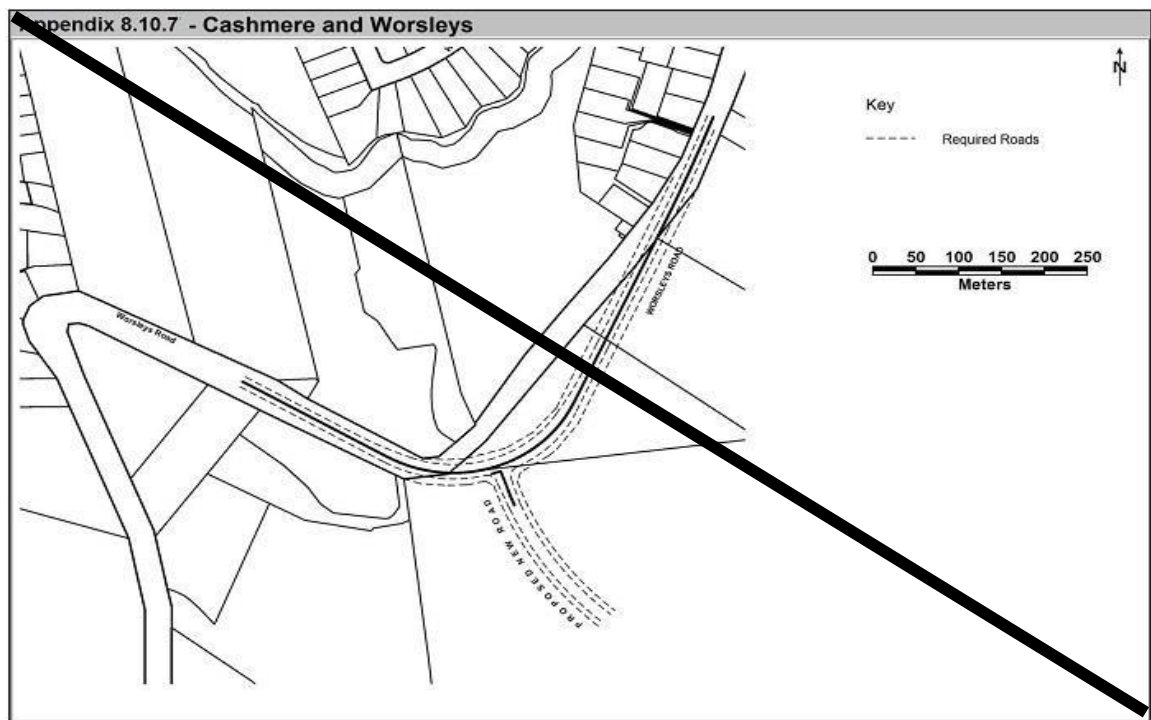


Appendix 8.10.76 – Cashmere and Worsleys Development Plan

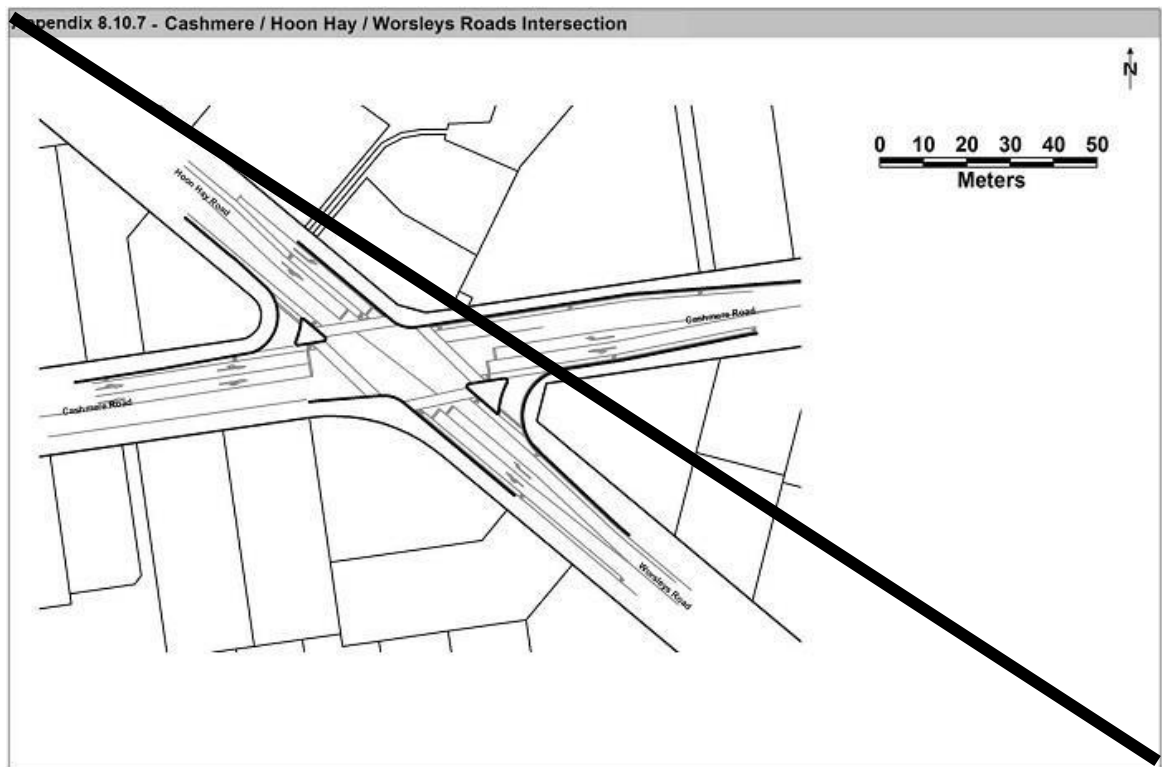
Plan (a)



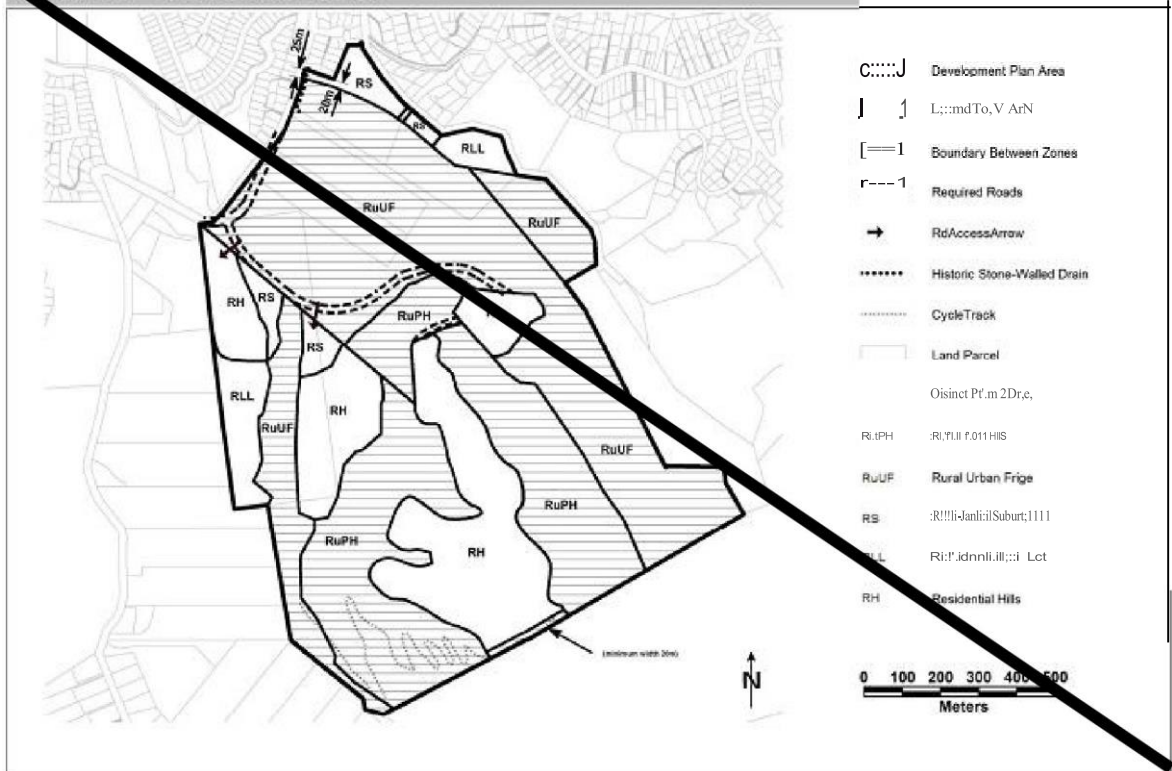
Plan (b)



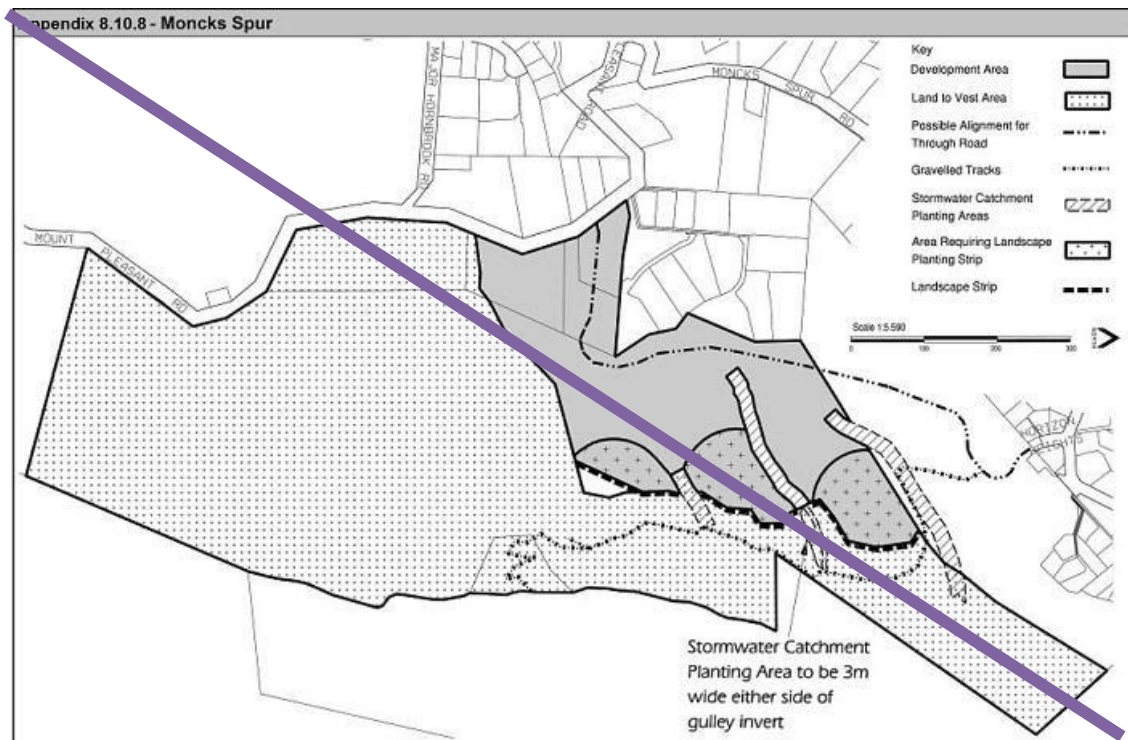
Plan (c)



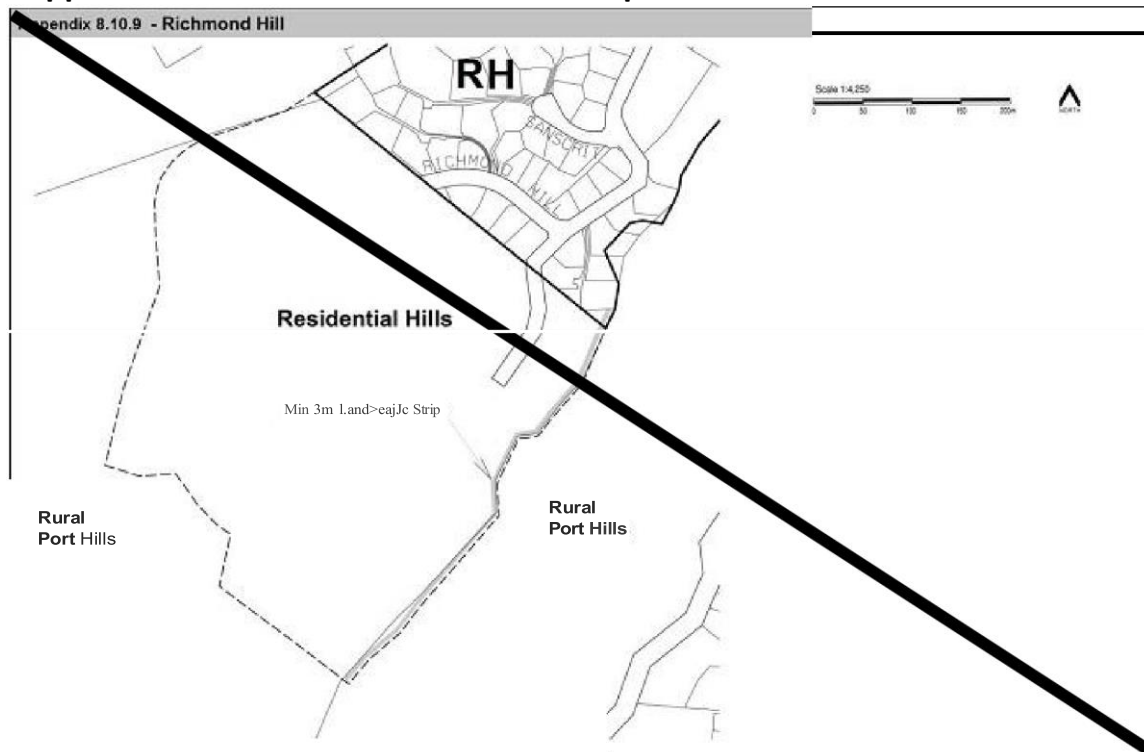
Plan (d)



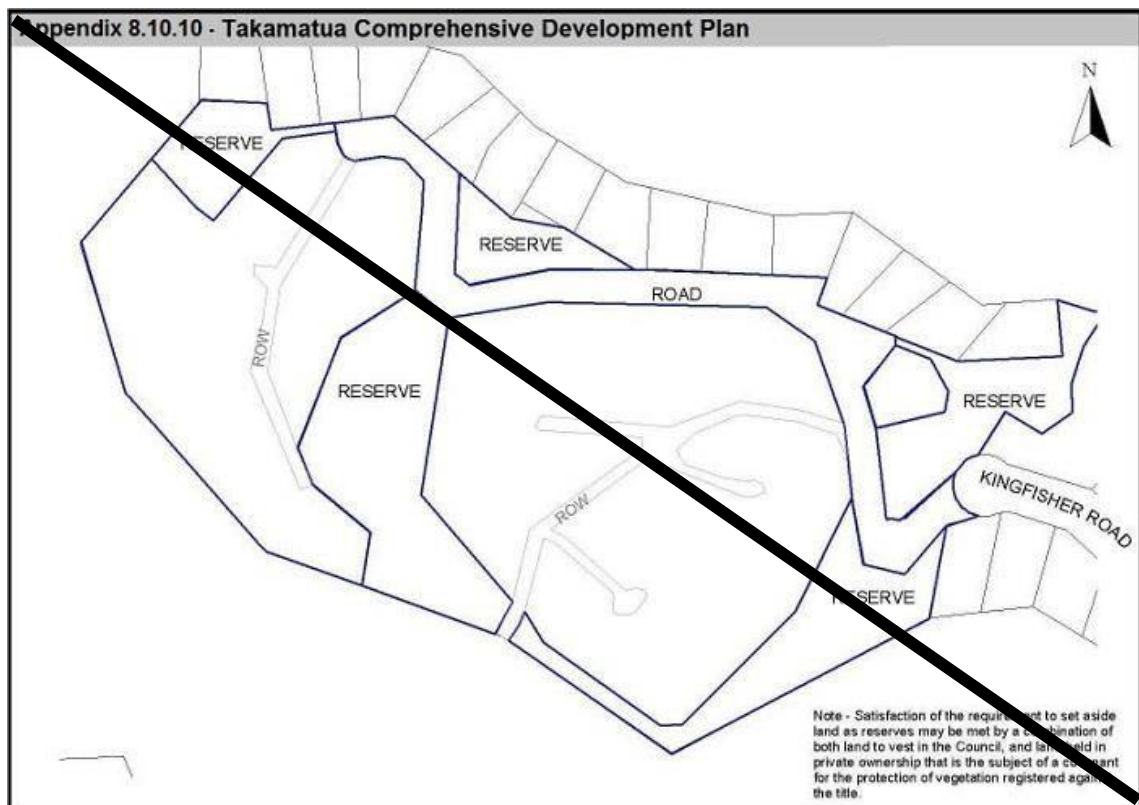
Appendix 8.10.87 – Moncks Spur Development Plan



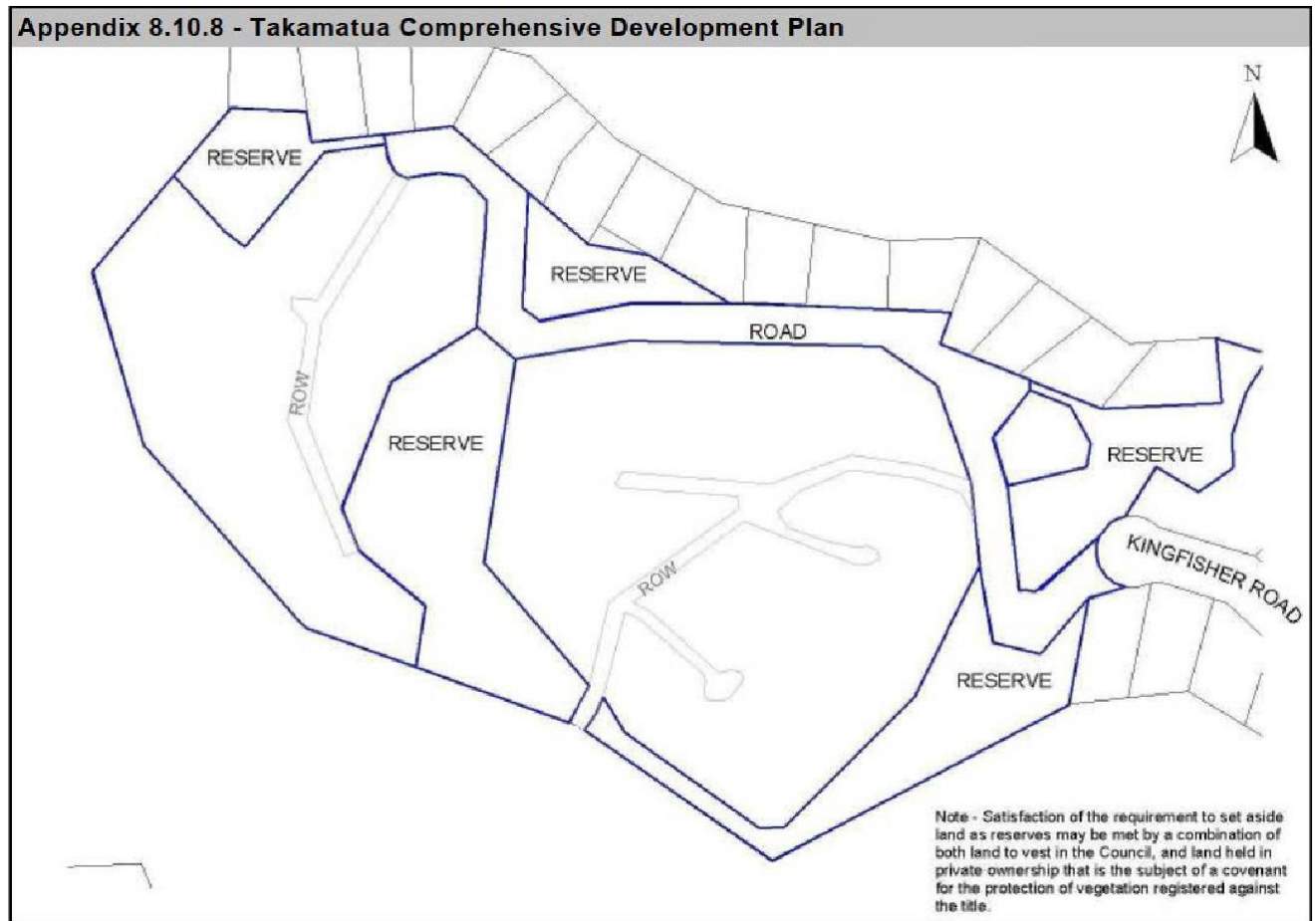
Appendix 8.10.9 — Richmond Hill Development Plan



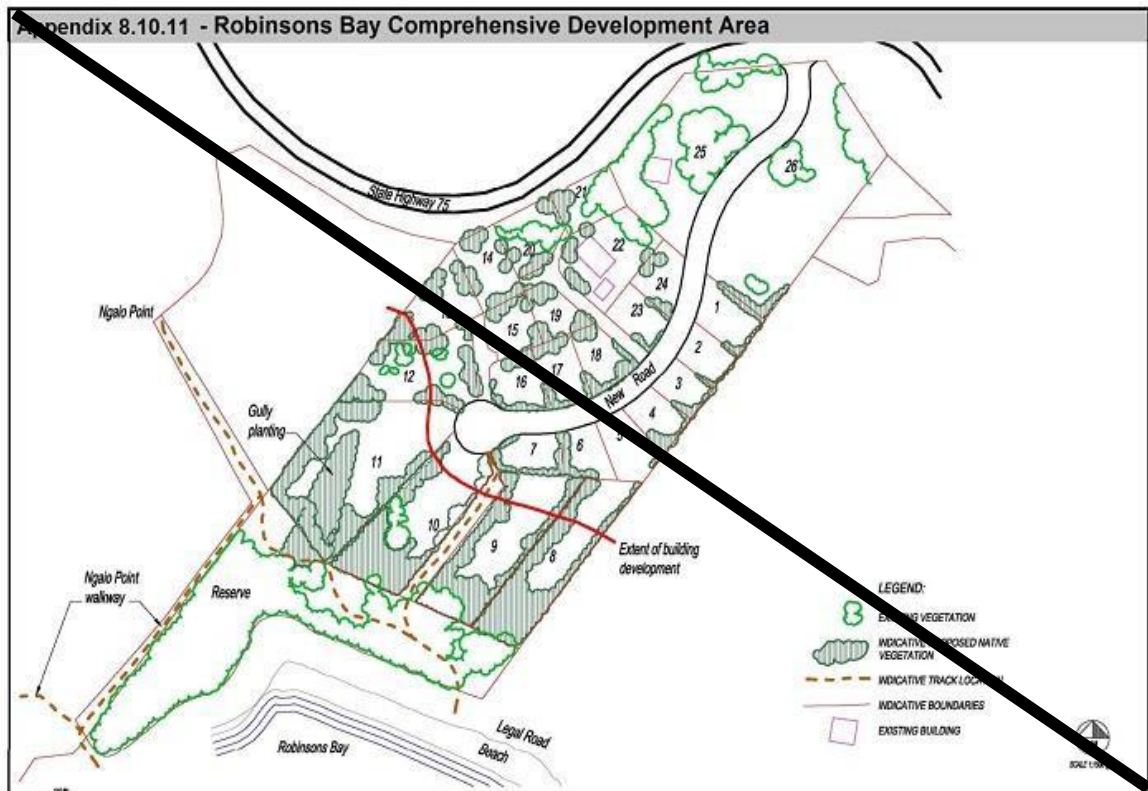
Appendix 8.10.108 - Takamatua Development Plan



Appendix 8.10.8 - Takamatua Comprehensive Development Plan



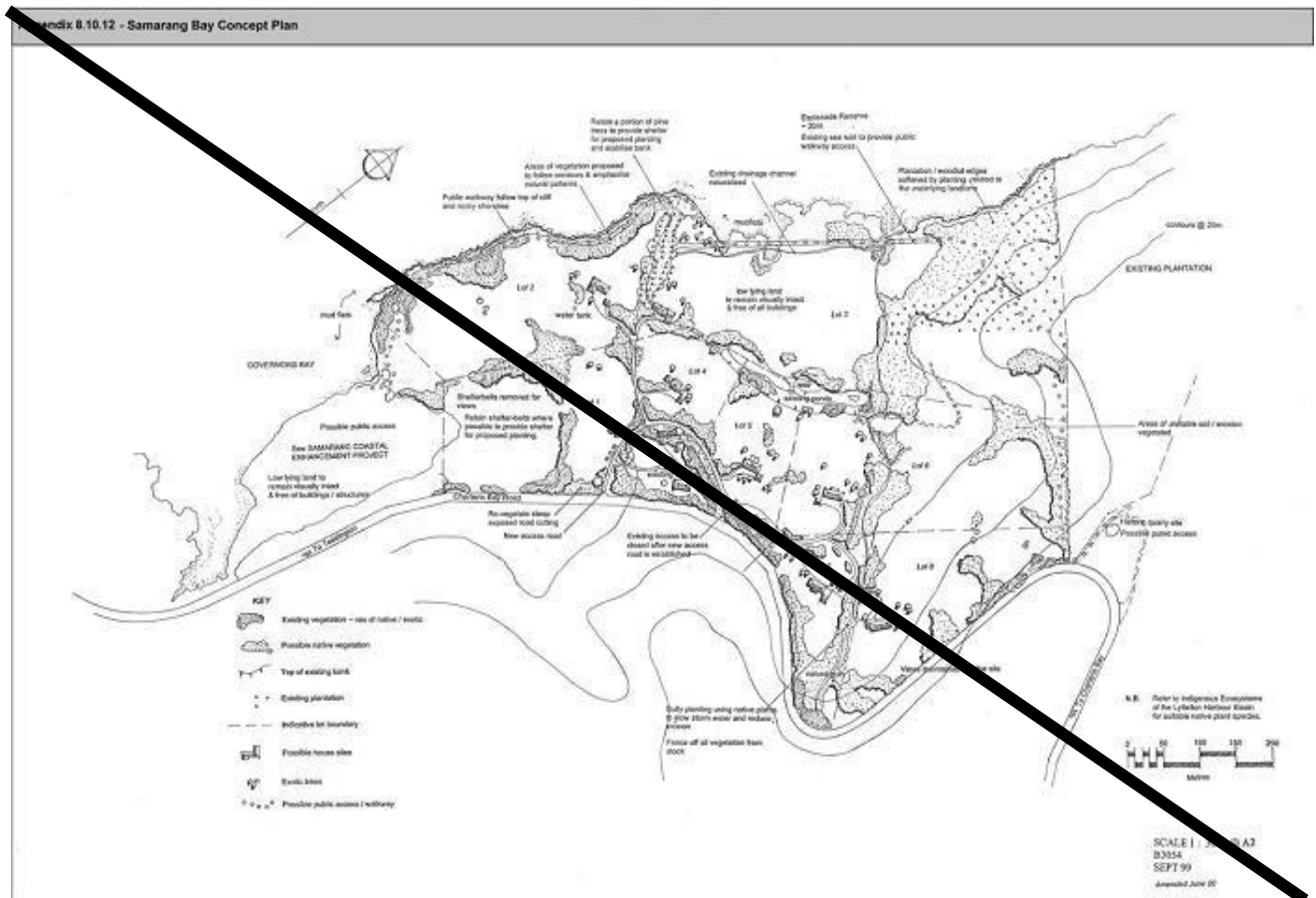
Appendix 8.10.119 - Robinsons Bay Development Plan



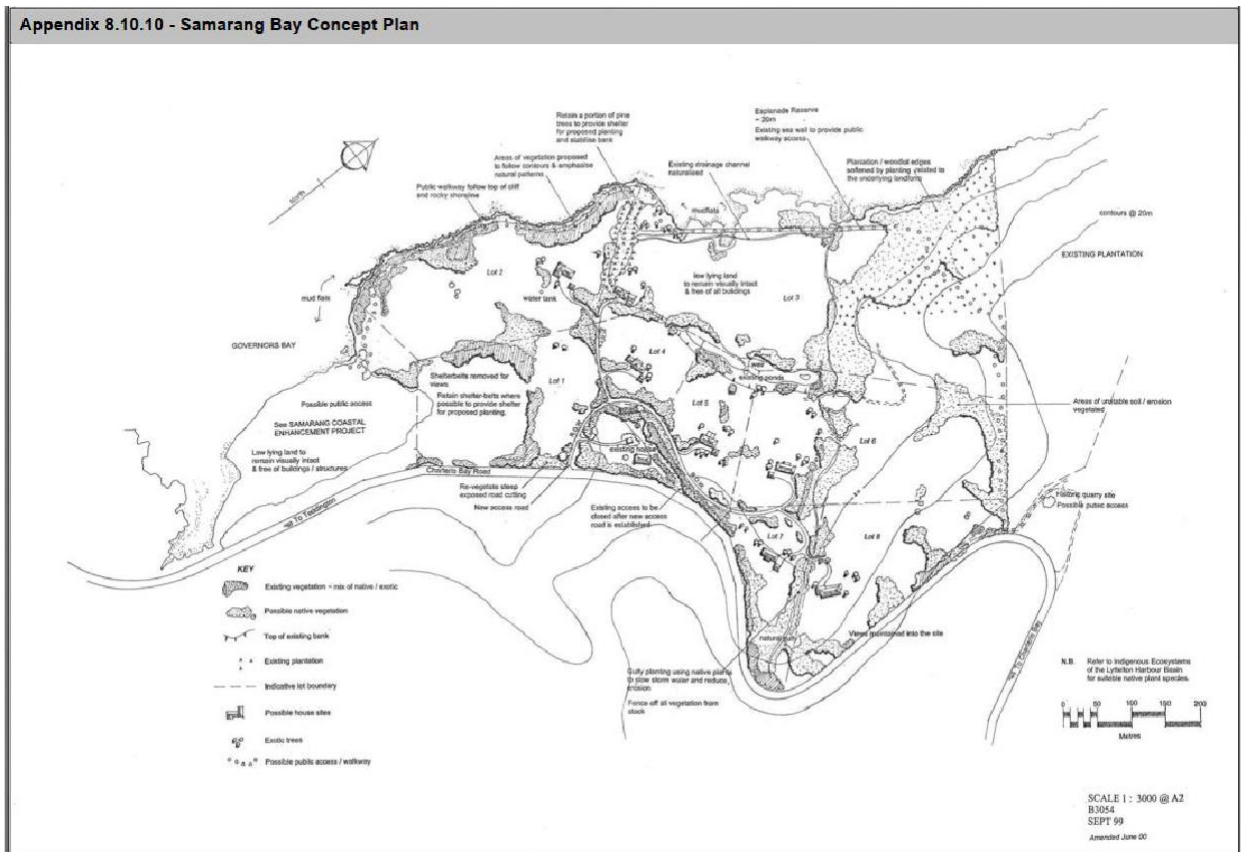
Appendix 8.10.9 - Robinsons Bay Comprehensive Development Area



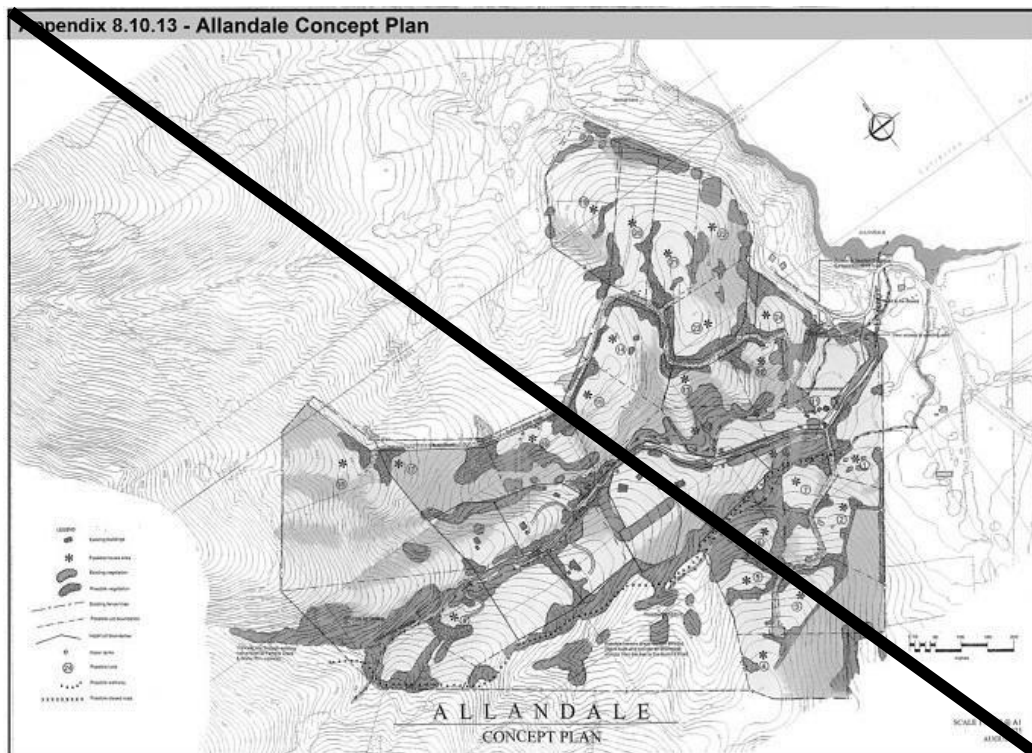
Appendix 8.10.102 - Samarang Bay Development Plan



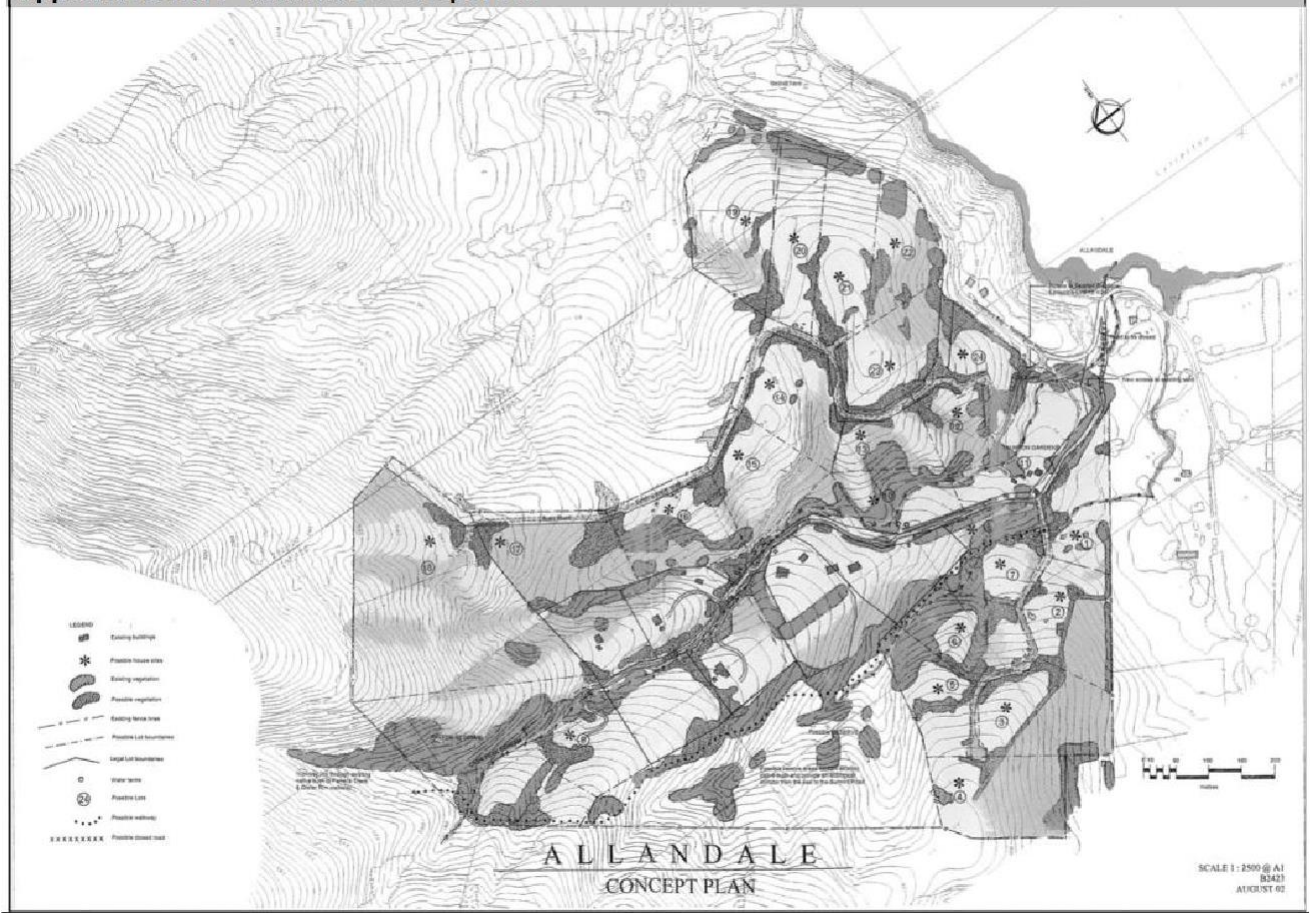
Appendix 8.10.10 - Samarang Bay Concept Plan



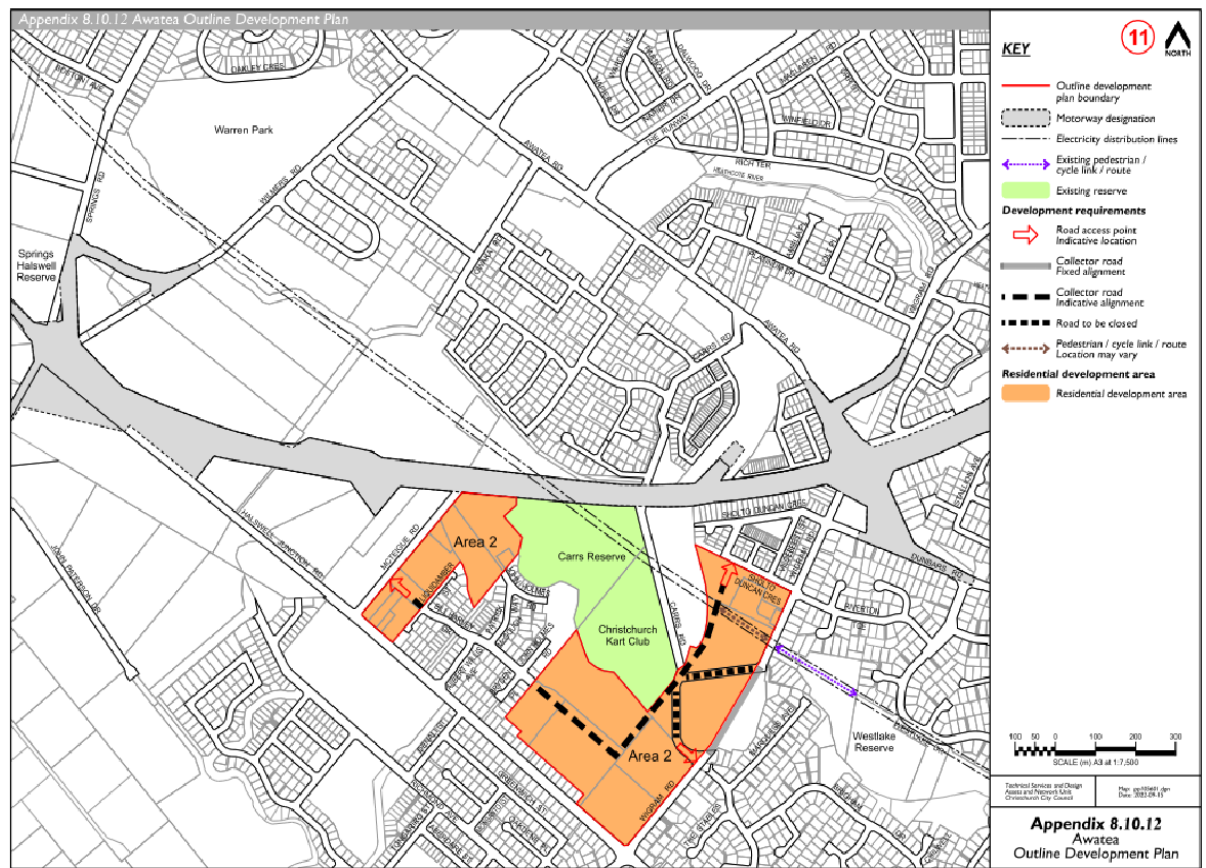
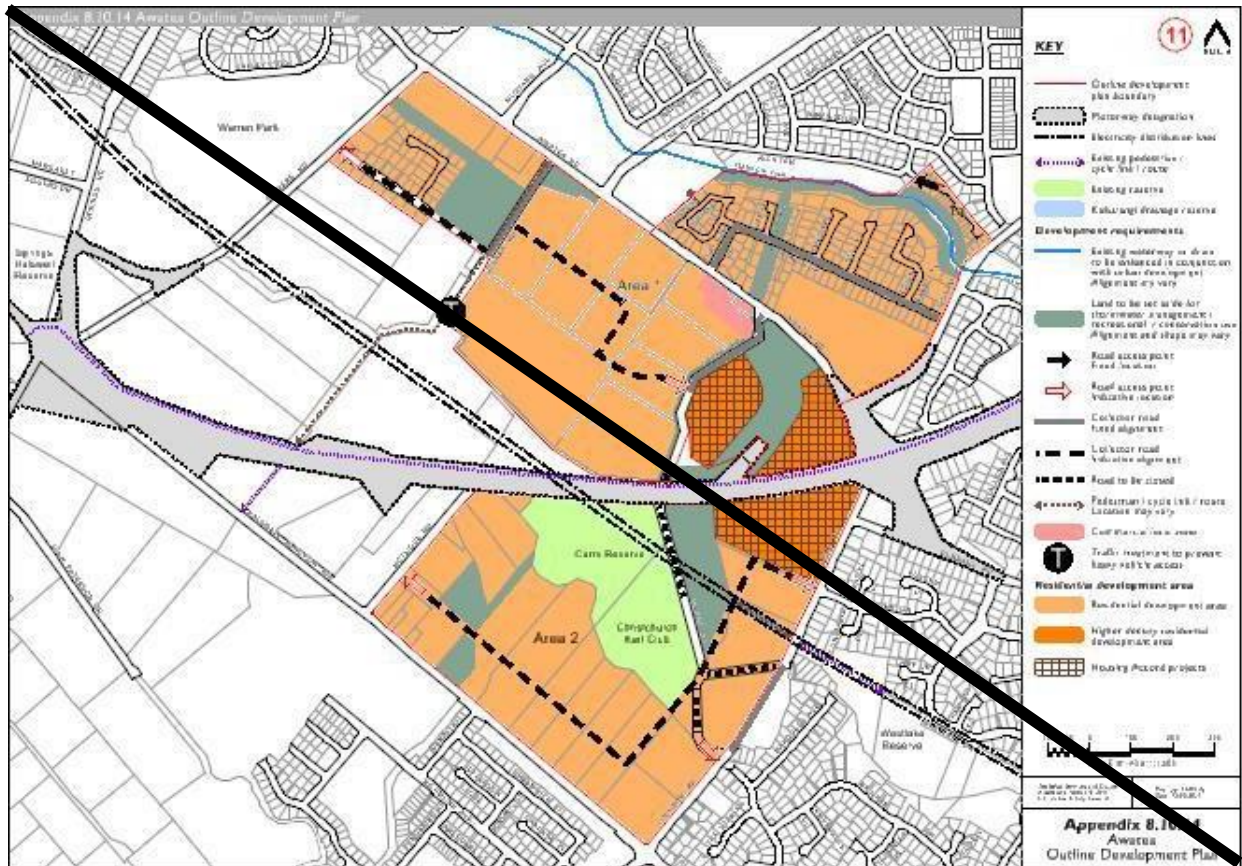
Appendix 8.10.11~~3~~ - Allandale Development Plan



Appendix 8.10.11 - Allandale Concept Plan



Appendix 8.10.142 — Awatea Outline Development Plan



8.10.124.A CONTEXT

- a. Awatea has a history of early Maori occupation. The name Owaka Road, recognizes the traditional 'waka' link from Knights Stream to the Heathcote River. Awatea means: light or bright pathway. From the mid-nineteenth Century the area was farmed. McTeigues Road and Carrs Road were named after early landowners who formed the roads. The extensive Mahurangi Reserve, incorporating the Heathcote River corridor forms the northern boundary of the neighbourhood, while the western, southern and eastern boundaries are formed by Wilmers Road, Halswell Junction Road and Wigram Road respectively. The Christchurch Southern Motorway bisects the neighbourhood, separating it into two communities, which are referred to here as Area 1, north of the motorway and Area 2, south of the motorway. High voltage distribution lines cross the eastern section of Area 2. The Little River Link cycle way, alongside the motorway, traverses the neighbourhood. Warren Park lies immediately to the west and Westlake Reserve is located to the east.

8.10.124.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is provided in the [South West Area Plan, Christchurch City Council, April 2009](#).

8.10.124.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in [8.7.1 - 8.7.4](#) or the matters for discretion in [8.8](#). They are not requirements for the purposes of Rule [8.6.11\(a\)](#) or Rule [14.12.2.16](#).
 1. Awatea is strategically located within the natural surface water system. The development of the neighbourhood provides the opportunity for better management of stormwater from the wider area.
 2. New development is to be designed to take maximum advantage of Mahurangi Reserve and river corridor and Carrs Reserve, through providing visual and physical access to them for residents and the wider community. The Mahurangi Reserve will be the major feature of Area 1. The development of this neighbourhood provides the opportunity to acknowledge the traditional 'waka' link, along the river corridor and southwards towards Knights Stream. Area 2 has Carrs Reserve as its centrepiece.
 3. A site on Awatea Road in the centre of Area 1 is zoned as a Neighbourhood Centre Commercial Local, allowing for a local centre to establish.
 4. Development immediately adjacent to, or facing across a road to industrial zoned land or the motorway should be designed to provide a compatible boundary between the two uses. This may require a combination of larger section sizes, special building design and boundary planting.
 5. Development is to face onto Wilmers Road, Owaka Road, Awatea Road and Wigram Road even where there is to be no direct property access to it.
 6. New development is to have an open and attractive interface with all reserves in and adjoining the new neighbourhood.
 7. Where existing properties or non-residential uses are to remain or distribution lines cross the residential area, larger section sizes and planting buffers adjacent to them, may be required.
 8. Higher densities are anticipated in Area 1, around the junction of Awatea Road, Wigram Road and the motorway where Housing Accord developments are located. Higher densities are also

appropriate close to **collector roads**, reserves, the local **commercial centre** or any other **community facilities**.

9. **Landscaping** and indigenous plantings that emphasise the cultural history of Awatea are to be incorporated into the **subdivision** design and **reserve** plantings. This includes the re-establishment of a section of the traditional Waka Trail where relevant.
10. There is potential for a pedestrian/cyclist overbridge between Carrs Road and Carrs Reserve to enhance and extend the connection to the Little River Cycleway.

8.10.124.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule **8.6.11(a)** and Rule **14.12.2.16** are described below and shown on the accompanying plan.

1. INTEGRATION

- a. Awatea is surrounded by other residential neighbourhoods: Wigram, Westlake and Longhurst/Knights Stream. Convenient and safe access between these communities and their facilities and Awatea, for all users, is to be provided.
- b. There are multiple land owners within this ODP area and a number of existing properties. **Subdivision** designs will demonstrate good connectivity between different land ownership areas through **road**, open space and pedestrian and **cycle way** linkages.
- c. The boundary of Area 1, with industrial Zoned land and the motorway between Owaka Road and Carrs Road is to have a stormwater reserve of at least 10 metres wide, immediately north of the boundary, along its entire length.

2. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A network of open space, integrated with stormwater management facilities, connecting Warren Park, Mahurangi Reserve, Carrs Reserve, Westlake Reserve.

3. ACCESS AND TRANSPORT

- a. **Collector roads** running west to east through Area 1, between Awatea Road and Wigram Road and between Wilmers Road and Carrs Road and through Area 2 between McTeigue Road and Wigram Road. These are to be capable of accommodating a bus route.
- b. A fully interconnected **local road** network across the site that achieves a high level of **accessibility** for people, including opportunities for walking, cycling and public transport. This is to provide connections with Wilmers Road, Awatea Road, Wigram Road, Mc Teigue Road and Halswell Junction Road, which bound the neighbourhood as well as Owaka Road and Carrs Road within the neighbourhood. Access for pedestrians and cyclists is required to the local **commercial centre** and reserves within the neighbourhood as well as recreational and **community facilities** in neighbouring suburbs.
- c. Connections to the Little River Cycleway from the north and along Owaka Road.

- d. **Vehicle Access**, Area 1a - when a **road** connection from Rich Terrace becomes available any existing **vehicle access** point to Wigram Road shall be closed.

4. STORMWATER

- a. An overall stormwater infrastructure system has been designed. It is important that as development occurs, stormwater is controlled in a manner that accords with this overall design. All watercourses in the area are to be integral components of the open space network.

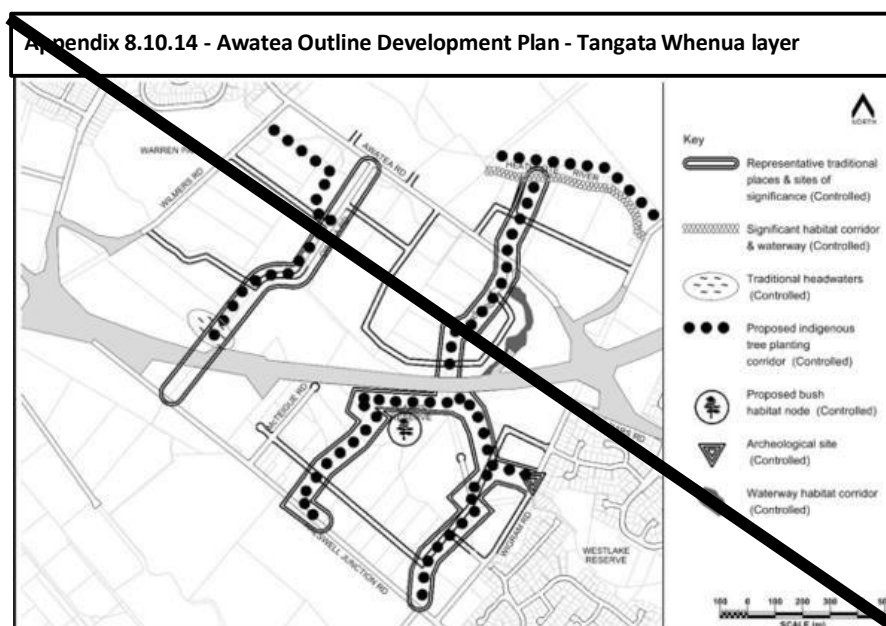
5. WATER AND WASTEWATER

- a. Area 1, north of the motorway will be serviced by two connections to the water supply main on Awatea Road. Area 2, south of the motorway along Halswell Junction Road will be serviced by connections to the water supply main on Halswell Junction Road. New water supply mains along the **collector roads** will be required.
- b. Area 1 and 350, 396 and 410 Wigram Road is to be serviced by a gravity wastewater network with lift stations, discharging to the existing wastewater mains on Awatea Road. Some of the wastewater network has been constructed and this will need to be extended to service the remainder of the area.
- c. Area 2 (except for 350, 396 and 410 Wigram Road) is to be serviced by a gravity wastewater network, with a wastewater main from McTeigue Road, along the proposed **collector road**, discharging into the existing wastewater main on Halswell Junction Road. It will be the developer's responsibility to construct the new water supply and wastewater mains.

6. STAGING

- a. There are no staging requirements other than those relating to the Christchurch Kart Club (refer to Chapter 14 [Rule 14.12.1.5](#) Non-complying activities NC3).

Awatea Outline Development Plan – Tangata Whenua layer



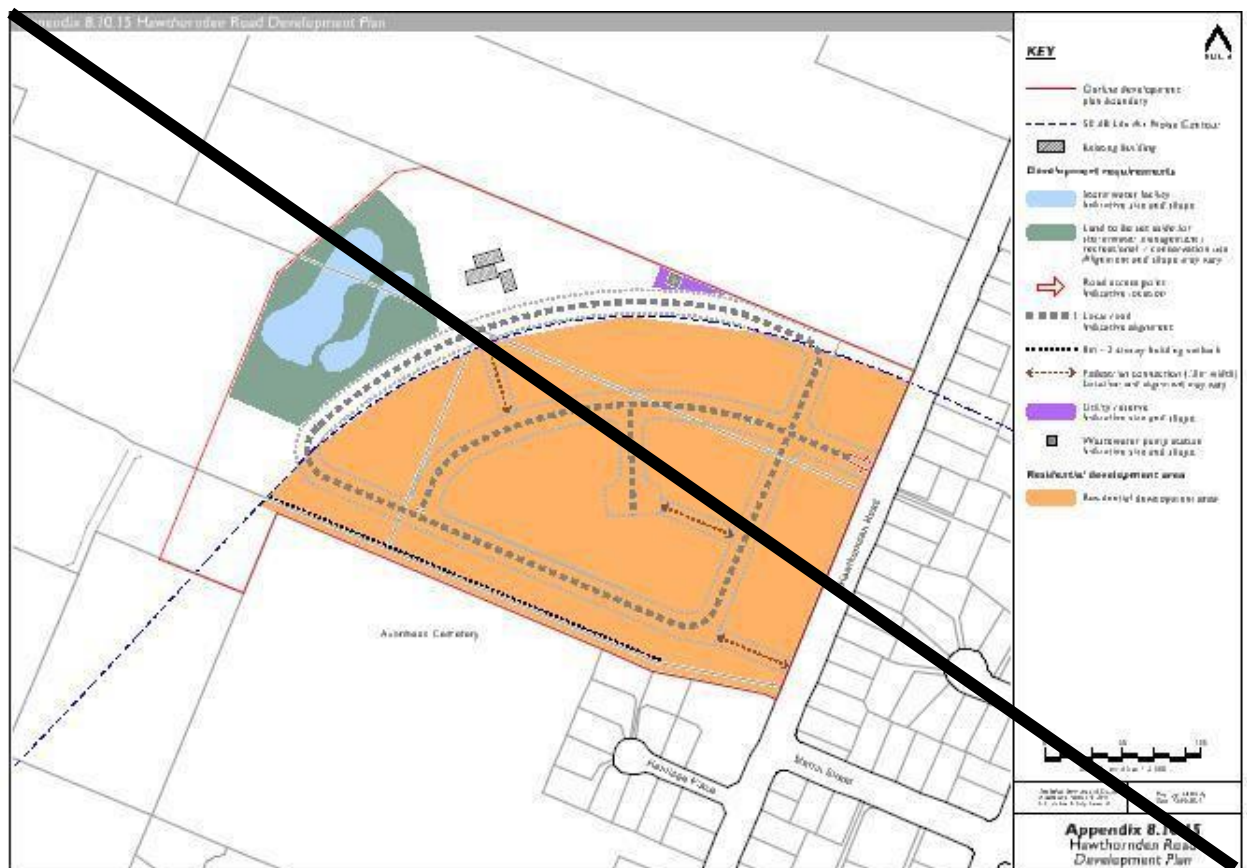
Appendix 8.10.12 - Awatea Outline Development Plan - Tangata Whenua

Key

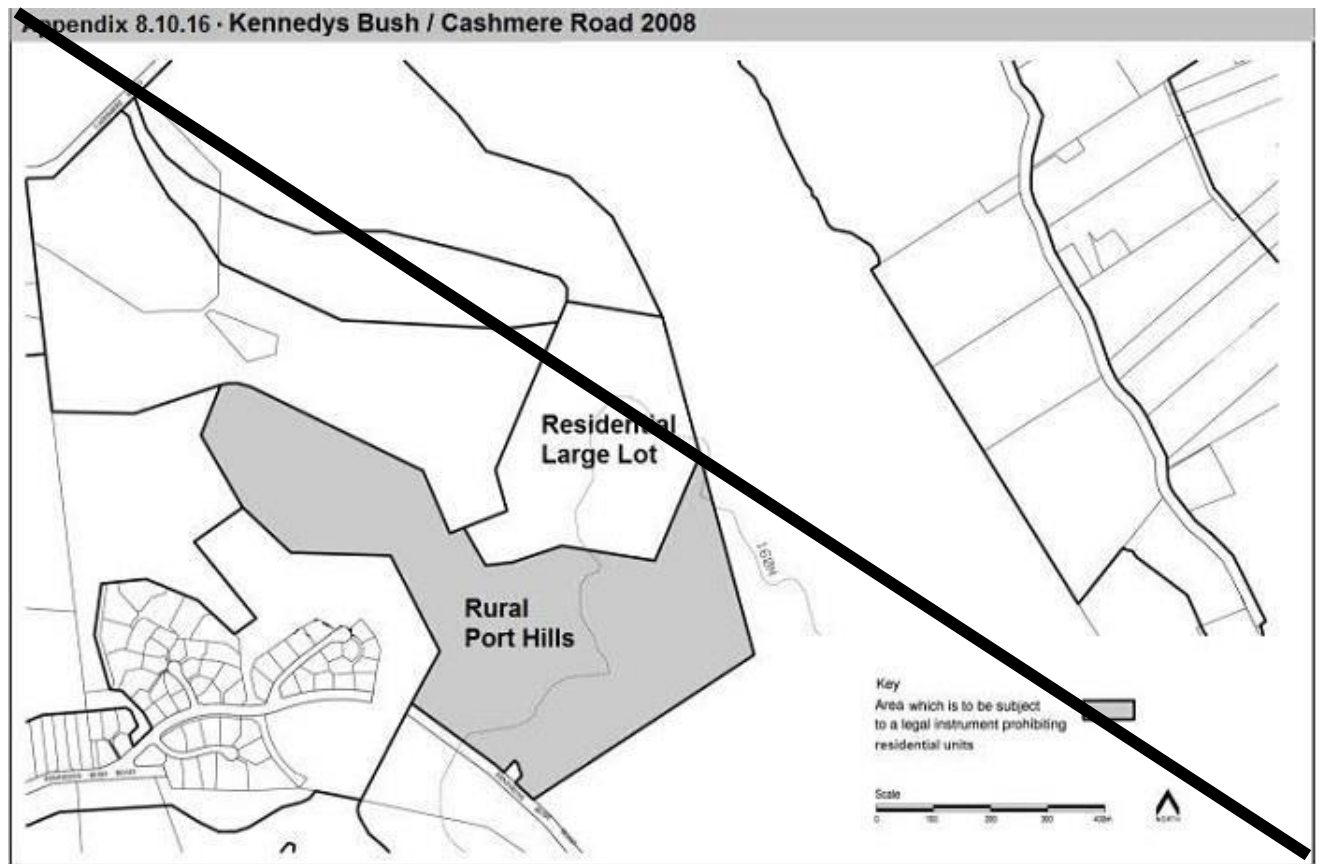
- Representative traditional places & sites of significance (Controlled)
- Significant habitat corridor & waterway (Controlled)
- Traditional headwaters (Controlled)
- Proposed indigenous tree planting corridor (Controlled)
- Proposed bush habitat node (Controlled)
- Archeological site (Controlled)
- Waterway habitat corridor (Controlled)

100 0 100 200 300 400 500
SCALE (m)

~~Appendix 8.10.15 Hawthornden Road Development Plan~~



~~Appendix 8.10.16 Kennedys Bush / Cashmere Road Development Plan~~



8.10.17.B – GUIDANCE

- a. ~~Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide.~~

8.10.17.C – DEVELOPMENT FORM AND DESIGN

- a. ~~The following design elements and features are relevant considerations in exercising control over the matters in 8.7.1 – 8.7.4 or the matters for discretion in 8.8. They are not requirements for the purposes of Rule 8.6.11(a) or Rule 14.12.2.16.~~
- ~~1. This new neighbourhood is distinguished by its association with the racecourse and utilisation of the mature trees and the Paparua Stream.~~
 - ~~2. **Subdivision** layouts are to be designed to take advantage of the existing tree lined access and the open outlook across the racecourse while at the same time limiting the impact of the distribution lines and pylons.~~
 - ~~3. Retention of the mature trees along the access and any protected trees is to be maximised and the layout designed to ensure they have sufficient space.~~
 - ~~4. Streets and paths are to be aligned to maximise visibility and **accessibility** of the stream corridor and focus on existing trees and heritage **buildings** where possible.~~
 - ~~5. Development is to have a good interface with adjacent **roads** and the interface is to be consistent along the length of the **road**. Although there is no direct **vehicle access** from properties on Yaldhurst Road, the subdivision design is to encourage housing to relate well with Yaldhurst Road and complement the properties which front the northern side of the **road**.~~
 - ~~6. A small scale community and commercial node, in a high profile location, may develop to serve the neighbourhood and adjacent existing residential areas, with opportunities for higher density development available adjacent to this node.~~

8.10.17.D – DEVELOPMENT REQUIREMENTS

- a. ~~The development requirements for the purposes of Rule 8.6.11(a) and Rule 14.12.2.16 are described below and shown on the accompanying plan.~~

1. INTEGRATION

- a. ~~Properties are to front onto Steadman Road where they are **adjoining** the **road**.~~
- b. ~~A screen planting strip adjacent to the Carmen Road/Masham Road (SH1) frontage is to be provided.~~
- c. ~~Vegetation to be planted around **electricity distribution lines** must be selected and/or managed to ensure that it will not result in that vegetation breaching the **Electricity (Hazards from Trees) Regulations 2003**.~~

2. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. ~~Two community (neighbourhood) parks to be located within the development to maximise the number of properties within 400m walking distance of these parks.~~
- b. ~~The stream corridor is to be developed to provide for recreational routes and the potential enhancement of its aquatic ecology.~~

3. ACCESS AND TRANSPORT

- a. ~~A network of pedestrian/cyclist routes through the neighbourhood and connecting to existing residential areas to the north and west, to and along the stream corridor, across the electricity distribution line corridor to Buchanans Road and forming part of a walking/cycling circuit around the racecourse that connects to Racecourse Road~~
- b. ~~A loop **road** running through Area 1, with two access points from Yaldhurst Road~~
- c. ~~An upgrade to the existing access from Steadman Road to form a **collector road** to the eastern boundary of the residential development area, with a private connection to the Racecourse Hospitality area.~~
- d. ~~A second access **road** from Steadman Road to the **collector road** in Area 2.~~
- e. ~~A second **collector road** which runs through the development area to connect to Zenith Place.~~
- f. ~~Both **collector roads** are to be constructed to accommodate a bus route.~~
- g. ~~The Yaldhurst Road/Steadman Road intersection shall be upgraded to include traffic signalisation, prior to the occupation of a **residential unit** in Areas 2 or 3 of the development.~~
- h. ~~The ability to provide a future vehicle connection between Area 1 and the adjacent racecourse facilities along Yaldhurst Road shall not be precluded.~~
- i. ~~A footpath and required pedestrian refuges shall be constructed adjacent to development on Yaldhurst Road within the State Highway designation (between Cutts and Steadman Roads) prior to the occupation of any **residential unit** in Area 1.~~
- j. ~~A footpath along the Steadman Road boundary shall be constructed prior to the occupation of any **residential units** in Areas 2 and 3 and a pedestrian refuge at the intersections of Cicada Place and Kinross Street with Buchanans Road shall be constructed prior to the occupation of any **residential unit** in Area 4.~~

4. STORMWATER

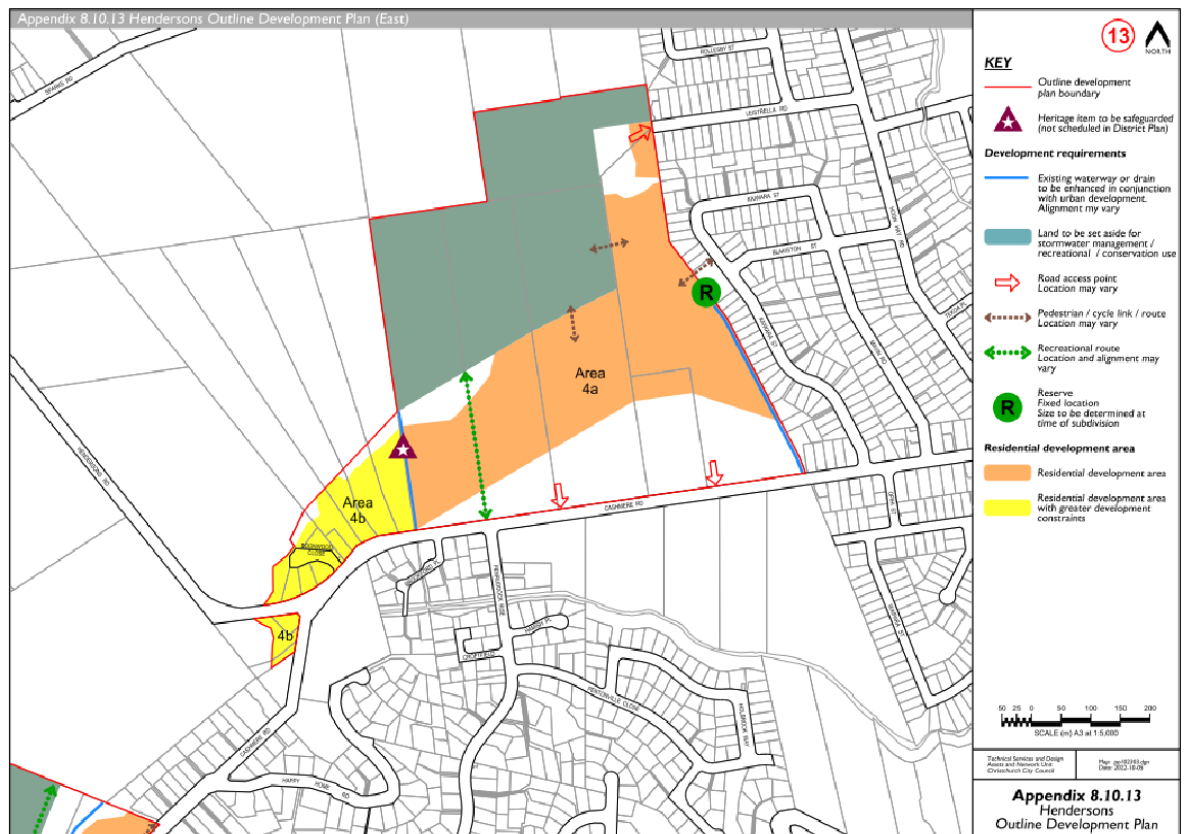
- a. ~~The design and layout of the stormwater management system to utilise reticulation to convey stormwater from hard surfaces (including rooftops and roading) to adequately sized treatment and infiltration basins with all stormwater being discharged to ground soakage.~~
- b. ~~Stormwater facilities shall consist of a soil adsorption basin to capture and treat the first flush, and an infiltration basin with a rapid soakage system to mitigate the 50 year critical storm.~~
- c. ~~Overland flowpaths for all stormwater facilities spilling to Paparua Stream in extreme storm events.~~

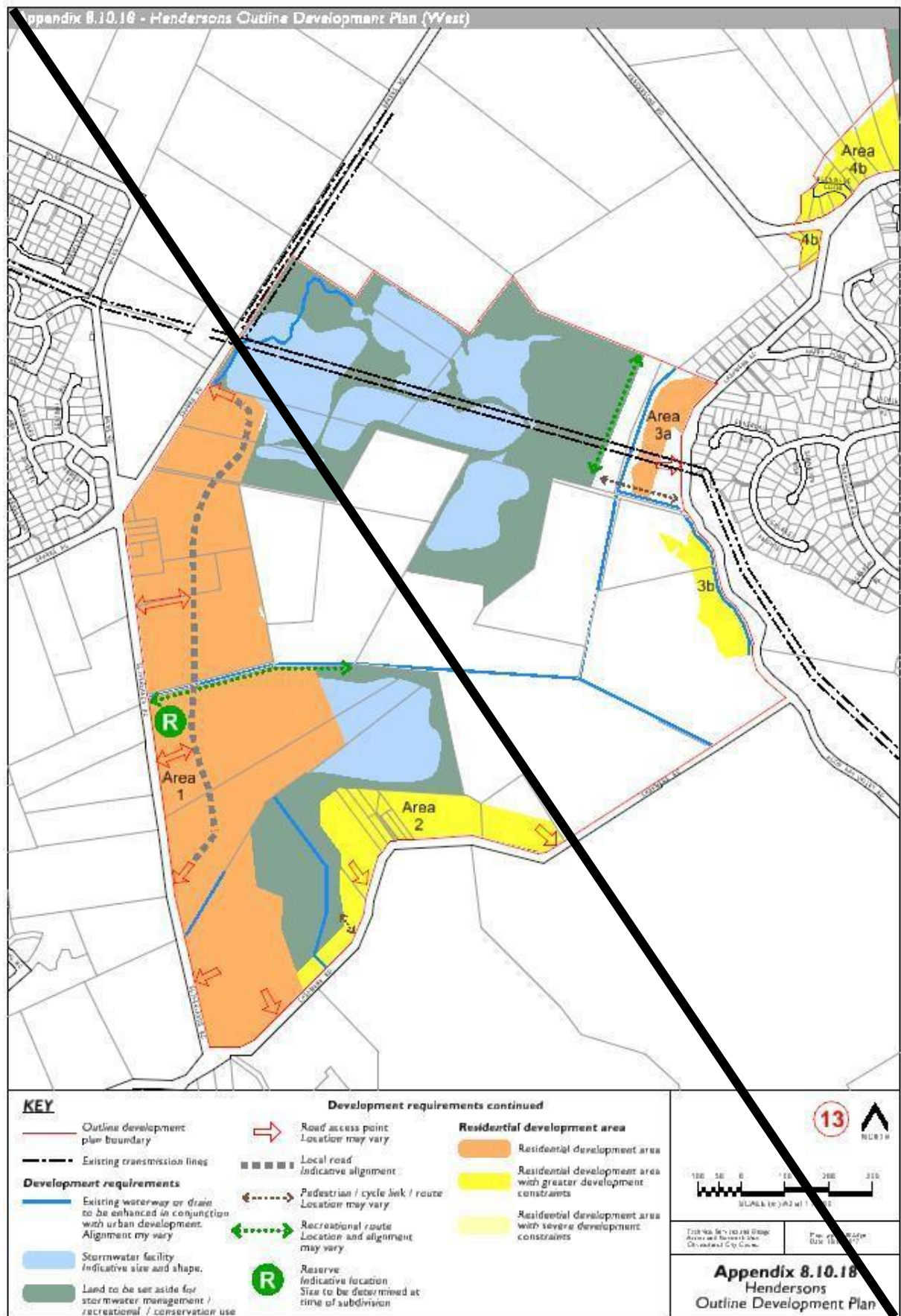
- d. ~~The design and operation of stormwater facilities shall take into account the need to protect and enhance the Paparua Stream corridor and identify and safeguard springs (if any).~~

~~5. WATER AND WASTEWATER~~

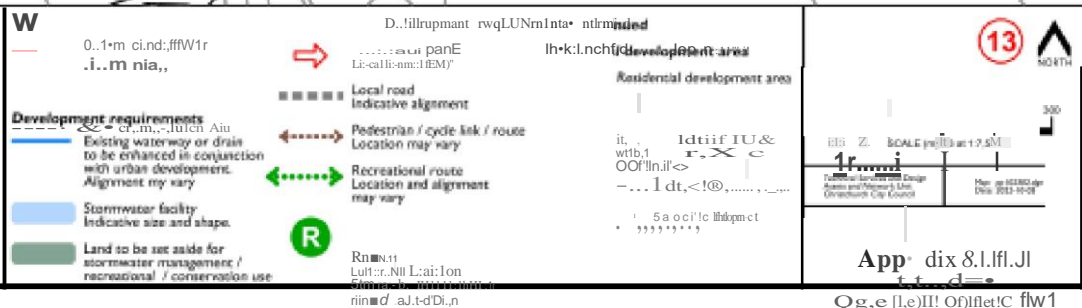
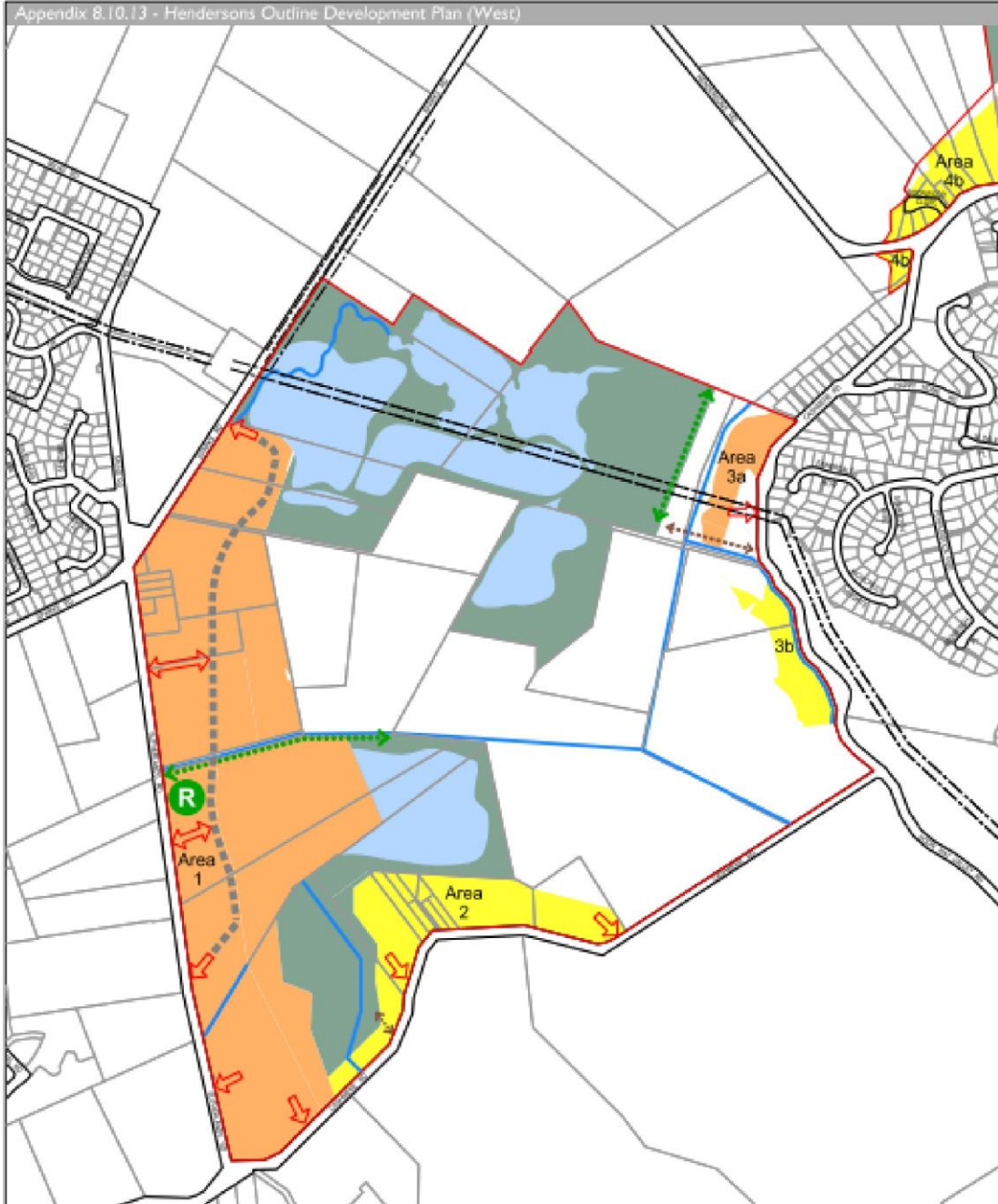
- a. ~~A new water supply main will be provided at Yaldhurst Road to service Area 1 and the Water supply pipe network will be upgraded on Yaldhurst Road, Steadman Road and Zenith Place, Kinross Street and Cicada Place to service the remainder of the development area.~~
- b. ~~Wastewater is to be reticulated, with Area 1 discharging via gravity to an existing main located in Yaldhurst Road. The wastewater flows for Areas 2, 3 and 4 will drain via gravity to a single pump station to be located on the northern side of the Paparua Stream. From the pump station, flows will be conveyed via rising main to an existing sewer in Buchanans Road. The storage in the pump station is to be sized to attenuate peak flows, to avoid exacerbating downstream overflows. The final location and detailed design of these facilities will be determined through the resource consent process.~~

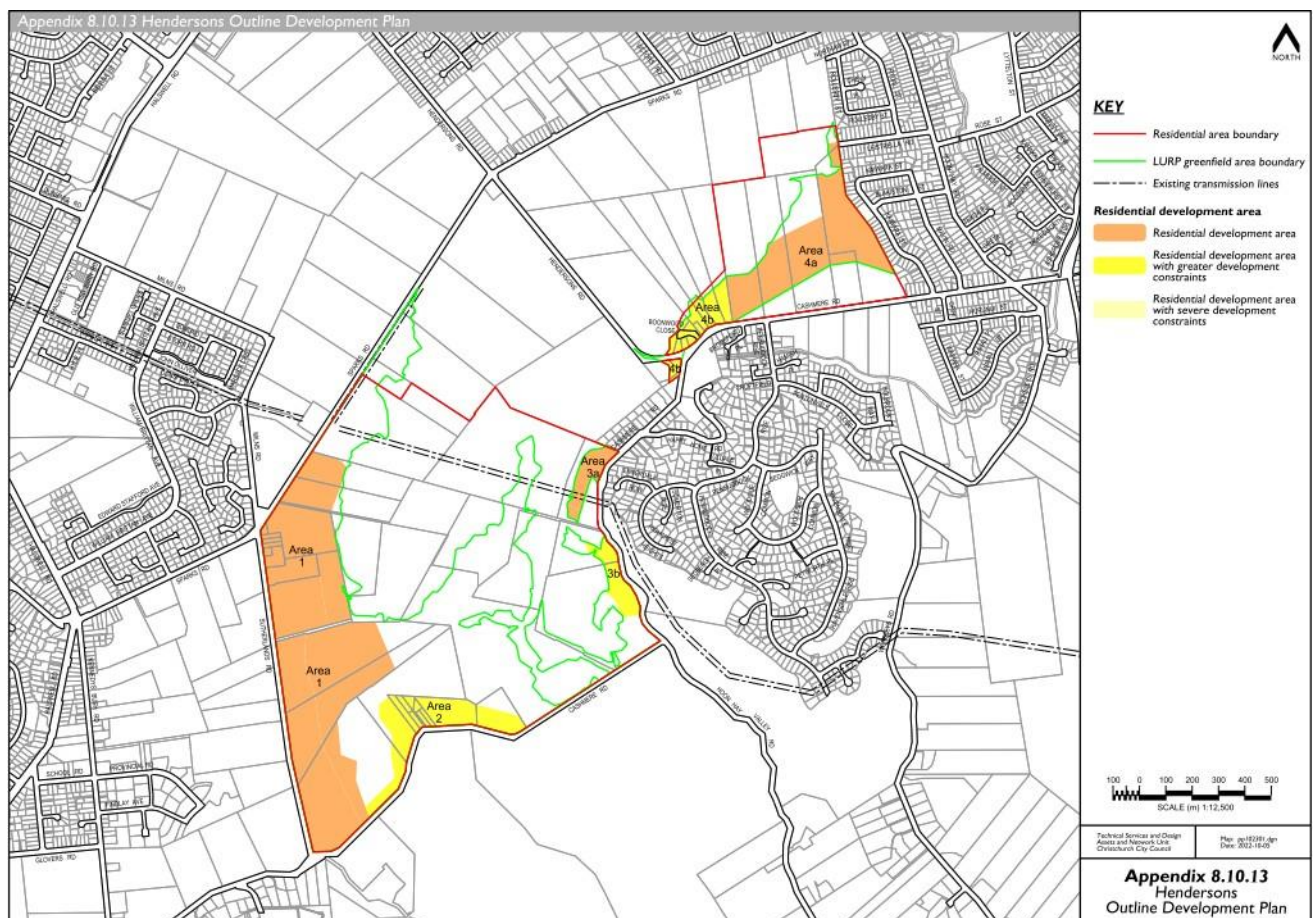
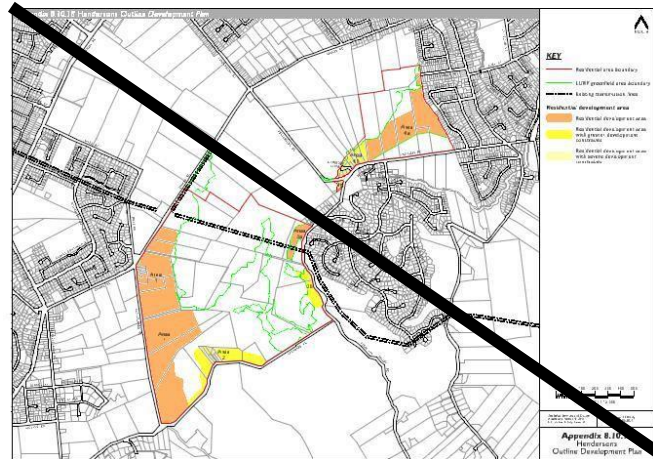
Appendix 8.10.138 Hendersons Outline Development Plan





Appendix 8.10.13 - Hendersons Outline Development Plan (West)





8.10.138.A CONTEXT

- a. The Hendersons Basin area was historically a major **wetland**/raupo swamp. Whilst it has been developed for farming over the last 150 years, it is still significant in terms of its ecological value and function as a natural ponding area. Cashmere Stream, which has historic, ecological and **amenity values**, traverses the area. The **Council** owns land within the basin area and intends increasing the opportunities for **wetlands**, planting of native species and recreational use. Existing and future stormwater facilities will be a major feature of this neighbourhood. As development will not occur in one contiguous area, establishing

connections with adjoining residential areas and integrating development with adjoining open spaces is vital to achieving walkable communities.

8.10.138.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is provided in the [South West Area Plan, Christchurch City Council, April 2009](#).

8.10.138.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in [8.7.1 - 8.7.4](#) or the matters for discretion in [8.8](#). They are not requirements for the purposes of Rule [8.6.11\(a\)](#) or Rule [14.12.2.16](#).
 1. The scope for development of the area for residential purposes is limited, as extensive filling for subdivision and building would reduce the storage capacity of the basin and increase the risk of flooding to local and downstream residential areas. Land development around parts of the basin's periphery is however possible and can be maximised through engineering works, in particular compensatory stormwater storage. Development of areas zoned Rural Urban Fringe is severely constrained due to its location in the flood ponding area.
 2. Area 1 is to connect with SE Halswell ~~Residential New Neighbourhood~~ **Future Urban** Zone, Area 3 will form an extension of the Westmorland neighbourhood, Area 4 will form a link between the Westmorland and Cracroft neighbourhoods, but is to have its own identity.
 3. New development is to be designed to take maximum advantage of the outlook across Hendersons Basin wetlands and allow visual and physical access to the basin for the wider community. This will be achieved through the provision of view shafts, alignment of roads and footpaths, orientation of allotments and convenient access points for pedestrians and cyclists.
 4. Cashmere Stream and its enhancement will be a key feature of this area. The Cashmere Drainage system is registered as an historic area under the [Historic Places Act 1993](#) (List number 7482) this includes the drain which runs between Area 4a and 4b. This should be safeguarded and recognised through on-site interpretation.
 5. Kahikatea stumps are noted in the South West Area Plan (Plan 5). These should be further investigated and addressed as necessary, through the development process.
 6. An open and attractive interface should be created between the edge of new residential areas and adjacent open land. This may require roads to be located along the boundary with stormwater basin/recreational/conservation or rural land, or if private property boundaries back onto the open area, appropriate boundary planting or fencing is required.
 7. Where public access along the Hendersons Basin edge is expected, a design solution which addresses privacy and security issues will be required. Consideration is to be given to the view of urban development across the basin from Sparks, Cashmere and Hendersons Roads.
 8. To provide a less harsh edge to development, a more sinuous alignment of the boundary between the residential development area and adjacent rural zoned land is encouraged, providing there is no increase in the total development area.

9. All development is to have a good interface with adjacent roads. In general the subdivision design should encourage houses to front onto roads and the interface treatment should be consistent along the length of the road.
10. Where existing properties are to remain, distribution lines cross the residential area or new residential areas adjoin rural or existing residential areas, larger section sizes and planting buffers may be required.
11. Higher yield density development, above 15 hh's/ha, is anticipated in Area 4a, particularly at the eastern end and/or adjacent to the stormwater basin.
12. There is an opportunity for interpretation boards and structures alongside the Cashmere Stream route to include history of the floodplain, raupo swamp and significance to tangata whenua.

8.10.138.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule 8.6.11(a) and Rule 14.12.2.16 are described below and shown on the accompanying plan.

1. INTEGRATION

- a. There are multiple land owners within this ODP area and a number of existing properties. Subdivision designs are to demonstrate good connectivity between different land ownership areas through road, open space and pedestrian and cycle way linkages.

2. DENSITY VARIATIONS

- a. Area 2 – The land slopes steeply up to Cashmere Road making both access to Cashmere Road and development on the slope difficult. There are also existing properties here. Rule 8.6.11(b) density exemptions apply to this constrained area.
- b. Area 3 – The developable area will be impacted in Area 3.a by the realignment of Cashmere Stream and the need for compensatory stormwater storage and in 3.b., where there are existing buildings. Rule 8.6.11(b) density exemptions will apply to this constrained area.
- c. Area 4b – There are existing substantial properties, including those in Boonwood Close. Rule 8.6.11(b) density exemptions apply to this area.

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. Land for recreational/conservation use in conjunction with use for stormwater management.
- b. A community (neighbourhood) park along Sutherlands Road.
- c. The development of parts of a recreational route that connects from Sutherlands Road and runs through to Hendersons Road, running predominantly alongside Cashmere Stream.
- d. A recreational route to provide a link and a viewshaft from Westmorland to the basin area.

- e. An extension of the existing Kaiwara Street **reserve**. Should a **road** connection to Blakiston Street through the existing **reserve** prove acceptable, including from a parks planning perspective, the loss of the **reserve** will need to be compensated for through an enlarged **reserve** on the south side of the new **road**.

4. ACCESS AND TRANSPORT

- a. A secondary **road** through Area 1 to run from Sutherlands Road from a point immediately opposite the collector road running through South East Halswell **Future Urban Zone RNN** to Sparks Road. At least two **road** links are to be created from Sutherlands Road to the new secondary **road**.
- b. **Road** accesses between this **Future Urban Zone RNN** area and Sutherlands, Sparks and Cashmere Roads. These are to be safely located in relation to **road** accesses into S.E. Halswell and North Halswell **Future Urban Zone RNN's**, Redmond Spur **subdivision** and Westmorland.
- c. A **road** network which provides a connection between Cashmere Road and Hoon Hay but is designed to avoid traffic shortcutting between Westmorland and Hoon Hay. This is likely to be via Leistrella Road. Alternatively a connection from the end of Blakiston Street, may be possible.
- d. The junction with Cashmere Road is to be spaced a safe distance from Penruddock Rise. Alternatively a signalised crossroads with Penruddock Rise may be constructed.
- e. A fully interconnected **local road** network within Area 1 and Area 4, that achieves a high level of **accessibility** for people, including opportunities for walking, cycling and public transport.
- f. Pedestrian and cycle connections between residential areas and public spaces.
- g. Where development interfaces with Cashmere Road, provision will be made to enable **local road** widening to better manage the needs of cyclists in the area.

5. STORMWATER

- a. Land to be set aside for compensatory stormwater storage or other stormwater management as shown on the ODP. Where no such land is shown on an **allotment** which also has a residential development area, additional land may be required, to be determined at the time of **subdivision**. Further rural land may be required for stormwater management in the future.
- b. There are known to be **springs** in the western part of the neighbourhood. These are to be identified and safeguarded at the time of **subdivision**.
- c. Existing waterways and stormwater drains shown on the ODP are to be enhanced in conjunction with residential development. All watercourses are to have a natural form and may require realignment.
- d. Land set aside for stormwater management is to also incorporate **wetland** habitats, walkways and **cycle ways**.

6. WATER AND WASTEWATER

- a. Most new development in this ODP area can be serviced from the existing water supply network. However a water supply master plan for the Halswell **Future Urban Zone Residential New Neighbourhoods**, to be

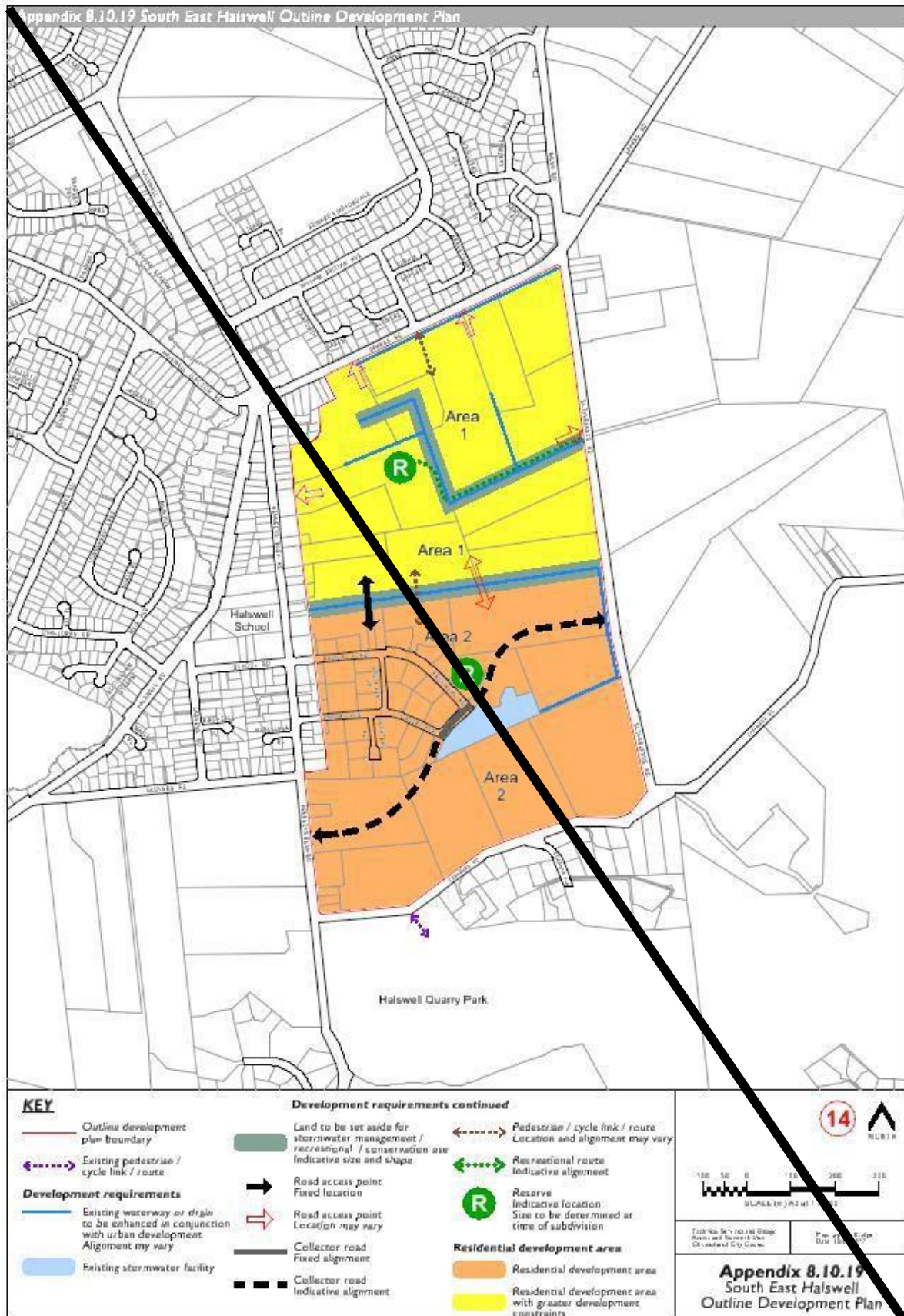
developed by Council, will confirm the infrastructure required. Some additional improvements may be required upon further more detailed investigations being undertaken by Council and/or at the time of subdivision.

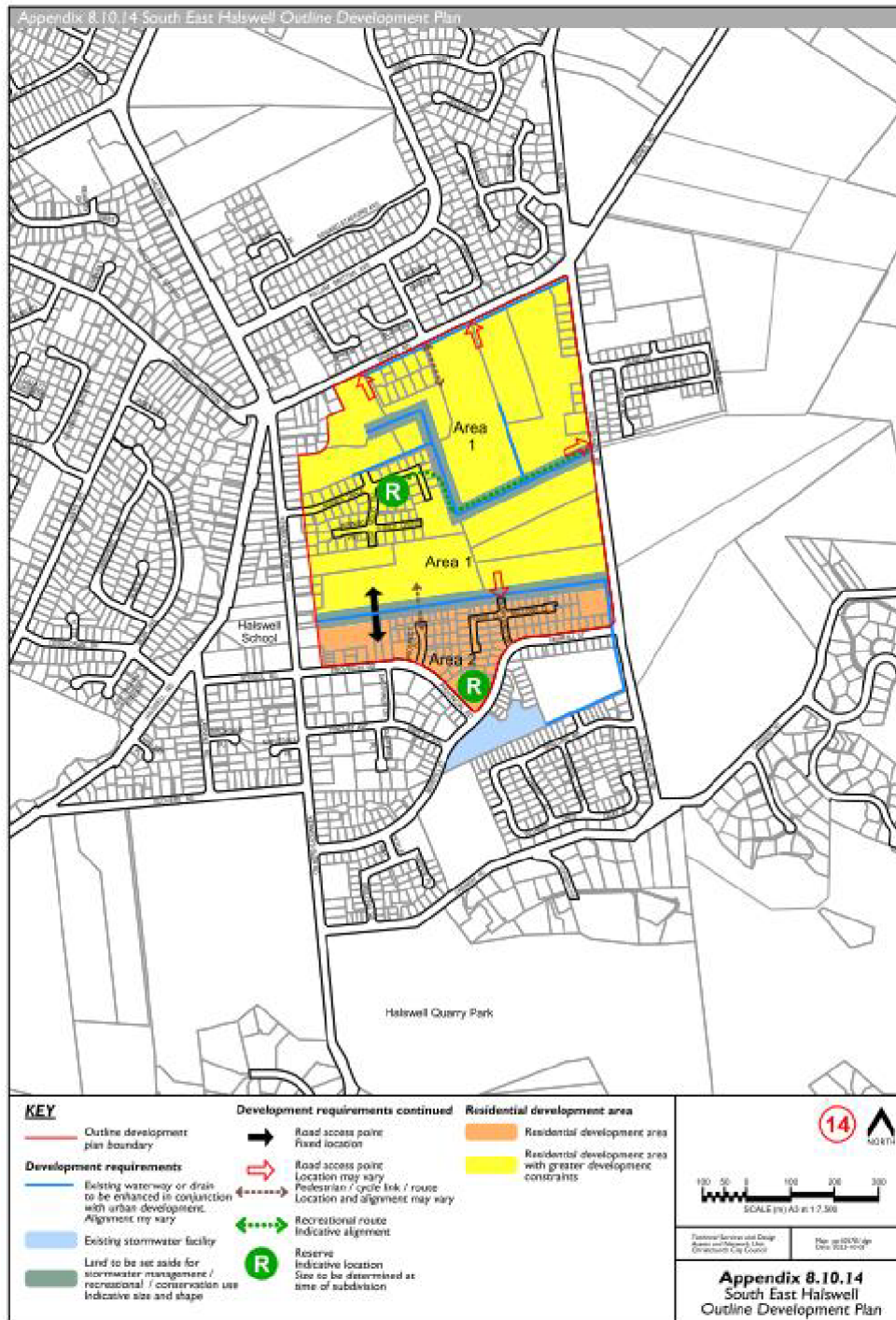
- b. Area 1 to be serviced by a pressure sewer area. New residential development will be required to connect to new trunk mains along Sutherlands and Sparks Roads. A pressure sewer along Cashmere Road serving the Redmund Spur subdivision, will be upsized for Area 2. The wastewater servicing of the remaining areas will be determined at the time of subdivision.
- c. No more than 487 houses in East Hendersons shall connect to the pressure sewer system in the Pump Station 68 catchment.

7. STAGING

- a. There are no staging requirements other than those relating to the provision of infrastructure. Development is however expected to generally proceed from existing roads inwards towards the basin.

APPENDIX 8.10.149 SOUTH EAST HALSWELL OUTLINE DEVELOPMENT PLAN





8.10.149.A CONTEXT

- Located close to the centre of the Halswell community, this area has a number of established houses and mature trees and gardens. The neighbourhood is divided across the centre by a stormwater channel and tree belt running from Kennedys Bush Road to Sutherlands Road. The northern part of the area has high ecological values and is the site of traditional headwaters of the Cashmere Stream. The Quarry View subdivision forms a nucleus for development in the southern half of the neighbourhood. Views are afforded of the Port Hills and Halswell Quarry Park to the south and east.

8.10.149.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is provided in the [South West Area Plan, Christchurch City Council, April 2009](#).

8.10.149.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in [8.7.1 - 8.7.4](#) or the matters for discretion in [8.8](#). They are not requirements for the purposes of Rule [8.6.11\(a\)](#) or Rule [14.12.2.16](#).
 - 1. Advantage is to be taken of existing mature trees to provide an identity for this neighbourhood.
 - 2. The design of Area 1, (north of the central stormwater channel) is to be structured around the traditional headwaters, [springs](#), a stormwater facility, and significant trees.
 - 3. Area 2 (south of the stormwater channel) is to be designed around existing trees and a stormwater [reserve](#), which has been established as part of the Quarry View [subdivision](#).
 - 4. Views southwards to the Port Hills and Halswell Quarry Park can be utilised to provide a sense of place, through the alignment of [roads](#) and reserves to form view shafts.
 - 5. Kahikatea stumps and an [archaeological site](#) are noted in the South West Area Plan (Plan 5) near the junction of Sutherlands Road and Cashmere Road. These to be further investigated and addressed as necessary.
 - 6. An appropriate treatment is required for the interface of development with Sparks Road, Sutherlands Road and Cashmere Road.
 - 7. Mature trees and a drain run alongside much of Sparks Road and parts of Sutherlands Road, such that a green interface with limited access across it, may be appropriate in these locations.
 - 8. The land slopes steeply up to Cashmere Road making both access to Cashmere Road and development on the slope difficult. An appropriate treatment for this rural/urban interface is required.
 - 9. Where existing residential properties are to remain or where the boundary of the **Future Urban Zone** ~~RNN~~ abuts properties in the **Medium Density Residential**~~Residential Suburban~~ Zone, larger section sizes and planting buffers may be required.
 - 10. Residential ~~yield densities~~ of at least 15 hh's/ha are anticipated in Area 2, with opportunities for higher density development opposite Halswell Quarry Park.

8.10.149.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule [8.6.11\(a\)](#) and Rule [14.12.2.16](#) are described below and shown on the accompanying plan.

1. INTEGRATION

- a. There are multiple land owners within this ODP area and a number of existing properties. Subdivision designs shall demonstrate good connectivity between different land ownership areas through road, open space and pedestrian and cycle way linkages.
- b. Houses are to front onto Kennedys Bush Road.

2. DENSITY VARIATIONS

- a. Area 1 – Residential development in Area 1 is constrained by the smaller landholdings, the location of existing substantial houses, ecological features and the large number of mature trees. Rule 8.6.11(b) density exemptions apply to this constrained area.

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A community (neighbourhood) park towards the centre of Area 1.
- b. An extension of the Quarry View reserve in Area 2.
- c. A recreational route that runs from the reserve in Area 1 to Sutherlands Road alongside an enhanced waterway, connecting with the recreational route through the Hendersons ODP area.

4. ACCESS AND TRANSPORT

- a. A collector road capable of accommodating a bus route. to connect with a collector road running between Halswell Road and Kennedys Bush Road (South Halswell ODP) and continuing through to Sutherlands Road. This road is to link into a section of the collector road which has been formed between Findlay Avenue and Provincial Road as part of the Quarry View subdivision.
- b. A road connection from Provincial Road to link with the road network of Area 1.
- c. At least one other road connection from the collector road in a northerly direction to link with the road network of Area 1.
- d. A fully interconnected local road network across the site that achieves a high level of accessibility for people, including opportunities for walking, cycling and public transport and connections to the existing community and facilities of Halswell, particularly Halswell School, Halswell Quarry Park, bus routes and pedestrian/cyclist links and to the Hendersons **Future Urban Zone RNN** to the east of Sutherlands Road.
- e. Pedestrian/cyclist links from the northern reserve out to the perimeter roads and southwards to connect with the waterway and a pedestrian connection to Provincial Road.
- f. Where development interfaces with Cashmere Road, provision will be made to enable local road widening to better manage the needs of cyclists in the area.

5. STORMWATER

- a. Stormwater in Area 1 is to drain to the stormwater facility on the eastern side of Sutherlands Road.

- b. Naturalisation, enhancement and realignment where appropriate of Cashmere Stream and the stormwater drains that run through the neighbourhood, along Sparks Road and Sutherlands Road.
- c. Natural **springs** in the western part of Area 1 around the headwaters of Cashmere Stream are to be identified and safeguarded at the time of **subdivision**.

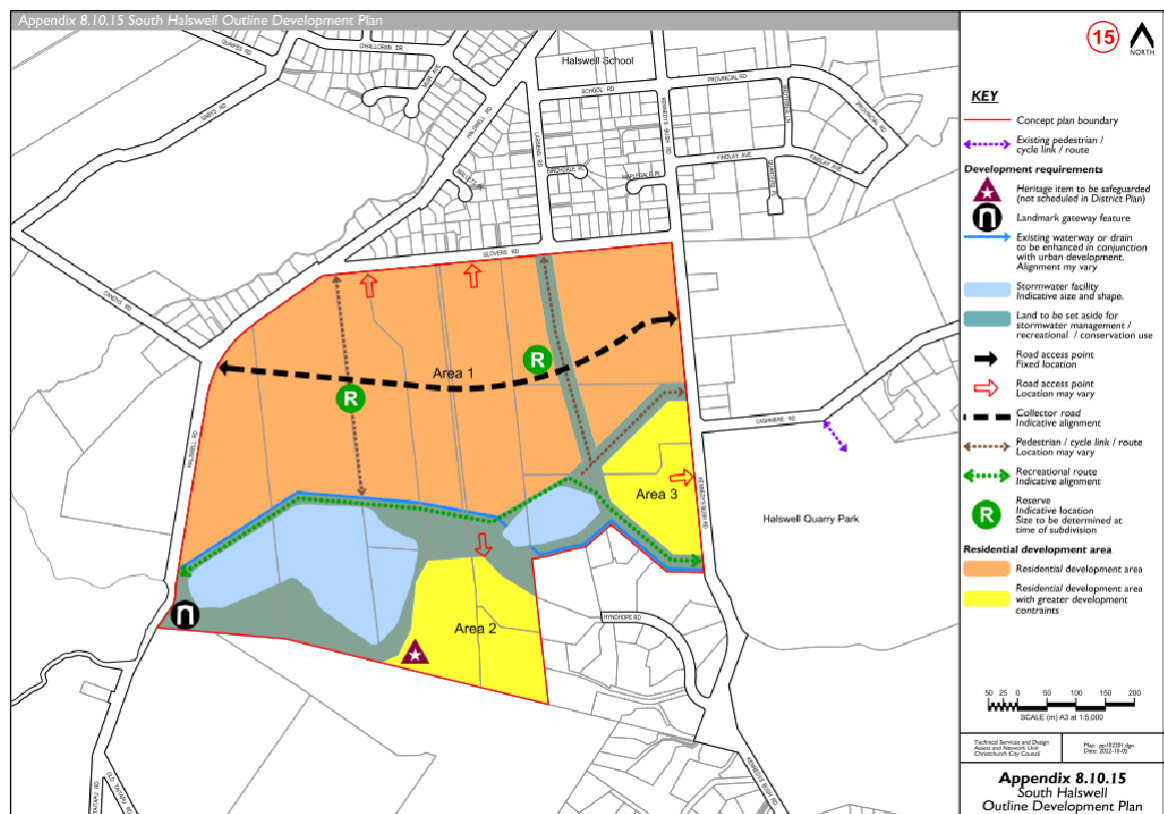
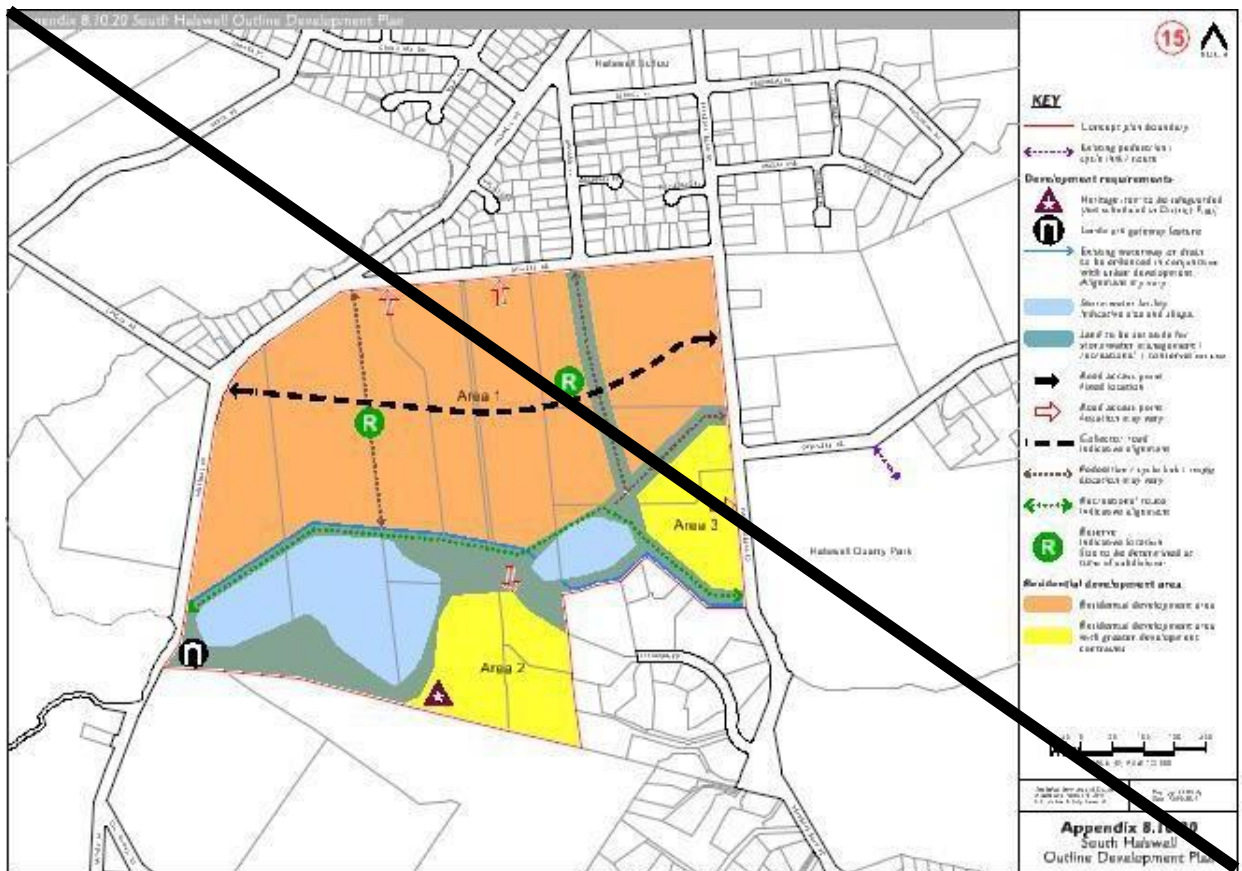
6. WATER AND WASTEWATER

- a. Water supply infrastructure requirements and any upgrades needed will be determined following the development of a water supply master plan for the Halswell Residential New Neighbourhoods.
- b. Wastewater to be reticulated with a pressure sewer network, discharging to pressure mains to be constructed on the **collector road** and Sutherlands Road.

7. STAGING

- a. There are no staging requirements other than those relating to the provision of infrastructure.

APPENDIX 8.10.2015 — SOUTH HALSWELL OUTLINE DEVELOPMENT PLAN



8.10.-2015.A CONTEXT

- a. This neighbourhood extends from below the hill slopes of the Hyndhope Road residential area to the established suburb of Halswell. It is bordered on its southern side by a low ridge culminating in a rocky outcrop. Green Stream runs across the southern part of the neighbourhood from Halswell/Tai Tapu Road (SH75) to Kennedys Bush Road. Across Kennedys Bush Road is the Halswell Quarry Park. Historic associations and connections with this area, include the former tramline that linked to Halswell Quarry and its use by local hapu and rūnanga. The southern western point of this neighbourhood defines the boundary of the urban area and appears as the entrance to **Christchurch City** when travelling from the south. Views are afforded of the Port Hills and Halswell Quarry Park to the south and east.

8.10.-2015.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is provided in the [South West Area Plan, Christchurch City Council, April 2009](#).

8.10.-2015.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in [8.7.1 - 8.7.4](#) or the matters for discretion in [8.8](#). They are not requirements for the purposes of Rule [8.6.11\(a\)](#) or Rule [14.12.2.16](#).
 1. This **future urban area** ~~new neighbourhood~~ is to be structured around the realigned corridor of Green Stream, stormwater facilities and land for recreational and conservation use in the south of the neighbourhood. Collectively these will form a 'green edge' to Christchurch.
 2. Advantage should be taken of: views out to the south and south east by aligning **roads** and pedestrian/**cycle ways** to provide view shafts; the interface with Halswell Quarry Park and the link through the site from Larsens Road.
 3. Any new facilities within the neighbourhood should be located such that they form or strengthen a community node, this is likely to be alongside Kennedy's Bush Road and/or the **collector road**.
 4. Where existing properties are to remain larger section sizes and planting buffers adjacent to them may be required.
 5. There is an opportunity to recognise Maori and European heritage in the design of this area. In particular the route of the former tramline to Halswell Quarry is to be recognised and interpretation provided, to include the history of the tramline and local quarrying.
 6. There is an opportunity to create a gateway feature at or near the south western corner of the neighbourhood, adjacent to Halswell Road, to mark the entrance to the city.
 7. An **archaeological site** is noted in the South West Area Plan (Plan 5) in the vicinity of Halswell Road, it is to be further investigated and addressed as necessary.
 8. There is an opportunity to cluster housing development to the northern part of Area 3 to maximise the width of the open space corridor that extends along the southern part of the **outline development plan** area and connects to Halswell Quarry Park. Larger **building setbacks** and deeper sections should also be considered to further maximise the width of this open space corridor (green edge).

8.10.2015.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule 8.6.11(a) and Rule 14.12.2.16 are described below and shown on the accompanying plan.

1. INTEGRATION

- a. There are multiple land owners within this ODP area and a number of existing properties. Subdivision designs shall demonstrate good connectivity between different land ownership areas through road, open space and pedestrian and cycle way linkages.
- b. Houses are to front onto Glovers Road and Kennedys Bush Road.
- c. Along the Halswell Road frontage, where there is to be no direct property access, the subdivision design will demonstrate an appropriate and attractive treatment along Halswell Road.

2. DENSITY

- a. Area 2 - The area adjacent to the Hyndhope Road residential area is to be developed at a low density due to parts of this area being lower lying, to contribute to the green edge and to ensure that new development is compatible with existing properties. Rule 8.6.11(b) density exemptions apply to this constrained area.
- b. Area 3 - There may be geological and surface water management constraints in this area. Rule 8.6.11(b) density exemptions apply to this area.

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A green edge to the city comprising land for stormwater management, wetlands, recreational and conservation use.
- b. A recreational route to run across the southern part of the site to provide a direct connection to Halswell Quarry Park.
- c. Two community (neighbourhood) parks in the northern part of the neighbourhood.

4. ACCESS AND TRANSPORT

- a. No individual property access to Halswell Road.
- b. A collector road to run from Halswell Road from a point immediately opposite Candys Road through the neighbourhood across Kennedys Bush Road to connect up and align with the collector road through the South East Halswell Future Urban Zone RNN to the east. Other than the collector road, no additional road junctions with Halswell Road. This road to be capable of accommodating a bus route.

- c. A fully interconnected **local road** network across the neighbourhood that achieves a high level of **accessibility** for people, including opportunities for walking, cycling and public transport and connections to the existing facilities of Halswell, particularly Halswell School, Halswell Quarry Park, bus routes and pedestrian/cyclist links.
- d. **Road** connections from Glovers Road.
- e. A connection from the **local road** network in Area 1 to Area 2.
- f. Pedestrian/cyclist routes from Glovers Road and Kennedys Bush Road to link via reserves to the southern open space.

5. STORMWATER

- a. Extensive provision for stormwater management across the southern portion of the neighbourhood. Stormwater facilities and **wetland** habitats to be located adjacent to a realigned Green Stream.
- b. Swales to run from Glovers Road and Kennedys Bush Road to link to the eastern stormwater facility.
- c. There are known to be **springs** near the southern boundary. These are to be identified and safeguarded at the time of **subdivision**.

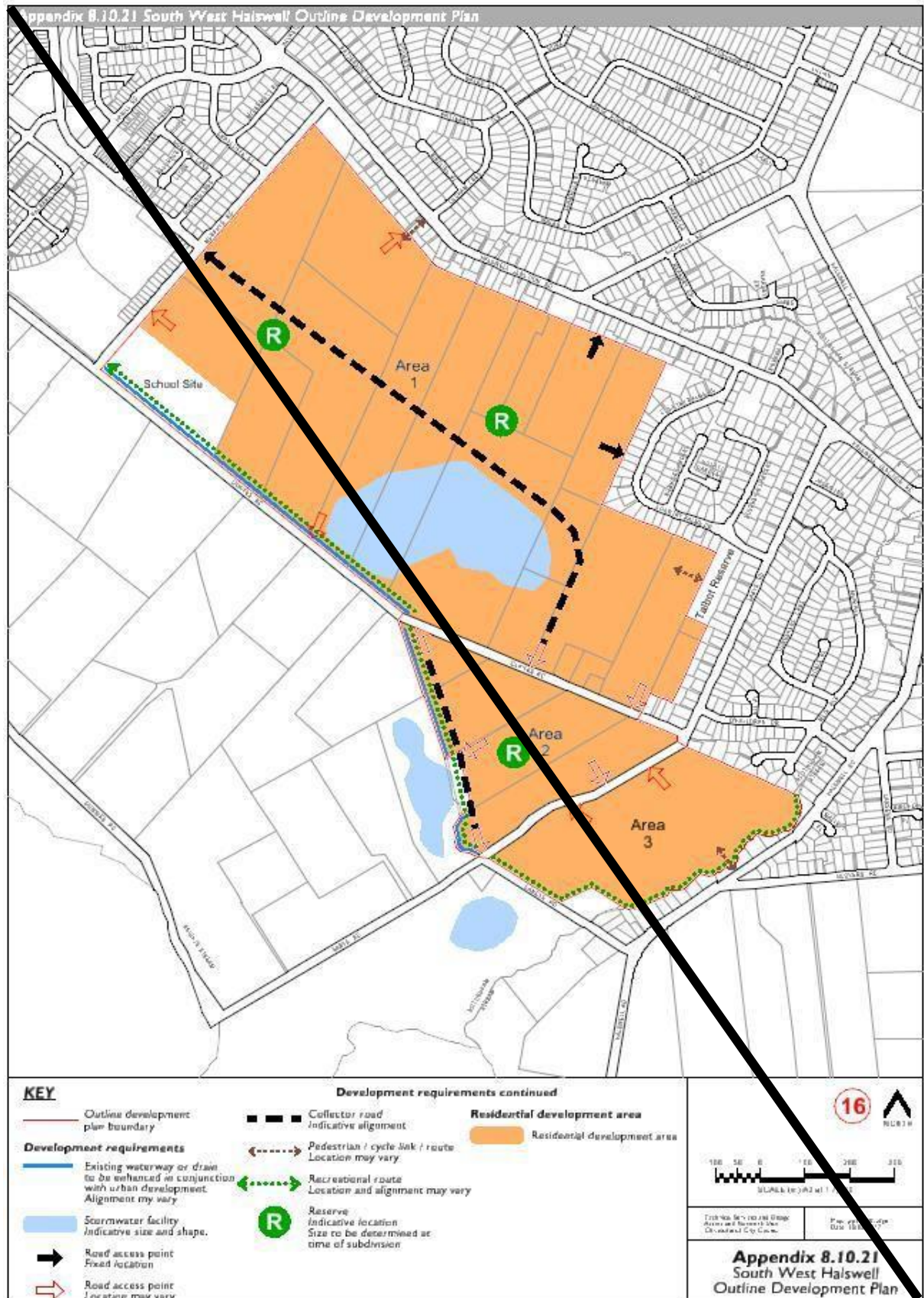
6. WATER AND WASTEWATER

- a. Water supply infrastructure requirements and any upgrades needed will be determined following the development of a water supply master plan for the Halswell **Future Urban Zone**~~Residential New Neighbourhoods~~.
- b. Wastewater to be reticulated with a pressure sewer network, discharging to a pressure main on the **collector road** to the east of Kennedys Bush Road.

7. STAGING

- a. There are no staging requirements other than those relating to the provision of infrastructure.

APPENDIX 8.10.1624 SOUTH WEST HALSWELL OUTLINE DEVELOPMENT PLAN





8.10.1621.A CONTEXT

- Halswell has a history of early Maori occupation, followed by European settlement. This area has been farmed since the mid-19th Century. Quaifes Road and Candys Road were named after prominent early settlers. The Murphys, longstanding landowners, ran a dairy farm and dairy business. There is a large reserve to the west of Murphys Road (Longhurst Reserve) a large stormwater management area close to

Sabys Road, Nottingham Stream runs along the southern edge of the new neighbourhood and several drains traverse the site. Views are afforded of the Port Hills to the south east and rural land to the south and west.

8.10. ~~1624~~.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is provided in the [South West Area Plan, Christchurch City Council, April 2009](#).

8.10. ~~1624~~.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in [8.7.1- 8.7.4](#) or the matters for discretion in [8.8](#). They are not requirements for the purposes of Rule [8.6.11\(a\)](#) or Rule [14.12.2.16](#).
 1. This new neighbourhood is to be structured around views out to the south west and south (by aligning [roads](#) to provide view shafts); a central [collector road](#); stormwater management facilities; and the Nottingham Stream corridor.
 2. The neighbourhood is to be connected to the communities and facilities of West Halswell to the west and Halswell to the north and east.
 3. Any new local [commercial centres](#) and/or [community facilities](#) within the neighbourhood are to be located such that they create or strengthen a community node, this is likely to be alongside the [collector road](#) and/or a reserve.
 4. A new school is to be located at the corner of Murphys and Quaifes Road providing a focal point for the neighbourhood.
 5. Appropriate [boundary](#) treatments are required along the entire length of the ODP boundary to provide a good interface with adjacent [roads](#). The interface treatment will generally be consistent along the length of the [road](#).
 6. The [subdivision](#) design will demonstrate how an appropriate interface treatment is to be achieved between future housing and the following: Quaifes Road and the rural area beyond; directly with rural land; Sabys Road stormwater basin; Nottingham Stream, Talbot Reserve and new [reserves](#) and stormwater facilities.
 7. Talbot Reserve is well located to serve new development in its vicinity. Additional Neighbourhood Parks are to be well distributed throughout the neighbourhood.
 8. Higher density development is expected to be closer to the [collector road](#), [reserves](#), stormwater facilities or any [community facilities](#).
 9. Where existing properties are to remain or where the boundary of the **Future Urban Zone RNN** abuts properties in the **Medium Density Residential Zone**~~Residential Suburban Zone~~ larger section sizes and planting buffers adjacent to them may be required.

8.10. ~~1624~~.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule [8.6.11\(a\)](#) and Rule [14.12.2.16](#) are described below and shown on the accompanying plan.

1. INTEGRATION

- a. There are multiple land owners within this ODP area and a number of existing properties. Subdivision designs shall demonstrate good connectivity between different land ownership areas through road, open space and pedestrian and cycle way linkages.
- b. Houses are to face onto Murphys Road.

2. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A recreational route adjacent to the rural boundary and Nottingham Stream. This is to provide a connection between Longhurst Reserve, a stormwater facility close to Quaifes Road and Nottingham Stream.

3. ACCESS AND TRANSPORT

- a. A collector road to run through Area 1 between Murphys Road and Quaifes Road. The western end to be located immediately opposite Caulfield Avenue. At the eastern end, the point of connection to Quaifes Road to be approximately as shown on the ODP.
- b. A collector road to run between Quaifes Road and Candys Road. The eastern leg of Quaifes Road can be closed to through traffic at its western end once the collector road between Quaifes Road and Candys Road has been established.
- c. A fully interconnected local road network across the neighbourhood and connected to the wider area via existing access points around the perimeter of the ODP in order to integrate the neighbourhood with the existing Halswell settlement. This network is to achieve a high level of accessibility for people, including opportunities for walking, cycling and public transport. An access point has been set aside in Country Palms Drive.
- d. Road connections in Area 1 between Quaifes Road and the collector road.
- e. Road connections in Area 2 between Quaifes Road, Sabys Road and the new collector road.
- f. More than one road access onto Sabys Road from Area 3, to enable a loop road through the area.
- g. At least one pedestrian/cyclist access across Nottingham Stream to connect to Halswell Road.

4. STORMWATER

- a. A large stormwater facility, to be located close to Quaifes Road.
- b. A stormwater facility to be provided to service Area 3, either within Area 3 or located to the south.
- c. Existing waterways/drains which traverse Area 1 and Area 2 are to be naturalised, enhanced and realigned as necessary, to run into the new stormwater facility in Quaifes Road and the Sabys Road stormwater facility, respectively.

- d. The waterway which runs along Quaifes Road and the south western boundary of Area 2 to be naturalised and enhanced to become a feature of the new neighbourhood in conjunction with the recreational route.
- e. There are known to be **springs** in the western part of Area 1. These are to be identified and safeguarded at the time of **subdivision**.

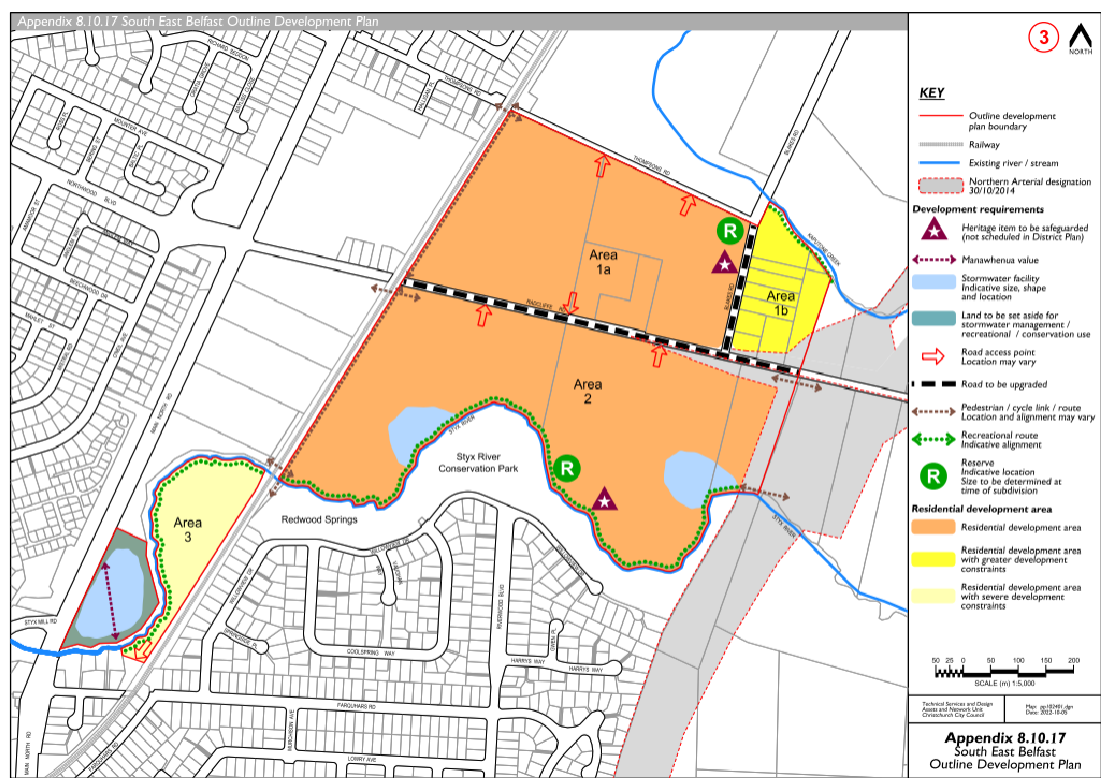
5. WATER AND WASTEWATER

- a. Water supply infrastructure requirements and any upgrades needed will be determined following the development of a water supply master plan for the Halswell Water Supply Zone.
- b. Wastewater infrastructure requirements and any upgrades needed will be determined following the development of a wastewater master plan for the South West Halswell ODP area.

6. STAGING

- a. There are no staging requirements other than those relating to the provision of infrastructure. Possible alternative interim infrastructure solutions may be considered at the time of **subdivision** under Chapter 8, Rule **8.5.1.3** Restricted Discretionary Activity RD2.

APPENDIX 8.10.1722 — SOUTH EAST BELFAST OUTLINE DEVELOPMENT PLAN



8.10.1722.A CONTEXT

- a. Belfast, originally a raupo swamp, developed as a township following the establishment of farming runs in the 1850's and the commencement of agricultural and industrial activities a couple of decades later. The settlement is physically distinct due to its situation at the northern edge of the city and its separation from the rest of Christchurch by the Styx River corridor to the south and extensive rural/urban boundary. Belfast is a highly significant area for local Maori. It has historically been a traditional thoroughfare for travelling between Kaiapoi and Banks Peninsula. The Styx River, Kaputone Stream, railway line and proposed Northern Arterial Motorway will contain this new neighbourhood and provide the opportunity to clearly identify it as a distinct place distinguished by its connection with the Styx River.

8.10.1722.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is also provided in the [Belfast Area Plan, Christchurch City Council, June 2010](#).

8.10.1722.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in [8.7.1 - 8.7.4](#) or the matters for discretion in [8.8](#). They are not requirements for the purposes of Rule [8.6.11\(a\)](#) or Rule [14.12.2.16](#).
 1. The edge of residential development will be visible from Main North Road and across the river from the Styx River Conservation Reserve and Redwood Springs neighbourhood. New development is to be designed to take maximum advantage of the Styx River through providing visual and physical access to the river corridor for residents and the wider community. This can be achieved through the provision of view shafts, pedestrian/cyclist links, alignment of [roads](#) and footpaths, location of [reserves](#) and orientation of [allotments](#).
 2. Belfast/Northwood [Key Activity Centre](#) is in close proximity. The neighbourhood is to be designed to take advantage of this, with higher densities closer to the [Key Activity Centre](#) and good connections to it.
 3. Radcliffe Road will provide access between the motorway and Main North Road. New development will need to be designed to have a good interface with this [road](#). The treatment is to be consistent along its length.

8.10.1722.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule [8.6.11\(a\)](#) and Rule [14.12.2.16](#) are described below and shown on the accompanying plan.

1. INTEGRATION

- a. **Subdivision** layouts are to be designed to align **roads** and footpaths along the edge of the river corridor in the same manner as Willowview Drive to the south.
- b. The new neighbourhood is to link with the East Belfast ODP area, adopting similar treatments for the interface with the railway line and motorway, to ensure a good outlook and acceptable noise levels for residents, and take advantage of any recreational opportunities.
- c. A short section of Kaputone Stream runs along the north eastern boundary of the ODP area. It is to be enhanced and utilised as a design feature and recreational asset in the same manner as the rest of the corridor.

2. DENSITY VARIATION

- a. Area 1. B - This area interfaces with the Kaputone Stream and motorway corridor and is an irregular shape. This may limit its development capacity. Rule 8.6.11(b) density exemptions apply to this constrained area.
- b. Area 2 - The irregular southern boundary and the need for setbacks will reduce the development capacity of this block a little, but it is otherwise unencumbered and a density of at least 15 hhs/ha is to be achieved.
- c. Area 3 - This pocket of land has severe development constraints and may be more appropriately used for stormwater management, conservation and recreational use. Should this not eventuate lower density residential development may be achievable. Rule 8.6.11(b) density exemptions apply to this constrained area.

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A community (neighbourhood) park close to the north side of Radcliffe Road in a central location.
- b. A community (neighbourhood) park alongside the Styx River in a central location.
- c. Recreational routes along the Styx and Kaputone River esplanades.
- d. Two heritage items are to be retained, being the 17 Blakes Road stable block and 120 Radcliffe Road bay villa.
- e. The location of the historic Maori footpath that once ran through Belfast is to be identified and the route restored or marked.

4. ACCESS AND TRANSPORT

- a. Radcliffe Road to be upgraded to **collector road** status to provide for public transport, pedestrian and **cycle ways**.
- b. Blakes Road to be upgraded to urban standard, to correlate with the design for the section through East Belfast **Future Urban Zone RNN**.

- c. A fully interconnected **local road** network across the site that achieves a high level of **accessibility** for people, including opportunities for walking, cycling and public transport and that provides connections with Radcliffe Road, Blakes Road and across Thompsons Road to connect with the East Belfast ODP area.
- d. At least one access onto Radcliffe Road from Area 1.a. in addition to Blakes Road.
- e. More than one access onto Radcliffe Road from Area 2 to enable a loop **road** through the area.
- f. Pedestrian and cyclist links to adjacent areas (including over the railway line and under the motorway) and to the Styx River and Kaputone Stream corridors.
- g. Formation of a section of the Northern Line Cycleway, an off-road pathway from Belfast to South Hagley Park.

5. STORMWATER

- a. Two stormwater facilities adjacent to the Styx River in Area 2.
- b. Stormwater management area adjacent to Main North Road.

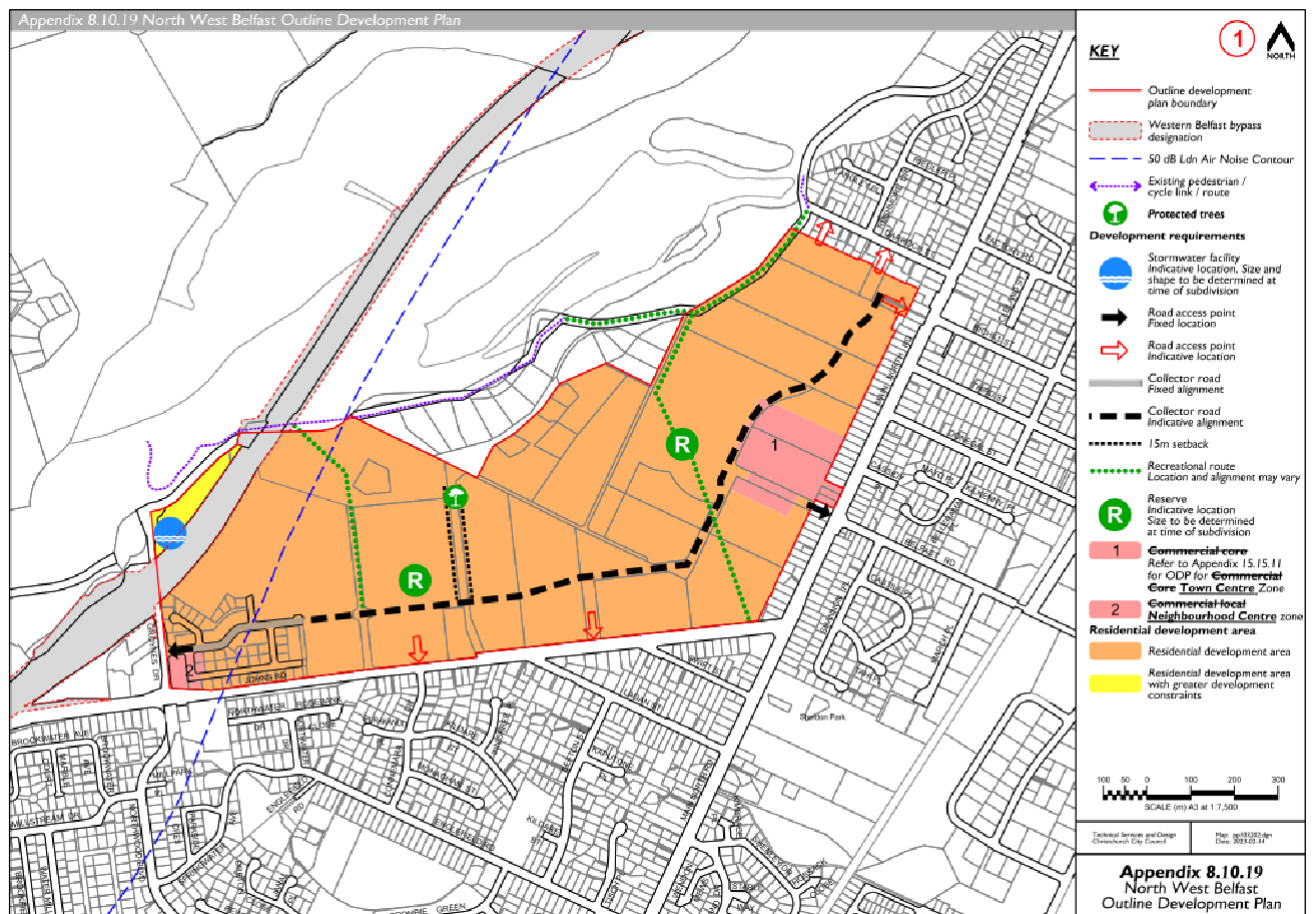
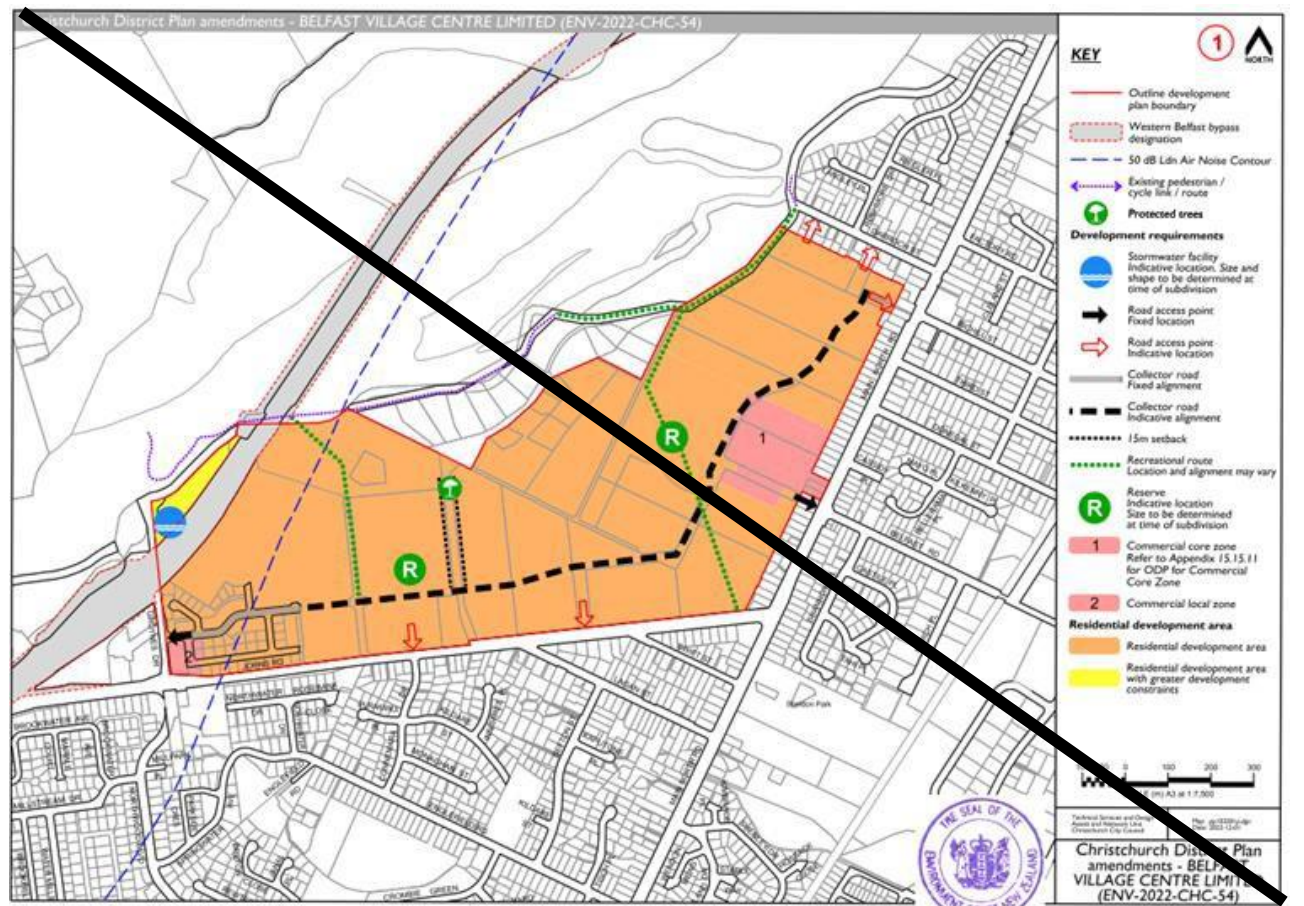
6. WATER AND WASTEWATER

- a. A new water supply main is to be constructed from the Thompsons Water Supply Pump Station (on Thompsons Road next to the railway line) or from the water supply main on Thompsons Road, which runs south and east through the South East Belfast ODP area to connect to the Highfield ODP area.
- b. A new pressure main along Thompsons Road to the sewer on Main North Road will be required to service the new neighbourhood. Wastewater Pump Station 62 will need to be upgraded to accommodate growth in the Belfast area.

7. STAGING

- a. There are no staging requirements other than those relating to the provision of infrastructure.

APPENDIX 8.10.1823 NORTH WEST BELFAST OUTLINE DEVELOPMENT PLAN



8.10.1823.A CONTEXT

- a. The North West Belfast Outline Development Plan area is located on the northern edge of the city and is generally bounded by Johns Road, the Main North Road, the Groynes open space and the Waimakariri stopbank. The neighbourhood lies in close proximity to many essential facilities and amenities including the shopping centres at Belfast and Northwood as well as having easy access to major employment nodes at Belfast and the Airport. The established residential areas at Belfast and Northwood are located to the immediate east, north and south of the site. The Western Belfast bypass is located to the west of the site.

8.10.1823.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is also provided in the [Belfast Area Plan, Christchurch City Council, June 2010](#).

8.10.1823.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in [8.7.1 - 8.7.4](#) or the matters for discretion in [8.8](#). They are not requirements for the purposes of Rule [8.6.11\(a\)](#) or Rule [14.12.2.16](#).
 1. The main feature of this area will be the outlook to the adjacent open space to the north west of the site and the connections available to the Groynes, Clearwater and Waimairi walkway. Maximum advantage can be taken of these features through the provision of view shafts, pedestrian/cyclist links, alignment of [roads](#) and footpaths, location of [reserves](#) and orientation of [allotments](#).
 2. This new neighbourhood offers significant opportunities in respect of integrating the new areas with on-site and nearby natural features and open space including the Groynes Reserve, Clearwater and the adjacent walkways.
 3. A new [neighbourhood centre](#) (zoned ~~Town Centre Commercial Core~~, refer to Appendix 15.15.11 Commercial Core Zone (North-West Belfast) Outline Development Plan) located close to the Main North Road intersection with Johns Road, will provide a focus for the area and offer a range of local retail, business and community services.
 4. Where existing properties are to remain or where the boundary of the ~~Future Urban Zone RNN~~ abuts properties in the ~~Medium Density Residential Zone Residential Suburban Zone~~, larger section sizes and/or planting buffers at the interface may be required.
 5. The [subdivision](#) design is to achieve an open and attractive interface with the [adjoining](#) open spaces.
 6. The [subdivision](#) design is to provide a good interface with adjacent [roads](#) and generally the interface treatment is to be consistent along the length of the [road](#).
 7. Any on-site surface stormwater treatment/detention facilities provided are to be generally associated with open space locations.

8.10.1823.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule 8.6.11(a) and Rule 14.12.2.16 are described below and shown on the accompanying plan.

1. INTEGRATION

- a. There are multiple landowners within the ODP area and a number of well-established existing properties. **Subdivisions** shall demonstrate how new development is to be coordinated between the different land owners.

2. DENSITY VARIATIONS

- a. Whilst a density of at least 15hh/ha is required across the ODP area, the land to the west of the Western Belfast ByPass will not achieve this yield due to access constraints. Rule 8.6.11(b) density exemptions apply to this constrained area.

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A walkway link between Belfast (intersection of Main North Road and Johns Road) to the Waimairi walkway.
- b. Two community (neighbourhood) parks generally located on the west end of the site and within the east section of the site close to the **Local Centre Zone** ~~neighbourhood centre~~.
- c. A site boundary setback of 15 metres from the Devondale Driveway and the area within the setback is to include a consistent design of permeable fences and the placement of key trees and shrubs within this 15m setback.

4. ACCESS AND TRANSPORT

- a. A **collector road** running through the site from a point generally opposite Richill Street to Groynes Drive. This **road** is to be capable of accommodating a bus route.
- b. A single intersection is to be formed either directly on the Richill Street intersection with Main North Road or on Darroch Street, at a safe distance from the intersection of Darroch Street and Main North Road, in consultation with the relevant **road** controlling authority.
- c. Access to Johns Road between Lagan Street and Swift Street.
- d. A fully connected **local road** network across the neighbourhood that achieves a high level of **accessibility** for people including opportunities for walking, cycling and public transport. This will provide connections to Main North Road, Johns Road, and Groynes Drive and pedestrian and cyclist connections to the Groynes and the Waimairi walkway.
- e. Residential and other activities will have no direct **vehicle access** to Johns Road other than via intersections shown on the ODP while Johns Road between Groynes Drive and Main North Road is defined as a major

arterial road in this Plan or until the state highway status of this part of Johns Road is revoked, whichever occurs the earlier. This requirement can be Defer with the written approval from the relevant road controlling authority.

- f. The connection of the collector road across the Devondale Driveway will be subject to agreement being reached with the existing owners of that land or alternative legal mechanisms such as acquisition under the Public Works Act.

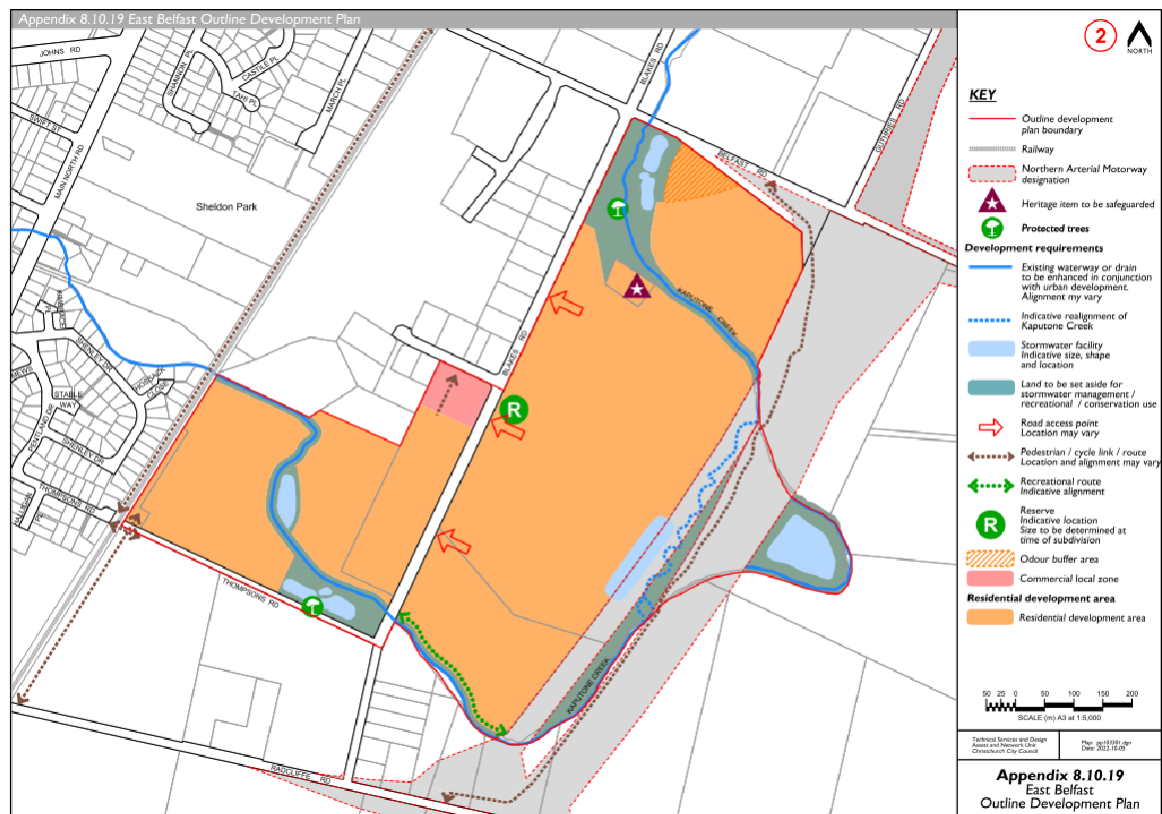
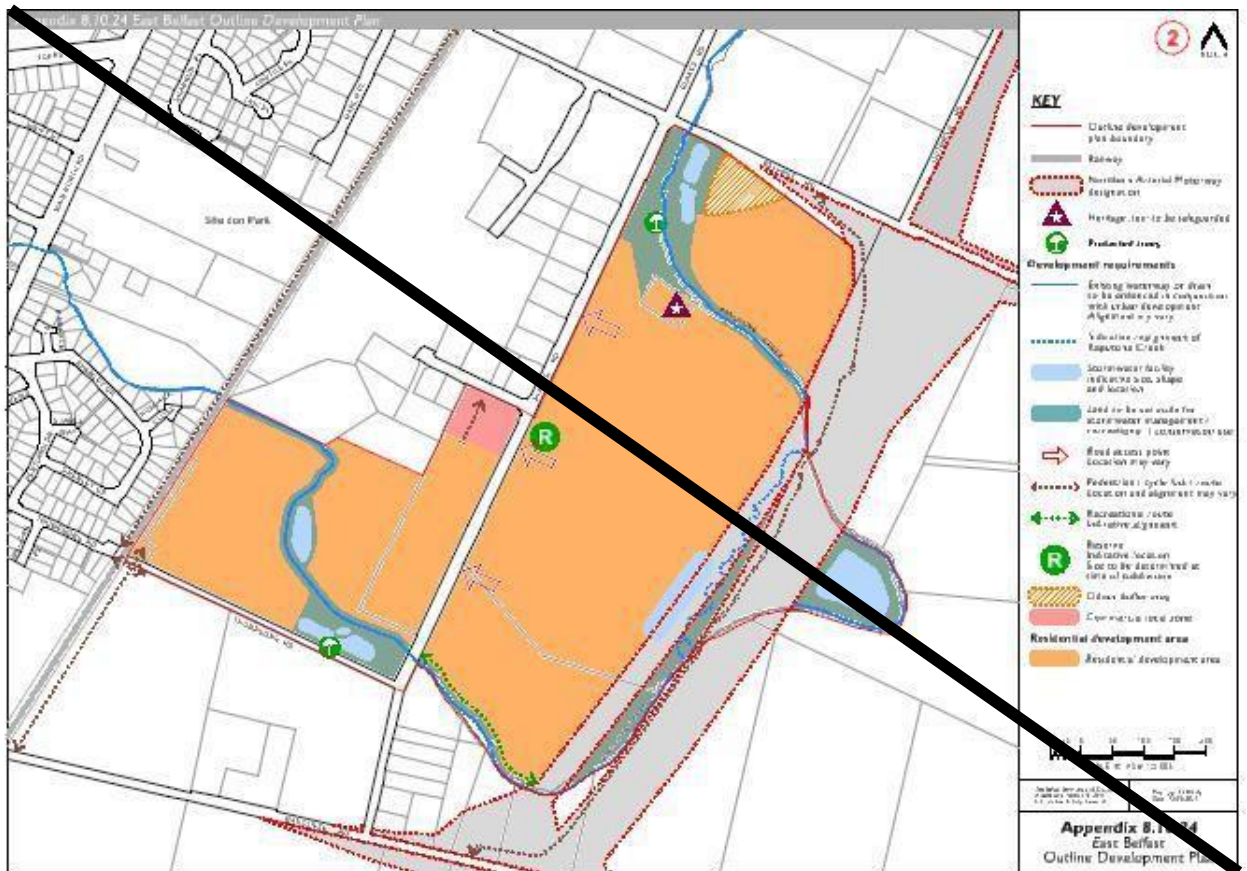
5. STORMWATER

- a. A stormwater management solution for the area which allows for the integration of stormwater with the surrounding Otukaikino catchment.
- b. Where off-site stormwater treatment/detention facilities are provided these are to be developed in conjunction with enhancement of the habitat and ecological values of the Otukaikino River and tributaries that the stormwater system is connected to.
- c. Natural Springs (if any) to be identified and safeguarded at the time of subdivision.
- d. The design, layout and plant species proposed for any stormwater areas are to be undertaken and selected having consideration to the operations of the Christchurch International Airport.

6. WATER AND WASTEWATER

- a. A new water supply main through the ODP area connecting to the Belfast water supply pump station and existing water supply mains on Groynes Drive and Johns Road.
- b. A new wastewater main through the ODP area connecting to the existing wastewater main on Main North Road. Wastewater Pump Station 62 will need to be upgraded to accommodate growth in the Belfast area.

APPENDIX 8.10.1924 — EAST BELFAST OUTLINE DEVELOPMENT PLAN



8.10.1924.A CONTEXT

- a. Belfast, originally a raupo swamp, developed as a township following the establishment of farming runs in the 1850's and the commencement of agricultural and industrial activities a couple of decades later. Belfast is a highly significant area for local Maori. It has historically been a traditional thoroughfare for travelling between Kaiapoi and Banks Peninsula. The East Belfast ODP area extends east and west from Blakes Road which divides the new neighbourhood in two. The Main North Railway Line runs to the west and the Northern Arterial Motorway designation to the east. The Belfast Business Park (previously occupied by the Canterbury Freezing Works) is generally to the north. The Belfast/Northwood **Key Activity Centre** is to the south west. A defining feature of the site is the Kaputone Stream, which traverses the site. It is recognised as both an important natural feature of the area and as having cultural significance to local Iwi. East Belfast also contains Spring Grove, a **Heritage Item** that is recognised as being an important heritage resource for the Belfast Community. The construction of the Northern Arterial Motorway will require the realignment of the Kaputone Stream.

8.10.1924.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is also provided in the [Belfast Area Plan, Christchurch City Council, June 2010](#).

8.10.1924.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in [8.7.1 - 8.7.4](#) or the matters for discretion in [8.8](#). They are not requirements for the purposes of Rule [8.6.11\(a\)](#) or Rule [14.12.2.16](#).
 1. The Kaputone Stream will become the major feature of this neighbourhood together with Spring Grove heritage house. New development is to have an open and attractive interface with the Kaputone Stream corridor.
 2. A number of mature trees also provide a link to the past. Maximum advantage is to be taken of these features through provision of view shafts, alignment of **roads**, pedestrian/cyclist links and orientation of **allotments**.
 3. A high quality **public open space** system comprising a network of green linkages including **esplanade reserve** and community (neighbourhood) parks within a curvilinear corridor system including stormwater facilities and **public amenity** areas is anticipated.
 4. The interface with the railway line and motorway is to be designed to ensure a good outlook and acceptable noise levels for residents and take advantage of any recreational opportunities.
 5. Blakes Road will become a primary link through the neighbourhood. New development is to be designed to have a good interface with this **road**.
 6. Where practicable similar interface treatments will be achieved along the length of the railway line, the stream corridor, the motorway and Blakes Road.

7. A site is zoned **Neighbourhood Centre Commercial Local** on the west side of Blakes Road between the ~~RNN~~ **Future Urban** Zone and Belfast Business Park. This can provide local shopping, community and services uses and become a focal point for the community.
8. There are two protected trees which are to be retained and could become a feature of the development.

8.10.1924.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule 8.6.11(a) and Rule 14.12.2.16 are described below and shown on the accompanying plan.

1. INTEGRATION

- a. An odour buffer area is to be provided adjacent to Belfast Road until such time as specific **reverse sensitivity** issues cease. Activities within the odour buffer area are limited to non-residential activities including educational, spiritual, day care or health facility uses until such time as the buffer area is no longer required, after which **residential activities** can locate in this area.

2. DENSITY VARIATIONS

- a. In the area identified as Spring Grove heritage house as shown on the **Outline Development Plan**, the minimum **allotment** size shall be 3,500m². Rule 8.6.11(b) density exemptions apply to this constrained area.

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A continuous open space corridor generally based on the alignment of the Kaputone Stream and integrated with stormwater devices, cycle and pedestrian facilities, including **esplanade reserve** with an average width of 20m and a minimum width of 5m.
- b. Where part of the open space areas, including the Kaputone Open Space Corridor are not required by the **Council** for **public open space**, the land shall then be treated as a continuation of the immediately adjacent residential area and the **Future Urban Residential New Neighbourhood** rules shall apply unless otherwise stated in consent notice under section 221 of the Resource Management Act (or similar mechanism) for that land.
- c. A community (neighbourhood) park in a central location.

4. ACCESS AND TRANSPORT

- a. A fully interconnected **local road** network across the site that achieves a high level of **accessibility** for people including opportunities for walking, cycling and public transport and that provides connections with Thompsons Road and Blakes Road and safe and convenient pedestrian and cycle access to the South East Belfast ODP area, to facilitate access to nearby facilities such as Sheldon Park, the Belfast/Northwood **Key Activity Centre** the **Neighbourhood Centre Zone Commercial Local Zone** and Belfast School.

- b. Blakes Road is to be upgraded to collector standard to become the primary movement route ('the spine road') through the site linking Belfast Road with Thompsons Road to the south and continuing through South East Belfast ODP area to Radcliffe Road.
- c. Connections to the **cycle routes** alongside the railway line and motorway from within the neighbourhood.

5. STORMWATER

- a. A sustainable stormwater management system for the neighbourhood integrated alongside open space reserves and compatible with the natural, cultural, ecological and **amenity values** of the site.
- b. All natural watercourses in the neighbourhood are to be integral components of the open space network.

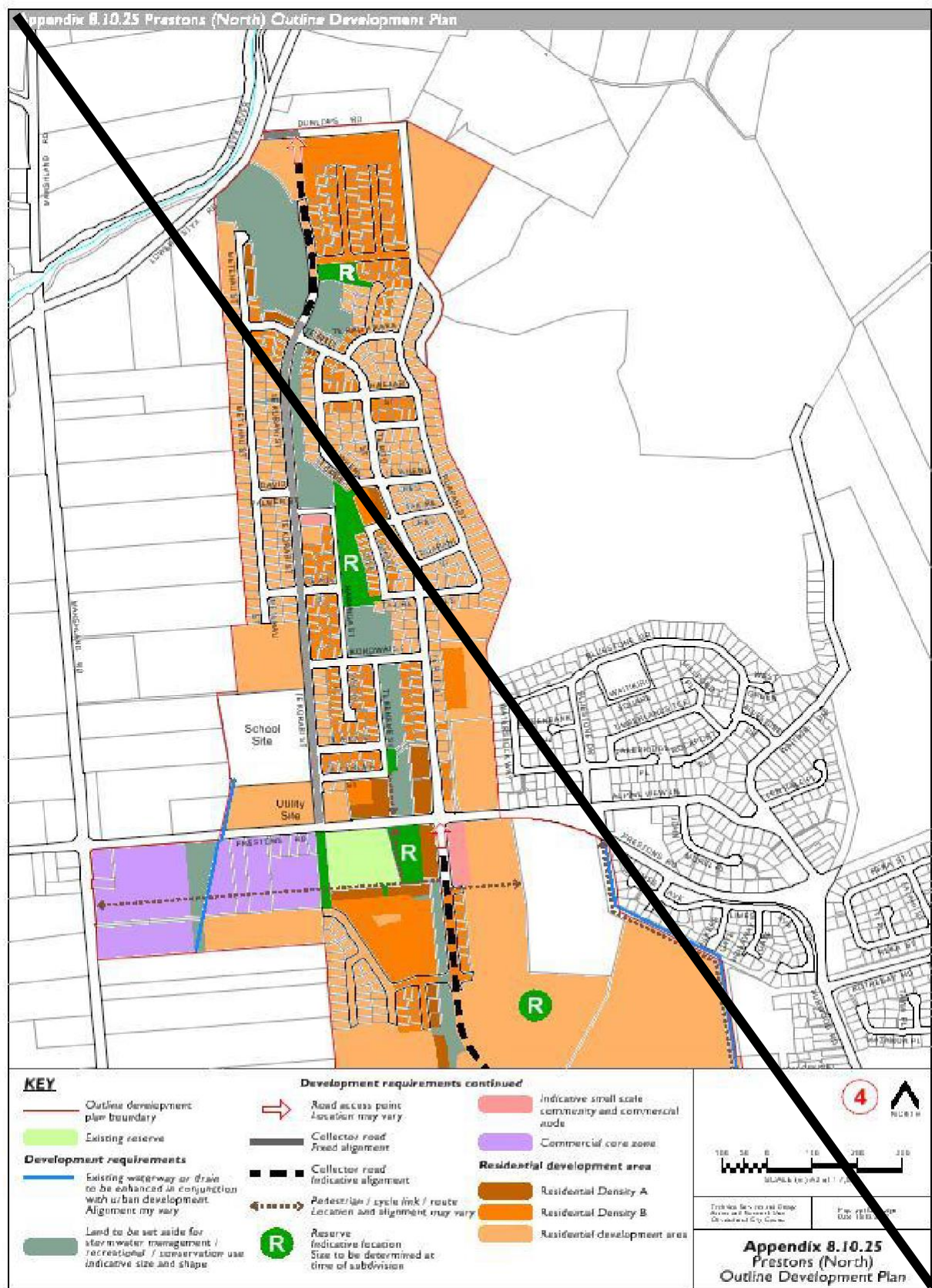
6. WATER AND WASTEWATER

- a. Water supply mains are in place. A new well will be required at the Thompsons water supply pump station to service growth in the Belfast area.
- b. Wastewater mains are in place. Wastewater Pump Station 62 will need to be upgraded to accommodate growth in the Belfast area.

7. STAGING

- a. No more than 200 residential **allotments** shall be created until such time as Blakes Road (from Belfast Road to Radcliffe Road) has been upgraded to a minimum 9m wide sealed **carriageway** or until such time as financial provision has been made for these works within the **Council's** Capital Works Programme and Development Contributions Policy, whichever is the earlier.
- b. Where any part of the Northern Arterial Motorway Designation is uplifted the ~~Residential–New Neighbourhood~~ **Future Urban** Zone rules shall apply unless otherwise stated in a consent notice under Section 221 of the Resource Management Act (or similar mechanism) for that land.

APPENDIX 8.10.25 PRESTONS (NORTH AND SOUTH) OUTLINE DEVELOPMENT PLAN





8.10.25.A CONTEXT

- a. The Prestons **Outline Development Plan** area covers approximately 200ha of land on the north-east edge of the city and involves land both north and south of Prestons Road. It is bounded by Mairehau Road to the south and Lower Styx Road to the north. To the east, the site adjoins the established suburb of Burwood and residential developments such as The Limes, Tumara Park and Waitikiri. There are also two 18-hole golf courses to the north-east that link the zone to Bottle Lake Forest Park. To the west, there is mostly an area of what is considered to be more productive and versatile soils, which provides a setback and buffer to residential properties from Marshland Road.

8.10.25.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide.

8.10.25.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in **8.7.1**–**8.7.4** or the matters for discretion in **8.8**. They are not requirements for the purposes of Rule **8.6.11**(a) or Rule **14.12.2.16**.
1. New development is to integrate with established urban areas and with on-site and nearby natural features and open space and the **Neighbourhood Centre** on Prestons Road.
 2. The key feature of the new neighbourhood will be the central stormwater and open space corridor.
 3. There is potential for at least one small-scale community and commercial node, in a high-profile, readily **accessible** location.

8.6.25.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule **8.6.11**(a) and Rule **14.12.2.16** are described below and shown on the accompanying plan.

1. INTEGRATION AND INTERFACES

- a. **Subdivision** designs will demonstrate connectivity between different land ownership areas through **road**, open space and pedestrian and **cycle-way** linkages.
- b. From and along the rural boundary, a 15m **building setback** is required and prior to or concurrently with the construction of the first **building** on any **allotment**, a solidly clad boundary fence shall be erected, having a minimum height of 1.8 metres and a maximum height of 2m, except as provided for in j. or k. below.

- c. ~~A 10m deep landscape strip shall be planted along the **frontage** with Lower Styx Road with native shrubs and small trees selected from the Prestons Planting List. One large native tree selected from Prestons Planting List shall be provided per 40m² of the 10m required landscape strip.~~
- d. ~~**Buildings** shall be **setback** 15m from Lower Styx Road.~~
- e. ~~Fencing along the **boundary** with Lower Styx Road, and fencing along first 10m of internal **boundaries** back from Lower Styx Road, shall not exceed a maximum height of 1.2m and shall be at least 50% visually transparent.~~
- f. ~~A 3m landscape strip shall be planted along Mairehau Road with native shrubs and small trees selected from the Prestons Planting List. One tree selected from the Prestons Planting List shall be provided per 20m² of the 3m required **landscaping strip**. A Minimum 50% of required trees shall be native.~~
- g. ~~**Buildings** shall be **setback** 10m from Mairehau Road.~~
- h. ~~Fencing on the **boundary** with Mairehau Road, and fencing along first 3m of internal **boundaries**, back from Mairehau Road shall not exceed a maximum height of 1.2m and shall be at least 50% visually transparent.~~
- i. ~~A 10m landscape strip shall be provided adjacent to the **boundary** with the Waitikiri and Windsor Golf Courses and shall be maintained as turf. One large tree selected from the Prestons Planting List shall be provided per **site adjoining** golf courses. One additional large tree selected from the Prestons Planting List shall be planted per 100m² of the 10m required landscape strip.~~
- j. ~~A minimum 10m **building setback** from the **boundary** with the Waitikiri and Windsor Golf Courses.~~
- k. ~~Fencing on the **boundary** with Waitikiri and Windsor Golf Courses, and fencing along first 10m of internal **boundaries** back from Waitikiri and Windsor Golf Courses, shall not exceed a maximum height of 1.2m and shall be at least 50% visually transparent.~~

2. ~~DENSITY VARIATIONS~~

- a. ~~A density of between 13 and 15 households per hectare (hhs/ha) is to be achieved across the ODP area, with variety in density and housing types. The density types shall be defined on the **Outline Development Plan** maps below or on an approved subdivision consent plan.~~

3. ~~OPEN SPACE, RECREATION AND COMMUNITY FACILITIES~~

- a. ~~A continuous reserve corridor located from the Domain on Prestons Road through to Mairehau Road.~~
- b. ~~Additional community (neighbourhood) parks are required to support the higher density areas.~~

4. ~~ACCESS AND TRANSPORT~~

- a. ~~A fully interconnected **local road** network across the site that achieves a high level of **accessibility** for people, including opportunities for walking, cycling and public transport.~~
- b. ~~No direct **vehicle access** from any residential **allotment** shall be granted to Mairehau Road from the following unless the 80km speed limit on Mairehau Road is reduced to 60km or less, or a **subdivision** consent plan establishing residential access is approved;~~

- i. ~~any secondary road until such time as the portion of the main primary road linking Prestons Road to Mairehau Road is open to traffic;~~
- ii. ~~any residential allotment.~~

5. ~~STORMWATER~~

- a. ~~All watercourses in the neighbourhood are to be integral components of the open space network.~~

6. ~~WATER AND WASTEWATER~~

- a. ~~The area is serviced by a vacuum sewer system. The Vacuum Sewer Pump Station VS5003 has capacity for the equivalent of 2,364 residential allotments.~~

7. ~~STAGING~~

- a. ~~No more than 1700 residential units and 7200m² of non-residential activities within the Prestons ODP area shall occur until such time as construction of the Northern Arterial Motorway and the 4 laning of QEII Drive between Main North Road and Innes Road together with either the Northern Arterial Motorway extension or the Hills Road extension has commenced.~~

8. ~~PRESTONS PLANTING LIST~~

Large Native Trees	
Dacrydium cupressinum	rimu
Podocarpus totara	totara
Prumnopitys taxifolia	matai

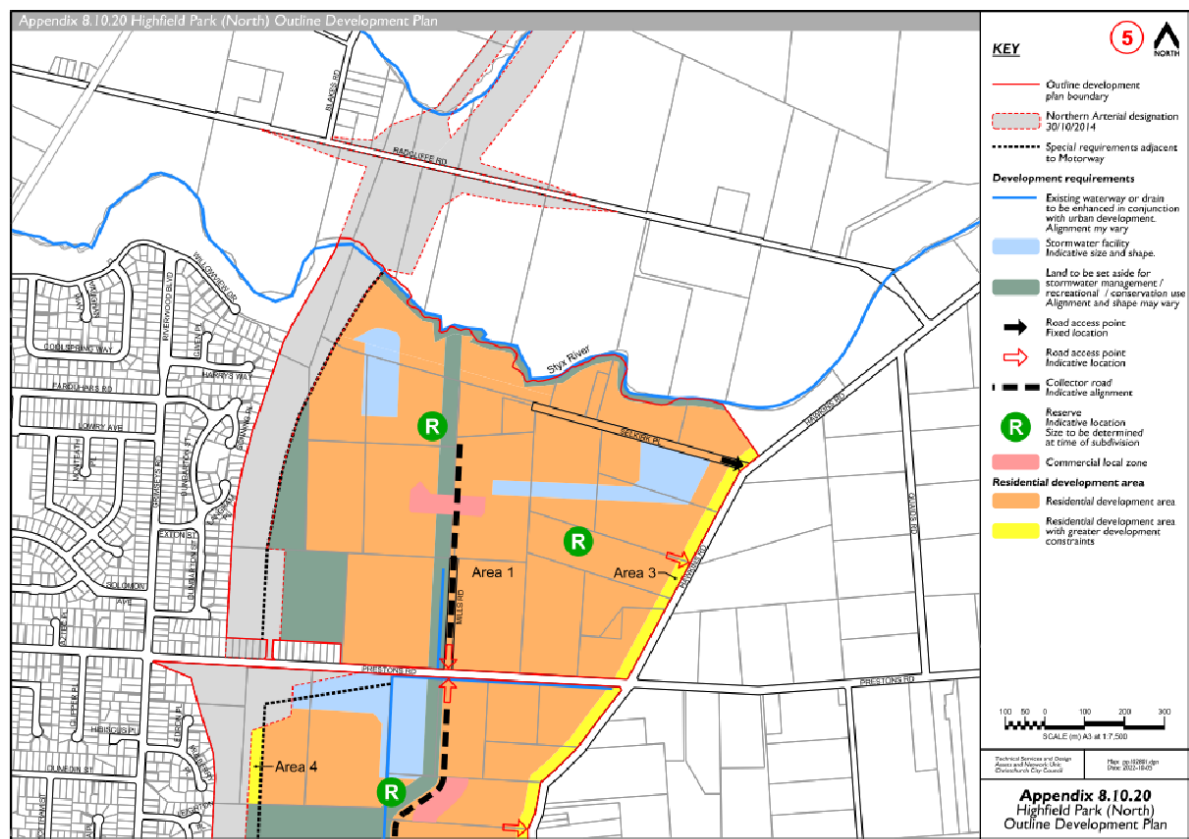
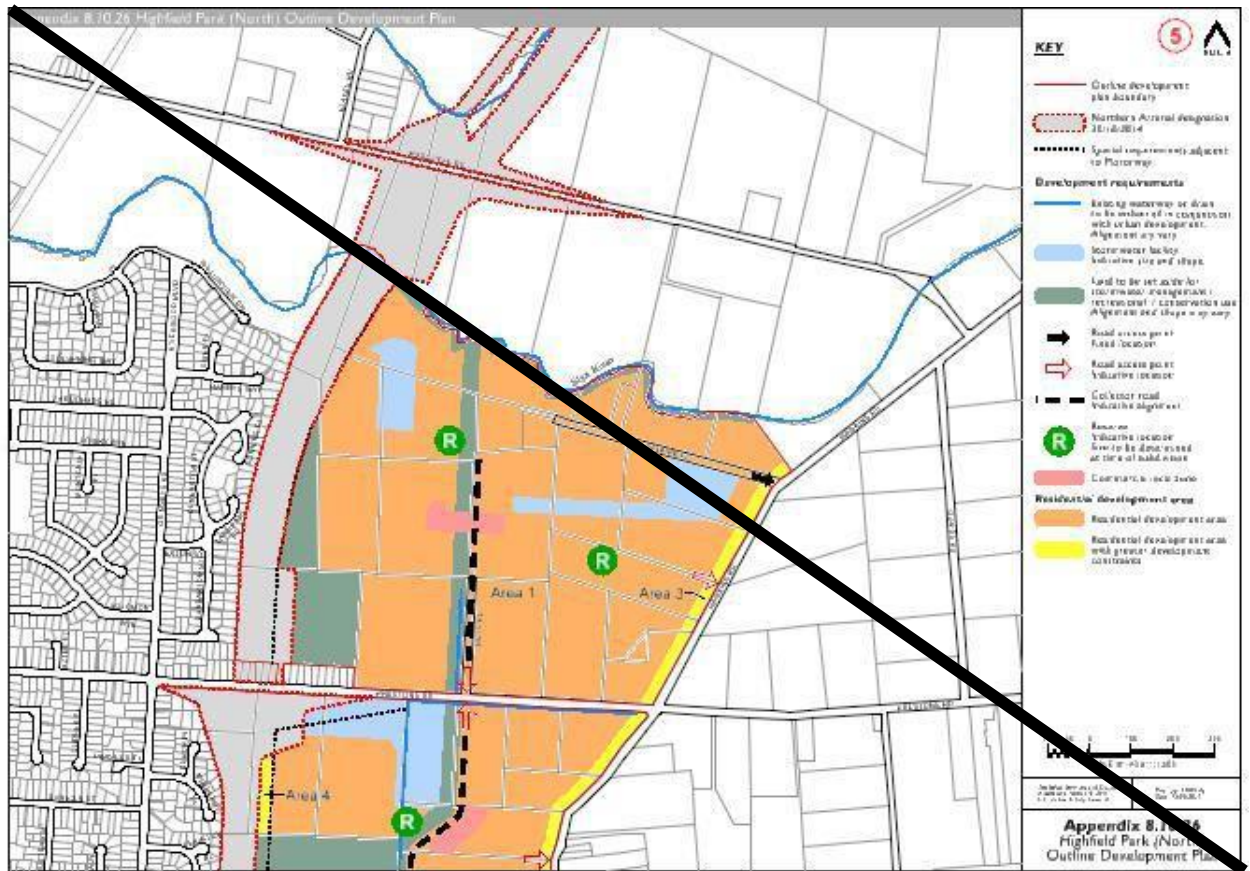
Large Exotic Trees	
Acer campestre	field maple
Alnus Glutinosa	black alder
Liquidambar styraciflua	liquidambar
Platanus orientali	'autumn glory' plane tree
Quercus coccinea	scarlet oak
Quercus palustris	pin oak
Tilia cordata	small-leaved lime

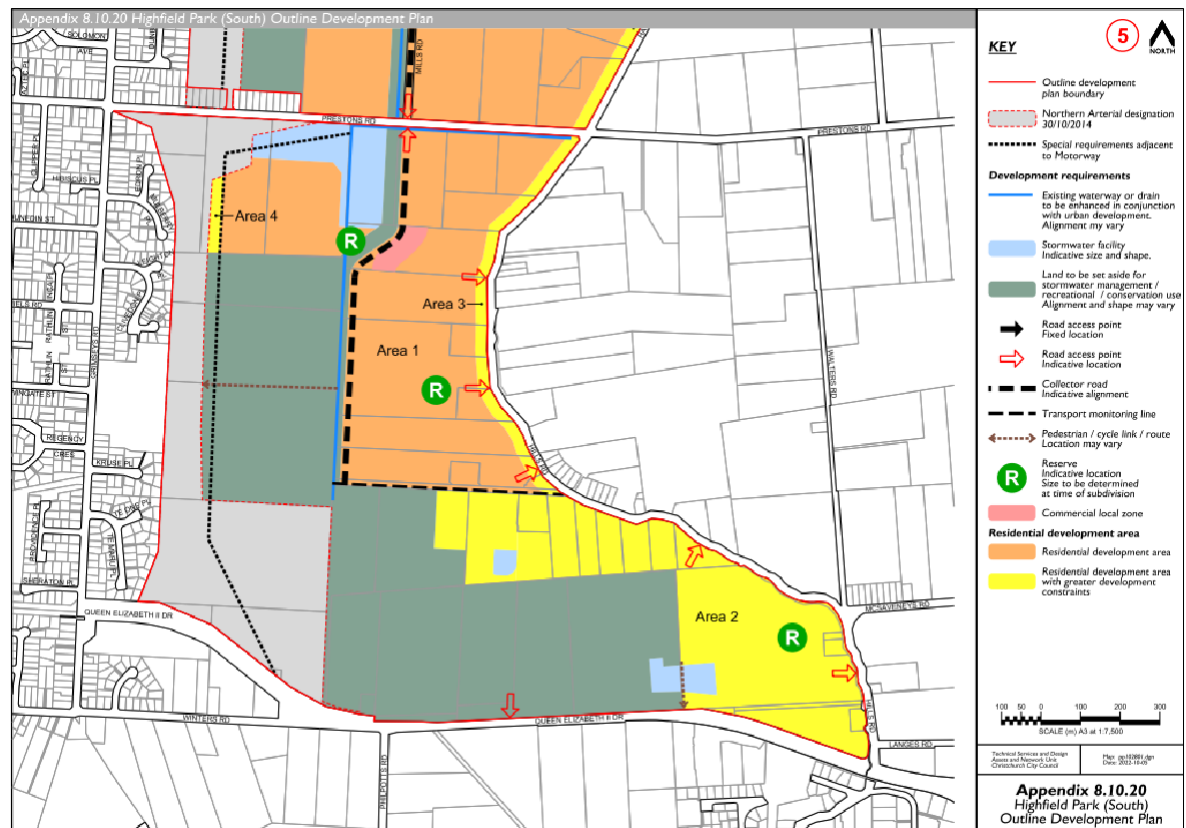
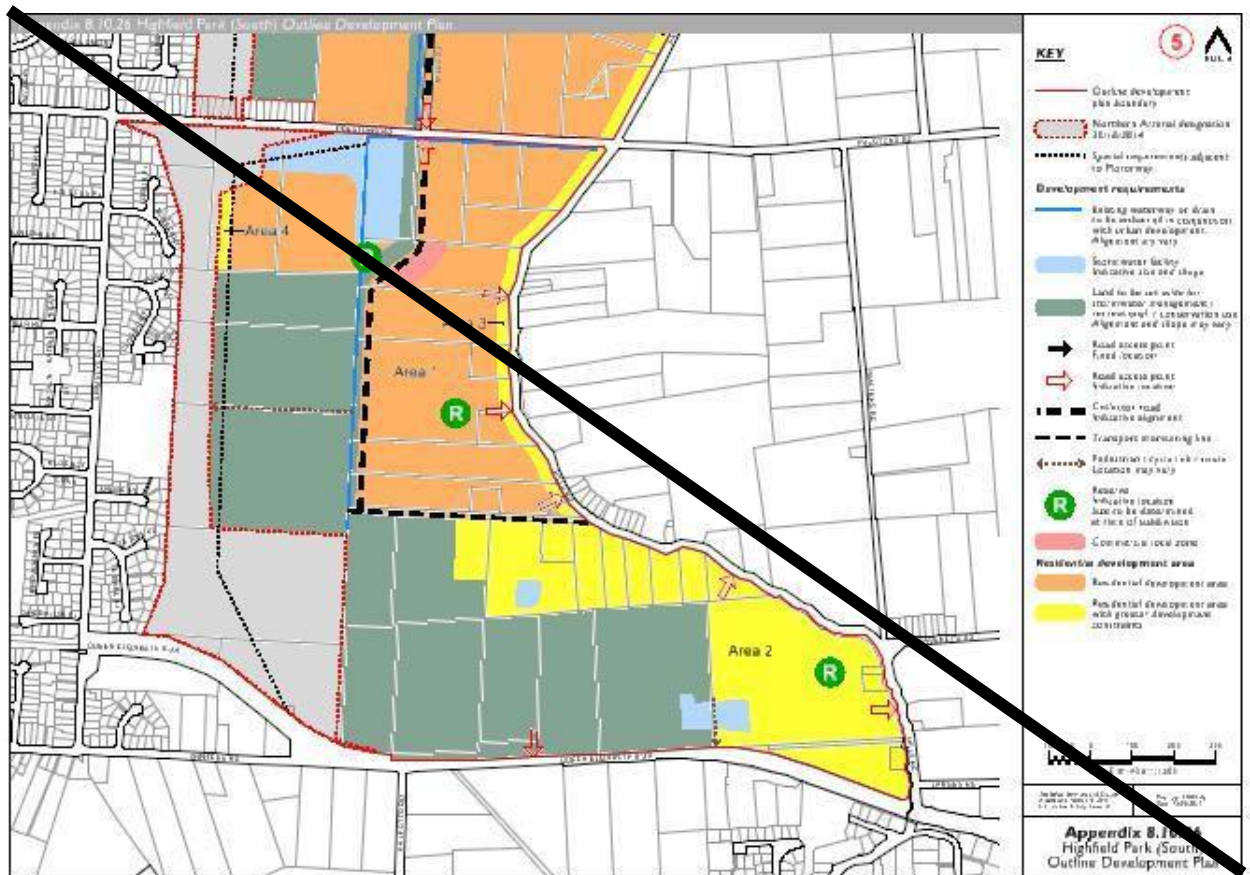
Native Shrubs and Small Trees >1.2m	
Coprosma propinqua	mikimiki
Coprosma robusta	karama
Coprosma aff.	mikimiki (shrub)
Cordyline australis ti kouka	kouka/cabbage tree
Griselinia littoralis	kapuka/broadleaf
Hebe salicifolia	koromiko (shrub)
Hoheria angustifolia	hohere/narrow-leaved lacebark
Lophomyrtus obcordata	rohutu/nz murtle
Melicope simplex	poataniwha (shrub)
Melicytus ramiflorus	mahoe
Myrsine divaricata	weeping mahout
Olearia paniculata	golden akeake/akiraho
Pennantia corymbosa	kaikomake
Phormium tenax	harakeke
Pittosporum tenuifolium	kohuhu/black matipo/tawhiro
Pseudopanax crassifolius	horoeke/lancewood

Small Native Trees	
Dodonea viscosa	akeake
Kunzea ericoides	kanuka
Leptospermum scoparium	manuka
Plagianthus regius manatu	lowland ribbonwood
Sophora microphylla	south island kowhai
Native Shrubs <1.2m	

Anemanthole lessoniana	hunangamoho/wind grass
Astelia fragrans	kakaha/bush lily
Carex buechananii	purei
Carex testacea speckled sedge	speckled sedge
Cyperus ustulatus	toetoe-upotangata
Dainella nigra	inkberry
Festuca novae-zelandiae	fescue tussock
Haloragis erecta	toatoa
Hypericum gramineum	new zealand st johnswort
Libertia ixioides	mikoikoi/nz iris
Poa cita	silver tussock
Poa colensoi	blue tussock
Polystichum richardii	pikopiko/black shield fern
Uncinia uncinata	hook-sedge

APPENDIX 8.10.206 HIGHFIELD PARK OUTLINE DEVELOPMENT PLAN





8.10.206.A CONTEXT

- a. The Highfield Park **Future Urban Zone RNN** is located in the Marshlands Area of Christchurch, it extends north and south from Prestons Road. The first settlers in the 1860's undertook major drainage work to turn the swampland into productive farmland. Hills Road, which forms most of the eastern boundary of the neighbourhood was formed along the hard soil which provided the only safe route through the area, hence its curvilinear alignment and country lane character. The Styx River forms the northern boundary and Horners Drain traverses the southern half of the site, mostly in a deep open box drain with steep sides. Views are afforded across rural land to the north and east and towards the Port Hills to the south. There are a few large existing **residential units** located towards the centre of the neighbourhood. A number of established trees of both native and exotic species are located along Hills and Hawkins Roads, Prestons Road and within the environs of **residential units**. Prestons Road provides access to the established neighbourhood of Redwood to the west and the Prestons **Future Urban Zone RNN** and **local neighbourhood centre** to the east. The Northern Arterial Motorway corridor will form the western boundary.

8.10.206.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide.

8.10.206.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in **8.7.1 – 8.7.4** or the matters for discretion in **8.8**. They are not requirements for the purposes of Rule **8.6.11(a)** or Rule **14.12.2.16**.
1. The Styx River, the proposed Northern Arterial Motorway, QEII Drive and rural land to the east will contain this new neighbourhood and provide the opportunity to clearly identify it as a distinct place. The linear nature of the site lends itself to being structured around a central corridor comprising the **collector road** and linear **reserves**.
 2. North-south alignment of **roads** will enable views to the south as well as good solar access to properties.
 3. New development is to be designed to have an open and attractive interface with the river corridor and provide visual and physical access to the river corridor for residents and the wider community.
 4. Advantage can also be taken of Hills Road and existing trees and hedgerows to provide a connection with the past.
 5. Development immediately adjacent to Hills Road and Hawkins Road is to provide a transition between the **Future Urban Zone RNN** and rural zoned land to the east and respect the rural character and function of the **road**.
 6. Where existing properties are to remain larger section sizes and planting buffers adjacent to them may be required.

7. New development adjacent to the motorway and QEII Drive is to be designed such that a good outlook to and from the **road** and acceptable noise levels for residents is achieved. This may require longer **allotments**, screen planting and mounding. If acoustic fencing is used its blank appearance should be softened by planting.
8. There is potential for at least one small scale community and commercial node, in a high profile, readily **accessible** location.

8.10.206.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule 8.6.11(a) and Rule 14.12.2.16 are described below and shown on the accompanying plan.

1. INTEGRATION

- a. There are multiple land owners within this ODP area and a number of existing properties. **Subdivision** designs are to demonstrate good connectivity between different land ownership areas through **road**, open space and pedestrian and **cycle way** linkages.
- b. Development is to face onto Prestons Road although there is to be no vehicle access to it, other than the **collector road**.
- c. **Subdivision** layouts are to be designed to align **roads** and footpaths along the edge of the river corridor.

2. DENSITY VARIATIONS

- a. Area 1 - Residential densities of at least 15 hhs/ha are anticipated, with densities generally increasing towards the **collector road** and towards Prestons Road and around any commercial node.
- b. Area 2 - There is a risk of flooding in this area due to a shallow aquifer and a drain that flows into it. Rule 8.6.11(b) density exemptions apply to this constrained area.
- c. Area 3 - There are special **setback** provisions relating to these areas alongside the motorway and Hills and Hawkins Road, which may restrict development capacity. Rule 8.6.11(b) density exemptions apply to this constrained area. **Allotments** immediately adjacent to Hills Road and Hawkins Road are to be a minimum **net site area** of 800m.

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A continuous community (linear) park corridor incorporating Horners Drain from the Styx River corridor to QEII Drive. This corridor is to include a community (neighbourhood) park in the north of the neighbourhood and a community (neighbourhood) park adjacent to the **collector road** in the south of the neighbourhood.
- b. Three further community (neighbourhood) parks, one in the north eastern part of the neighbourhood and two in the south eastern part of the neighbourhood.
- c. Continuation of the Styx "Source to Sea" **reserve** network along the river corridor. A recreational route along the Styx River esplanade from Hawkins Road to connect with the Styx River Conservation Reserve

adjacent to Redwood Springs. This to include a pedestrian/cyclist link under the Northern Arterial Motorway.

- d. Horners Drain is to be enhanced and naturalised to provide a point of difference within the neighbourhood.

4. ACCESS AND TRANSPORT

- a. Those **roads** identified in Diagram A are to be developed in accordance with the illustrated cross section.
- b. Improvements to the intersection of Main North Road/Prestons Road.
- c. Improvements to Prestons Road through the neighbourhood.
- d. A **collector road** running northwards and southwards from Prestons Road. This to include a signalised intersection at Prestons Road.
- e. Traffic signals (or an alternative intersection treatment agreed with the **Council**) at the intersection of Grimseys Road and Prestons Road.
- f. Upgrading of Hawkins Road between Prestons Road and Selkirk Road to include a minimum **carriageway** width of 7m and a shared path on the Highfield ODP side to accommodate walking and cycling.
- g. Upgrading of Hills Road between Prestons Road and QEII Drive to include a minimum **carriageway** width of 7m and a shared path on the Highfield ODP side to accommodate walking and cycling.
- h. A fully interconnected **local road** network across the site that achieves a high level of **accessibility** for people, including opportunities for walking, cycling and public transport. This is to provide connections with Prestons Road, Hills Road and Hawkins Road and access for pedestrians and cyclists to the Styx River corridor, Owen Mitchell Park (if possible under the motorway) and QEII Drive.

5. STORMWATER

- a. A stormwater management solution for the neighbourhood which allows for the integration of stormwater from upstream catchments such as Kruses Drain, Horners Stream and the Cranford Basin, but does not preclude the ability of stormwater from the Northern Arterial Motorway being effectively managed and discharged.
- b. A stormwater management facility incorporating a **wetland** area adjacent to QEII Drive
- c. Enhancement of the habitat and ecological values of the Styx River and its margins in association with stormwater management and provision of **reserves** and to give effect to the Styx River Stormwater Management Plan.
- d. Reconfiguration and enhancement of Horners Stream to improve its capacity and functioning for stormwater management while ensuring habitat and ecological values are enhanced and developed
- e. Natural **springs** (if any) to be identified and safeguarded at the time of **subdivision**.

6. WATER AND WASTEWATER

- a. New water supply trunk mains will be required through the Highfield ODP area, with connections to the East Belfast ODP area, Prestons Road and QEII Drive. A new Highfield well and water supply pump station will be required when development is approximately 80% complete.
- b. A wastewater master plan needs to be developed to determine the type of wastewater service that will be constructed in the Highfield ODP area. New wastewater main(s) will be required from the Highfield ODP area to the Northcote Collector on Main North Road, along Prestons Road and/or QEII Drive.

7. STAGING

- a. Prior to the approval of any **subdivision** north of the Transport Monitoring Line (TML) shown on the ODP construction of the following must commence:
 - i. Upgrading Prestons Road between the existing urban/rural boundary and the Hawkins/Hills Road intersection
 - ii. Formation of the **collector road**/Prestons Road intersection (including the provision of traffic signal infrastructure) and
 - iii. Upgrading the Main North Road intersection to better accommodate turning movements out of Prestons Road and right turn movements from Main North Road.
- b. Prior to the approval of any **subdivision** that creates the 400th residential **allotment** north of the TML construction on the installation of traffic signals at the Marshland Road/Prestons Road intersection must commence.
- c. Prior to the approval of any **subdivision** that creates the 750th residential **allotment** north of the TML construction on the installation of traffic signals at the Grimseys Road/Prestons Road intersection (or an alternative intersection treatment agreed with the **Council**) must commence.
- d. Hawkins Road is to be upgraded in conjunction with the establishment of any new **road** connections to Selkirk Place or Hawkins Road.
- e. Hills Road is to be upgraded in conjunction with the establishment of any new **road** connections to Hills Road. Upgrading to occur between QEII Drive and the new **road** connection until the establishment of the fifth connection, at which time the upgrading is to be completed between QEII Drive and Prestons Road.
- f. Once 1400 residential **allotments** have been granted consent in this **development area RNN** all subsequent **subdivision** applications for residential **allotments** must demonstrate that Level of Service E or better shall be achieved for the turn movements of the intersections identified in the table below. If construction of the Northern Arterial Motorway has commenced then these requirements shall not apply.

Intersection	Approach and Movement
Main North/Prestons	Main North Road - right turn. Prestons Road - left turn and right turn
Grimseys/Prestons	All movements

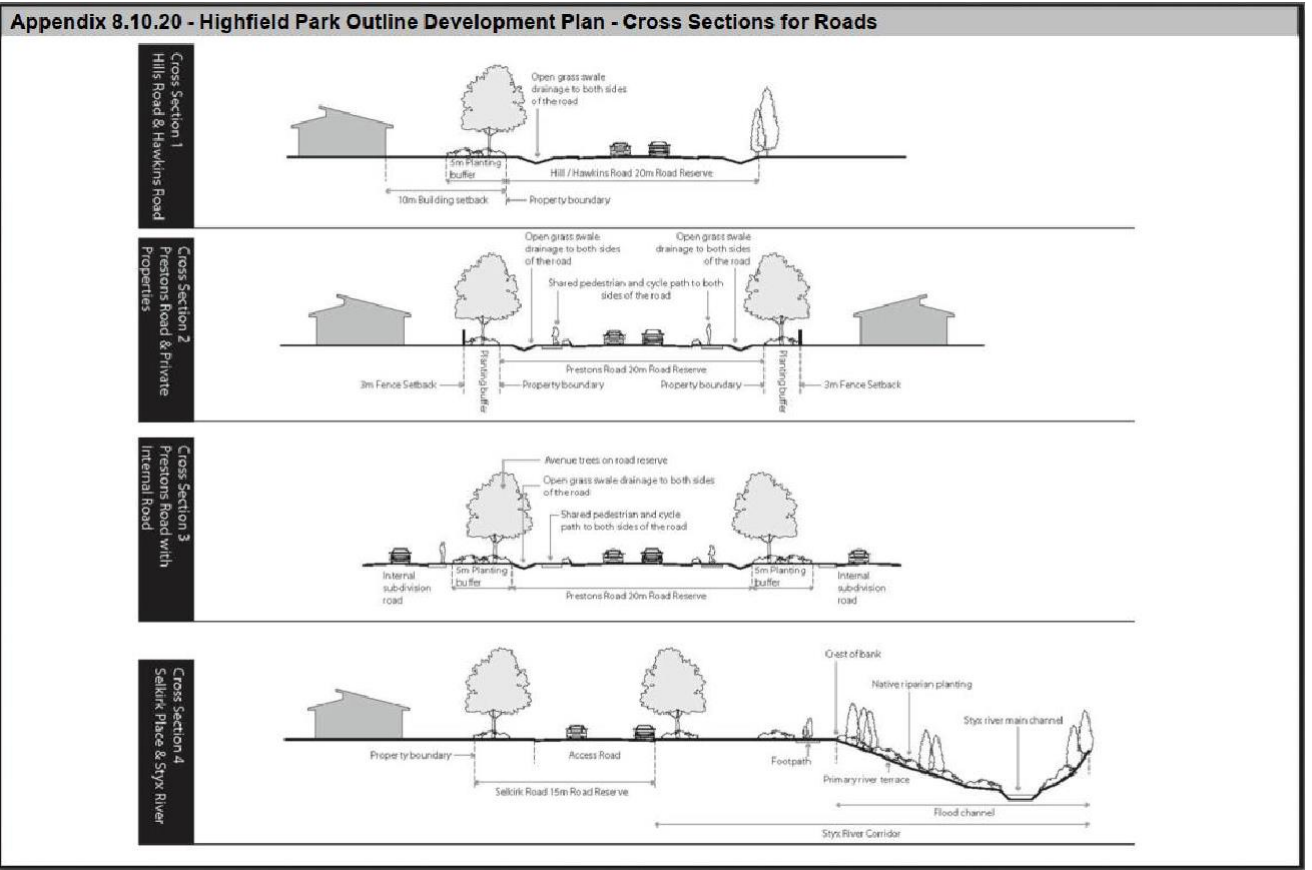
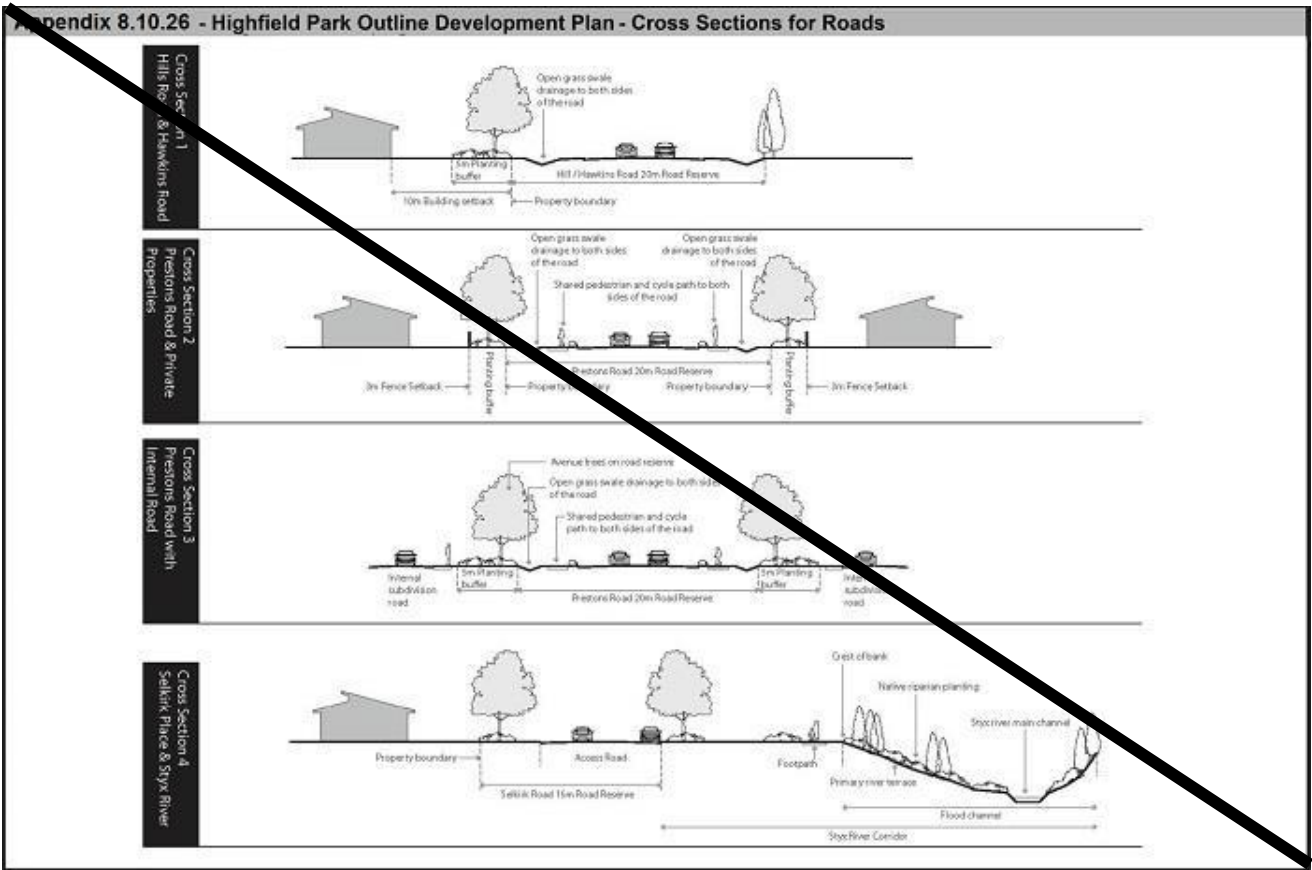
Collector road/Prestons	All movements (unless the traffic signals are already operational)
Hawkins/Hills/Prestons	All movements
Lower Styx/Hawkins/Marshland	Hawkins Road - all permitted movements. Marshlands Road - right turn into Hawkins Road
Hills/QEII	Hills Road: left turn
QEII/Innes	QEII Drive: westbound through movement

- g. Concurrently or prior to the approval of any **subdivision** that includes part of Horners Stream, an engineering design concept for the realignment of Horners Stream (from its connection with Kruses Drain through to the Styx River) and an ecological assessment of the design at a conceptual level shall be provided to the **Council** for consideration for certification. Detailed engineering, landscape and ecological design for each section of the Stream is required at the time of subdivision consent.

8. ADDITIONAL SETBACK REQUIREMENTS

- a. Minimum **building setback** from Hills and Hawkins Road shall be 10m. The full length of the **frontage** of Hills Road and Hawkins Road shall be planted to a depth of 5m from the **road**.
- b. Where a rear **boundary** or side **boundary** of any land within a **subdivision** abuts a property not owned by the applicant (other than land owned by the **Council** or NZTA) prior to any **earthworks** or land improvement being undertaken associated with the **subdivision**, the entire **boundary** length shall be planted to a depth of 5m and shall only include plants as listed below. Ongoing maintenance of the planted strip shall be required through Consent Notices imposed by condition of subdivision consent to be registered on the Certificate of Title of all new **allotments** to be created by the **subdivision** which abut such **boundaries**.

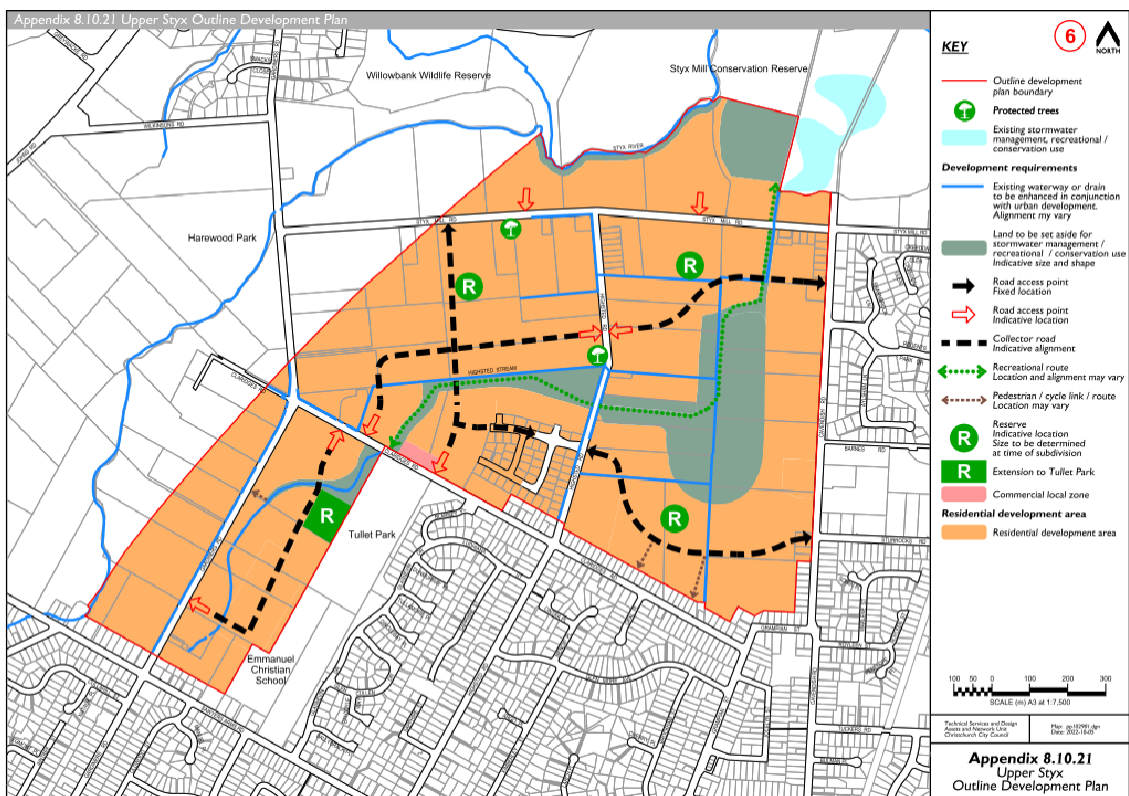
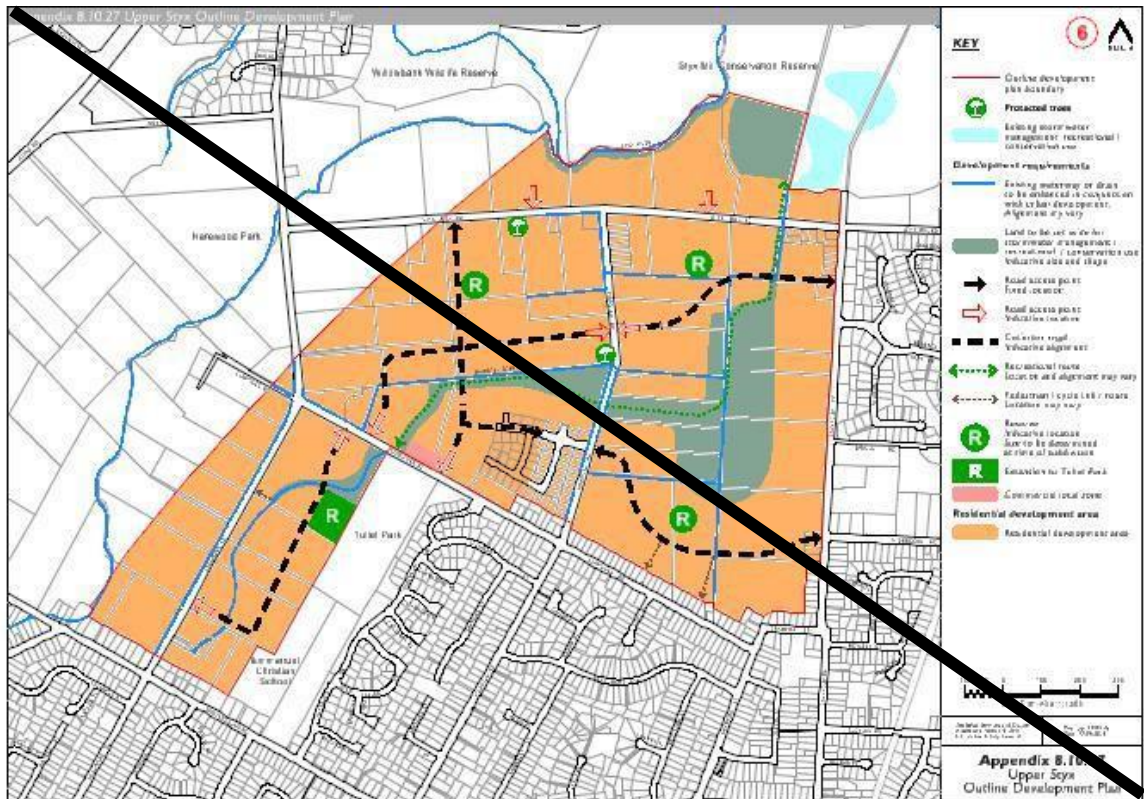
Diagram A: Road Cross sections for Styx River/Selkirk Place, Hawkins Road, Hills Road and Prestons Road.



A: Native Plants	
(i) Trees	(ii) Small tree and shrubs
<i>Alectryon excelsus</i> - ki	Aristotelia serratus - wineberry
Cordyline australis - cabbage tree	Carpodetus serratus - marbleleaf
Dacrycarpus dacrydioides - kaihikatea	Coprosma areolata
Elaeocarpus dentatus - hinau	Coprosma linarifolia - yellow-wood
Eleaocarpus hookerianus - pokaka	Coprosma lucida - shining karamu
Pi osporum eugenioides - lemonwood	Coprosma robusta - karamu
Plagianthus regus - lowland ribbonwood	Coprosma rotundifolia - round leaved coprosma
Podocarpus totora - totora	Fuchsia excor cate - fuchsia
Prumnopitys ferruginea - miro	Griselinia li oralis - broadleaf
Prumnopitys taxifolia - matai	Hedycarpa arborea - pigeonwood
Pseudopanax crassifolius - lancewood	Hoheria angus folia - lacebark
Sophora microphylla - kowhai	Lophomyrtus abcordata - NZ myrtle
	Melicytus ramiflorus - mahoe
	Melicytus micranthus - shrubby mahoe
	Myrsine australis - red mapau
	Neomyrtus pedunculata
	Pennan a corymbosa - kaikomako
	Pi osporum tenuifolium - kohuhu
	Pseudopanax arboreus - fivefinger
	Pseudowintera colorata - pepper tree
	Strebilus heterophyllus - turepo
B: Exotic trees	
Acer campestre - field maple	Platanus orientalis - plane

Acer negundo	Quercus coccinea - scarlet oak
Alnus glu nosa - black alder	Quercus palustris - pin oak
Alnus rubra - red alder	Quercus robur fas gata
Carpinus betulinus fas gata - upright hornbeam	Tilia cordata - lime
Liquidambar styraciflua - liquidamber	Prunus species - flowering cherries

APPENDIX 8.10.21~~7~~ UPPER STYX OUTLINE DEVELOPMENT PLAN



8.10.217.A CONTEXT

- a. This area to the north west of Christchurch lies to the south of the Styx River, one of the primary natural features of Christchurch. Prior to European settlement, the extensive **wetlands** and easy access to the sea made the Styx an important area for mahinga kai (food gathering) and for the cultivation and harvesting of flax. There are numerous large trees and boundary and garden planting. The Styx River forms part of the northern boundary of the neighbourhood and Highsted Stream and a number of drains run through it. Tullet Park is near the centre of the neighbourhood, Harewood Park, Willowbank Wildlife Reserve and the extensive Styx Mill Conservation Reserve are located to the west and north. The existing residential areas of Casebrook, Redwood and Regents Park lie to the south and east. Cavendish Business Park is located immediately to the east of the **development area RNN** with a frontage to Cavendish Road. The western boundary of the ODP area is formed by the airport noise contour.

8.10.217.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide.

8.10.217.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in **8.7.1 – 8.7.4** or the matters for discretion in **8.8**. They are not requirements for the purposes of Rule **8.6.11(a)** or Rule **14.12.2.16**.
1. The main features of this area will be the waterways (Styx River and Highsted Stream), Tullet Park and its proximity to Styx Mill Conservation Reserve. Advantage can also be taken of existing trees and hedgerows to provide a sense of maturity and a connection with the past.
 2. Where existing properties are to remain and where the **Future Urban Zone RNN** abuts properties in the **Medium Density Residential Zone Residential-Suburban Zone** larger section sizes and/or planting buffers adjacent to them may be required.
 3. New development is to have an open and attractive interface with the Styx River corridor.
 4. New development adjacent to the north western boundary should is to establish an appropriate interface with **adjoining** rural land.
 5. Housing densities are to generally increase towards Tullet Park.
 6. Higher density development may be appropriate opposite Cavendish Business Park and around the stormwater facilities.
 7. There is a protected tree which is to be retained and its setting could be enhanced to provide a focal point for the local area.
 8. There is potential for a **Neighbourhood Centre Zone commercial local-centre** on Claridges Road, opposite Tullet Park, to provide a focus for the development and support higher density areas.

8.6.217.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule 8.6.11(a) and Rule 14.12.2.16 are described below and shown on the accompanying plan.

1. INTEGRATION

- a. There are multiple land owners within this ODP area and a number of existing properties. Subdivision designs are to demonstrate good connectivity between different land ownership areas through road, open space and pedestrian and cycle way linkages.
- b. Development is to face onto Styx Mill Road, Cavendish Road, Claridges Road, Gardiners Road and Highsted Road.
- c. This edge of the neighbourhood will be visible across the river from the Styx Mill Conservation Reserve. As the reserve is intended to provide a wilderness experience, the subdivision design is to demonstrate how views of urban development from within the reserve can be minimised and where possible avoided.

2. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. A recreational route between the Styx River corridor and Tullet Park, incorporating an enhanced and realigned Highsted Stream and new stormwater facilities.
- b. Three further community (neighbourhood) parks, two in the north and one in the south eastern part of the neighbourhood.
- c. An extension to Tullet Park.
- d. Continuation of the Styx "Source to Sea" reserve network along the river corridor.

3. ACCESS AND TRANSPORT

- a. A collector road running across the western side of the neighbourhood connecting Styx Mill Road and Claridges Road.
- b. A collector road running from Cavendish Road through the neighbourhood to Gardiners Road, forming crossroads with Highsted Road, a new north-south collector road (as in 3.a above) and Claridges Road. This road is to be capable of accommodating a bus route.
- c. A collector road running between Cavendish Road and a new north-south collector road (as in 3.a above).
- d. A fully interconnected local road network across the site that achieves a high level of accessibility for people, including opportunities for walking, cycling and public transport. This is to provide connections with Styx Mill Conservation Reserve, Tullet Park and existing roads.

4. STORMWATER

- a. A sustainable stormwater management solution for the neighbourhood integrated alongside open space reserves
- b. Enhancement of the habitat and ecological values of the Styx River and its margins in association with stormwater management and provision of reserves and to give effect to the Styx River/Purakaunui Area Stormwater Management Plan.
- c. Reconfiguration and enhancement of Highsted Stream to improve its capacity and functioning for stormwater management while ensuring habitat and ecological values are enhanced and developed
- d. Natural springs (if any) to be identified and safeguarded at the time of subdivision.

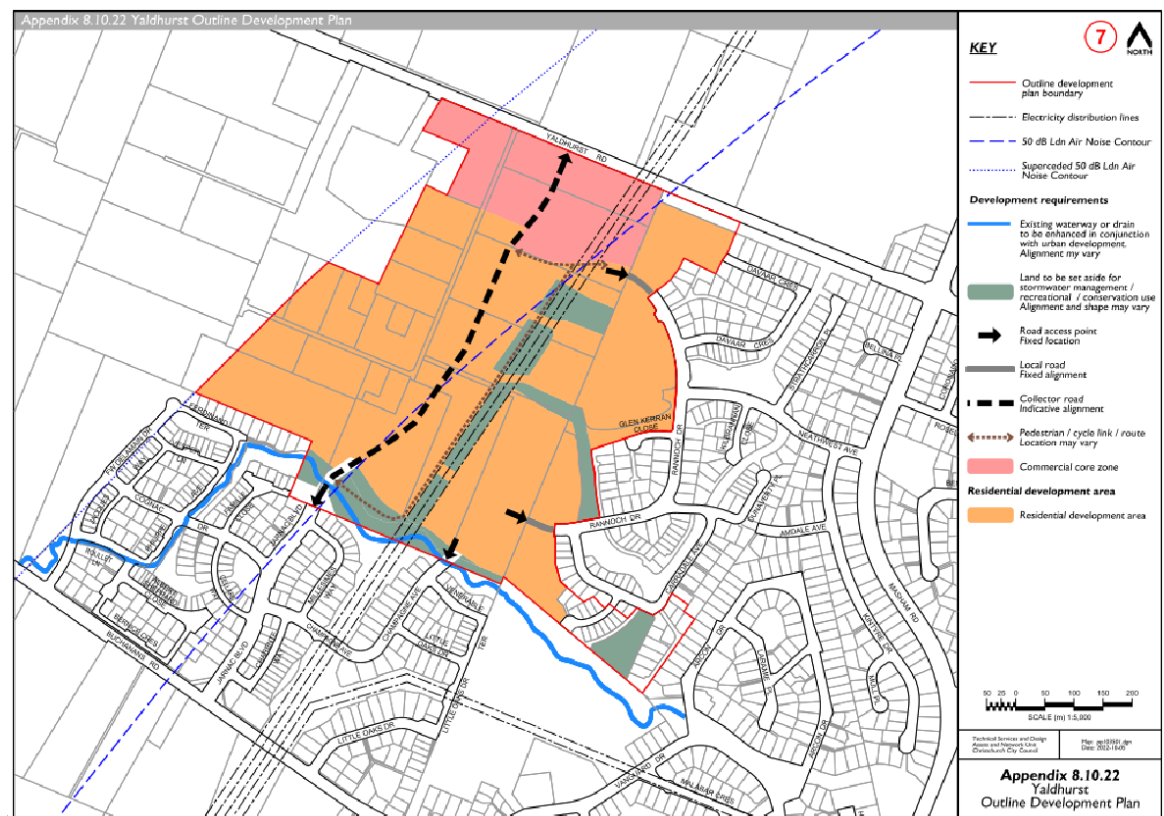
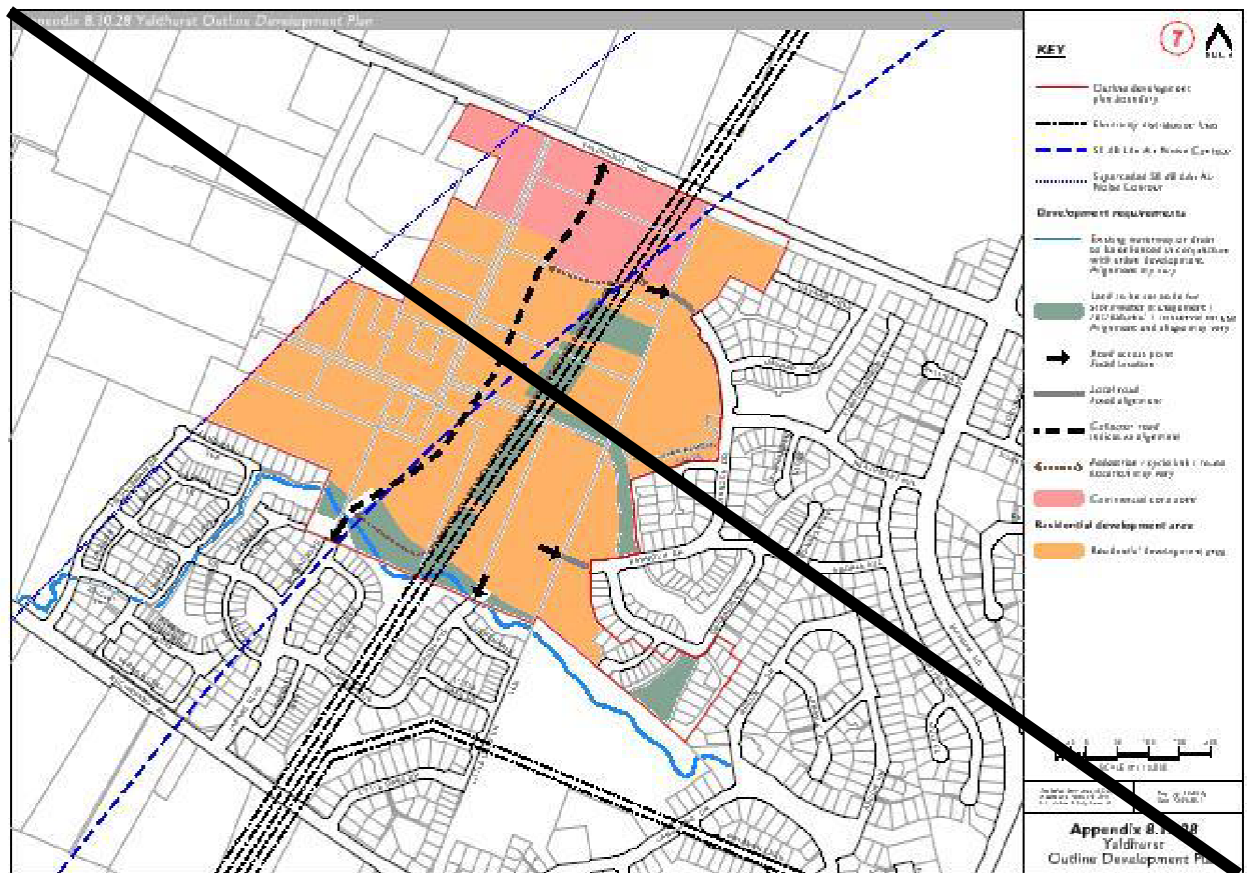
5. WATER AND WASTEWATER

- a. A water supply network, including the water supply main along the collector road.
- b. A pressure sewer network. Most of the area will discharge to the gravity main on Highsted Road. The properties on Cavendish Road will be serviced by a pressure sewer network, discharging to the gravity main on Cavendish Road.

6. STAGING

- a. There are no staging requirements beyond those relating to the provision of infrastructure.

APPENDIX 8.10.228 YALDHURST OUTLINE DEVELOPMENT PLAN



8.10.228.A CONTEXT

- a. Located on the north western outskirts of Christchurch this neighbourhood will integrate with and consolidate the established and developing residential community of Yaldhurst Masham, including Delamain to the south and Kintyre Estate and Broomfield to the east. Land is zoned for a **Neighbourhood Centre** adjacent to Yaldhurst Road. A creek runs along the southern boundary of the neighbourhood. High voltage distribution lines run through the neighbourhood. To the north is Christchurch International Airport and the 50 dB Ldn Air Noise Contour affects the western part of the neighbourhood.

8.10.228.B GUIDANCE

- a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide.

8.10.228.C DEVELOPMENT FORM AND DESIGN

- a. The following design elements and features are relevant considerations in exercising control over the matters in 8.7.1 - 8.7.4 or the matters for discretion in 8.8. They are not requirements for the purposes of Rule 8.6.11(a) or Rule 14.12.2.16.
 - 1. This new neighbourhood is to be established around the **Neighbourhood Centre** which will form a focus for the community. As with Delamain the **collector Road** (Jarnac Boulevard) will be the spine of the new neighbourhood and a **key structuring element**.
 - 2. Two other distinguishing features of this neighbourhood will be the green corridor associated with the distribution lines and the creek.
 - 3. **Subdivision** layouts will take advantage of recreational and **amenity values**, while at the same time limiting the impact of the distribution lines and pylons. This will require careful consideration of **road** alignments, pedestrian/cyclist access points, orientation of **allotments** and **boundary** treatments.
 - 4. **Subdivision** layouts are to be designed to take advantage of views to rural land to the west.
 - 5. The development is to retain an open and attractive interface with the **adjoining** open spaces.
 - 6. All development is to provide a good interface with adjacent **roads**. This interface treatment should generally be consistent along the length of the **road**.
 - 7. To help mitigate the impact of distribution lines, special interface treatments such as deeper **allotments** and **boundary** planting within **allotments**, is to be provided for adjacent **allotments**.

8.6.228.D DEVELOPMENT REQUIREMENTS

- a. The development requirements for the purposes of Rule 8.6.11(a) and Rule 14.12.2.16 are described below and shown on the accompanying plan.

1. INTEGRATION

- a. There are multiple land owners within this ODP area and a number of existing properties. Subdivision designs are to provide for good connectivity between different land ownership areas through road, open space and pedestrian and cycle way linkages.
- b. Jarnac Boulevard will extend north through the site and connect the neighbourhood with Yaldhurst Road.
- c. Integration with the surrounding existing green network is required. This includes integration with Broomfield Common to the south, the distribution line corridor and a possible future District Park to the west.

2. DENSITY VARIATIONS

- a. Residential density types are defined on the Outline Development Plan map or on an approved subdivision consent plan.

3 OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. Provision of a high quality public open space corridor along the existing 'creek' and surface water channel alignments.
- b. A 20m wide landscape strip along SH73 to accommodate a range of functions including the following:
 - i. East/West cycle and pedestrian movements along SH73.
 - ii. On-site local vehicle access.
 - iii. Screen planting in order to ensure a high quality visual interface between the development and SH73.
 - iv. Ground/surface mounding, fencing and associated screen planting in order to reduce traffic noise from SH73.

4. ACCESS AND TRANSPORT

- a. A primary north-south collector road. This route should provide access off SH73 via a signalised intersection (located at no less than 600m from the Masham Rd / Yaldhurst SH73 intersection) and run south through the site (west of the existing distribution lines) to join with Jarnac Boulevard. This route to be capable of accommodating a bus route as well as access to adjacent properties.
- b. A fully interconnected local road network across the site that achieves a high level of accessibility for people, including opportunities for walking, cycling and public transport. Including two roads through the eastern part of the neighbourhood connecting with the collector road and linking in to both ends of Rannoch Drive to form a loop road.

- c. There shall be no road access or direct property access to Yaldhurst Road other than via the collector road.

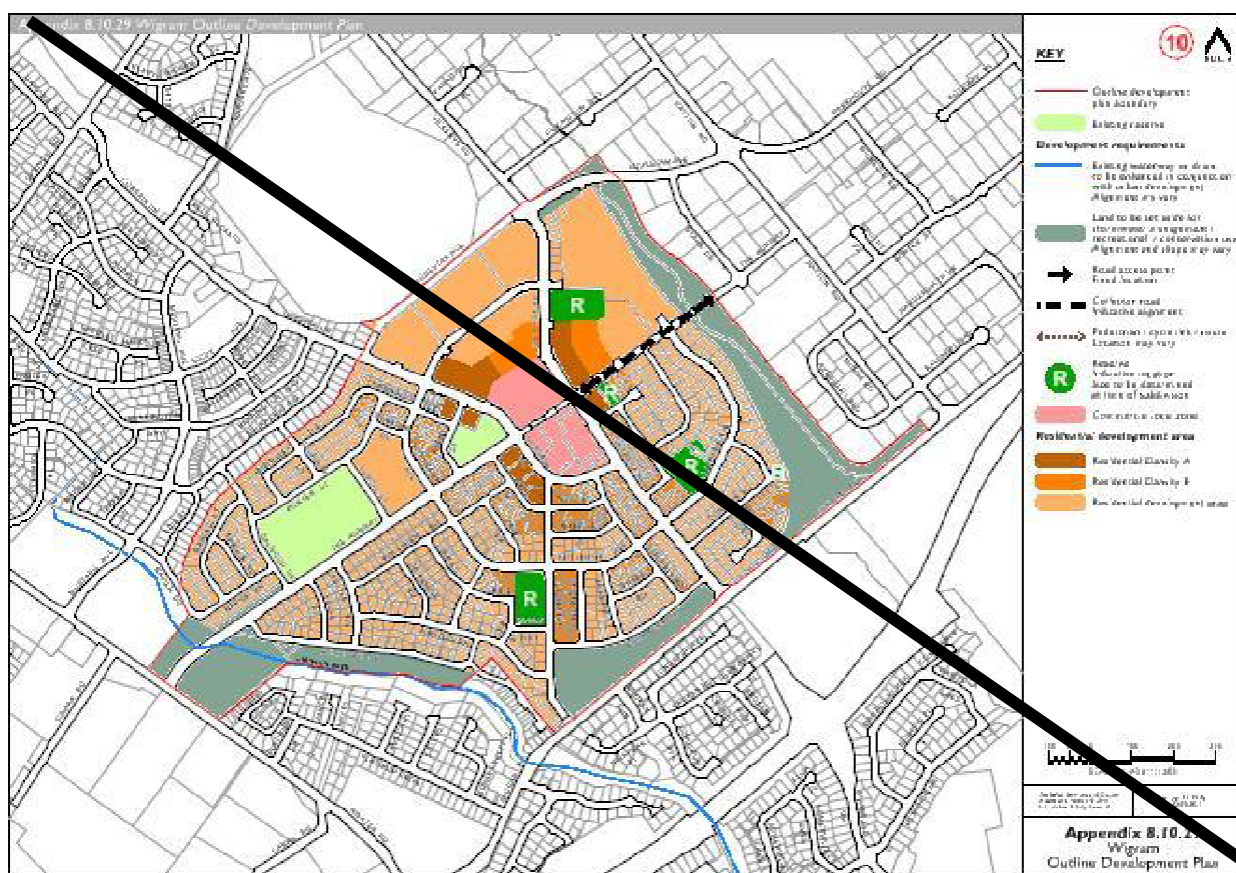
5. STORMWATER

- a. An integrated stormwater management solution for the neighbourhood which combines both engineered techniques and low impact stormwater attenuation, in general accordance with the (Yaldhurst) Surface Water Management System Operation and Maintenance Management Plan.
- b. All watercourses in the neighbourhood are to be integral components of the open space network.
- c. Existing creek alignments are to be retained and in some places widened, in order to help facilitate total stormwater detention across the site. The conveyance drainage network will feed to and utilise these alignments.
- d. Design and operation of the stormwater management system so as to reduce the potential for birdstrike issues associated with the operation of Christchurch International Airport.

6. WATER AND WASTEWATER

- a. Existing water and wastewater mains will need to be extended to service the ODP area. It will be the developer's responsibility to construct the new water supply and wastewater mains.

APPENDIX 8.10.29 WIGRAM OUTLINE DEVELOPMENT PLAN



8.10.29.A CONTEXT

a. The Wigram **Outline Development Plan** area is located on part of the former Wigram Aerodrome in the south west of the city. It is part of a larger neighbourhood developed under a former Living G zoning, known as Wigram Skies. This wider neighbourhood is characterised by substantial areas of conservation and open space and a commercial **local centre**, known as The Landing.

8.10.29.B GUIDANCE

a. Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's New Neighbourhood Design Guide. Further background and guidance is provided in the **South West Area Plan, Christchurch City Council, April 2009**.

8.10.29.C DEVELOPMENT FORM AND DESIGN

a. The following design elements and features are relevant considerations in exercising control over the matters in ~~8.7.1 – 8.7.4~~ or the matters for discretion in ~~8.8~~. They are not requirements for the purposes of Rule ~~8.6.11(a)~~ or Rule ~~14.12.2.16~~.

1. ~~A sense of place is to be continued from the adjoining Wigram Skies development which is centred around the former runway and a new town centre (The Landing) and acknowledges airforce associations, Tangata whenua values and enhancement of the Heathcote River and Haytons Drain.~~
2. ~~The town centre provides a focal point for the wider community.~~
3. ~~The town centre and its surrounds is to have a more prominent built form associated with higher density development. Buildings with elements of additional height have been encouraged in the town centre to reinforce its role as a visual and activity focal point for the community.~~

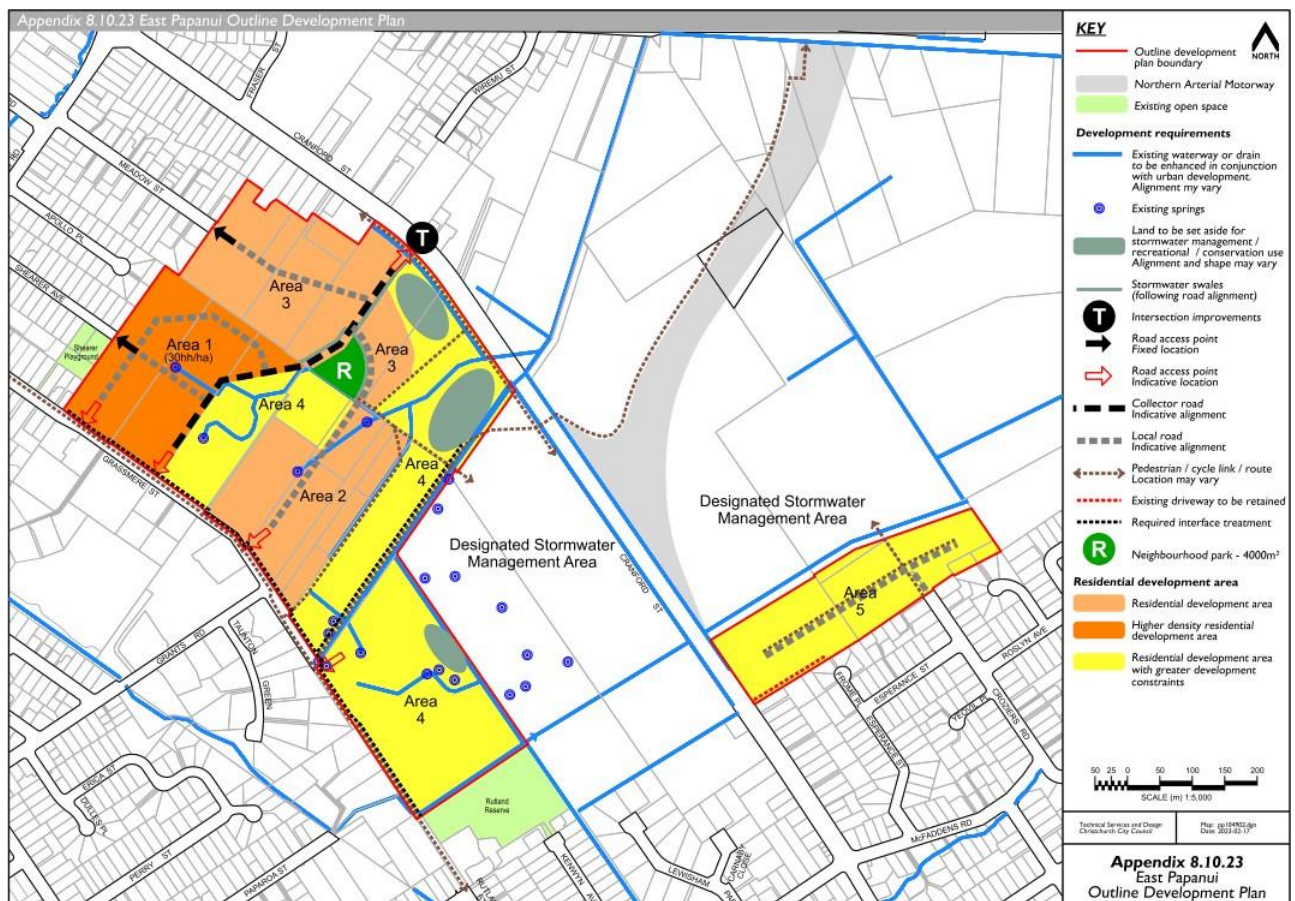
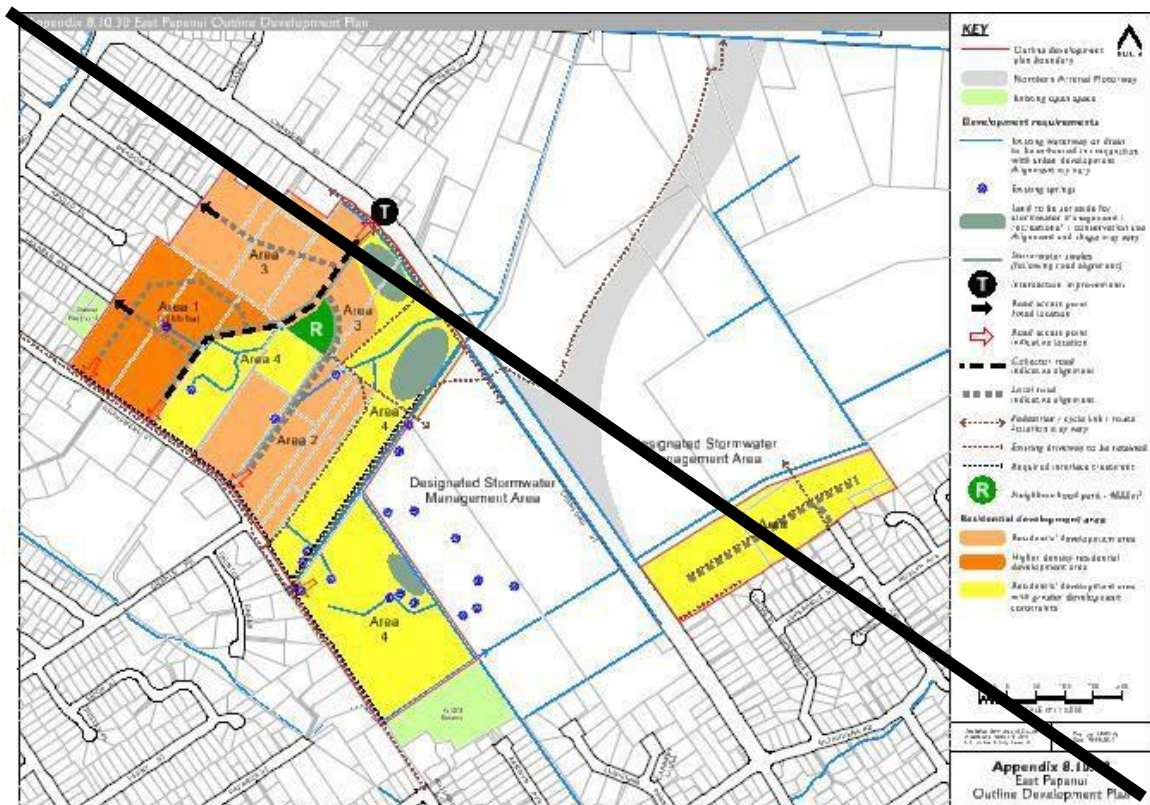
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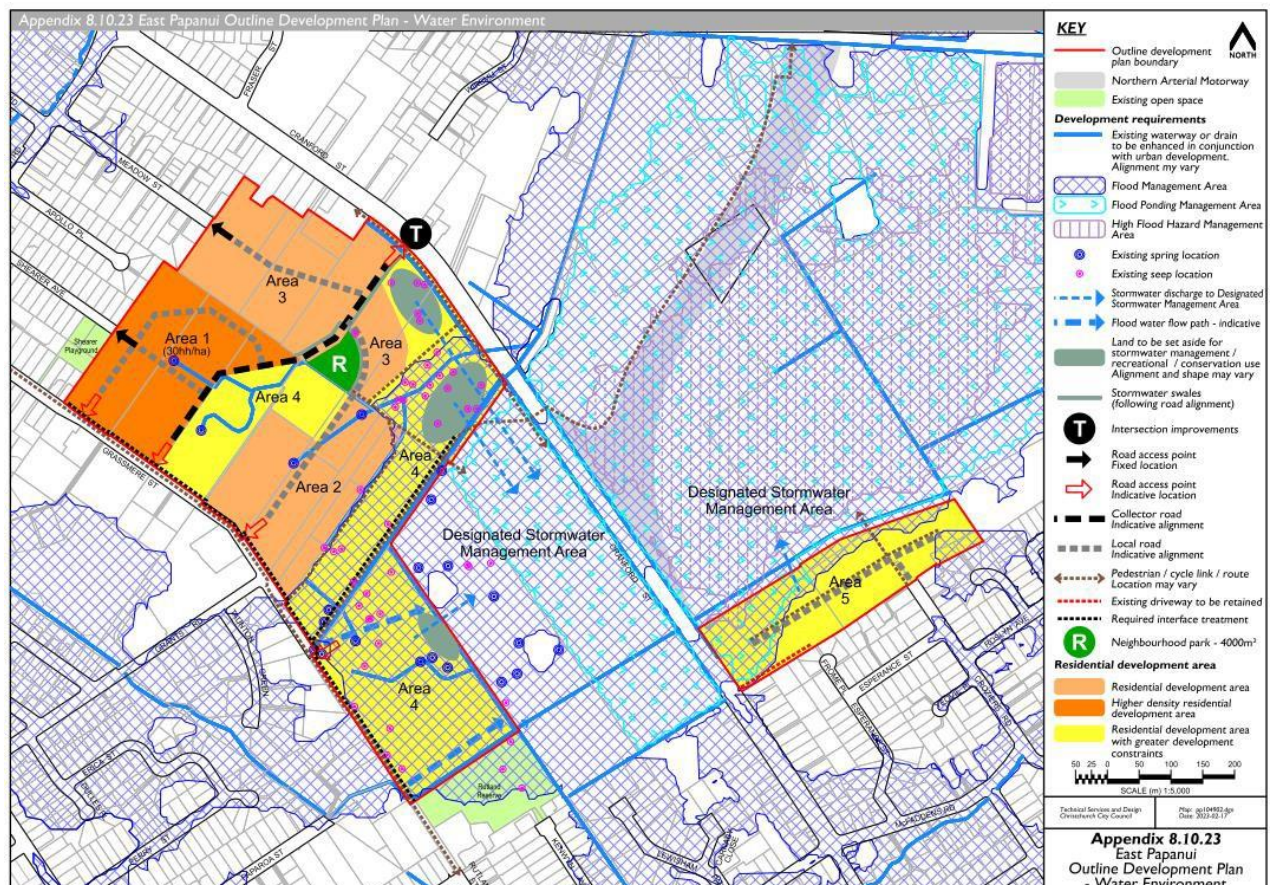
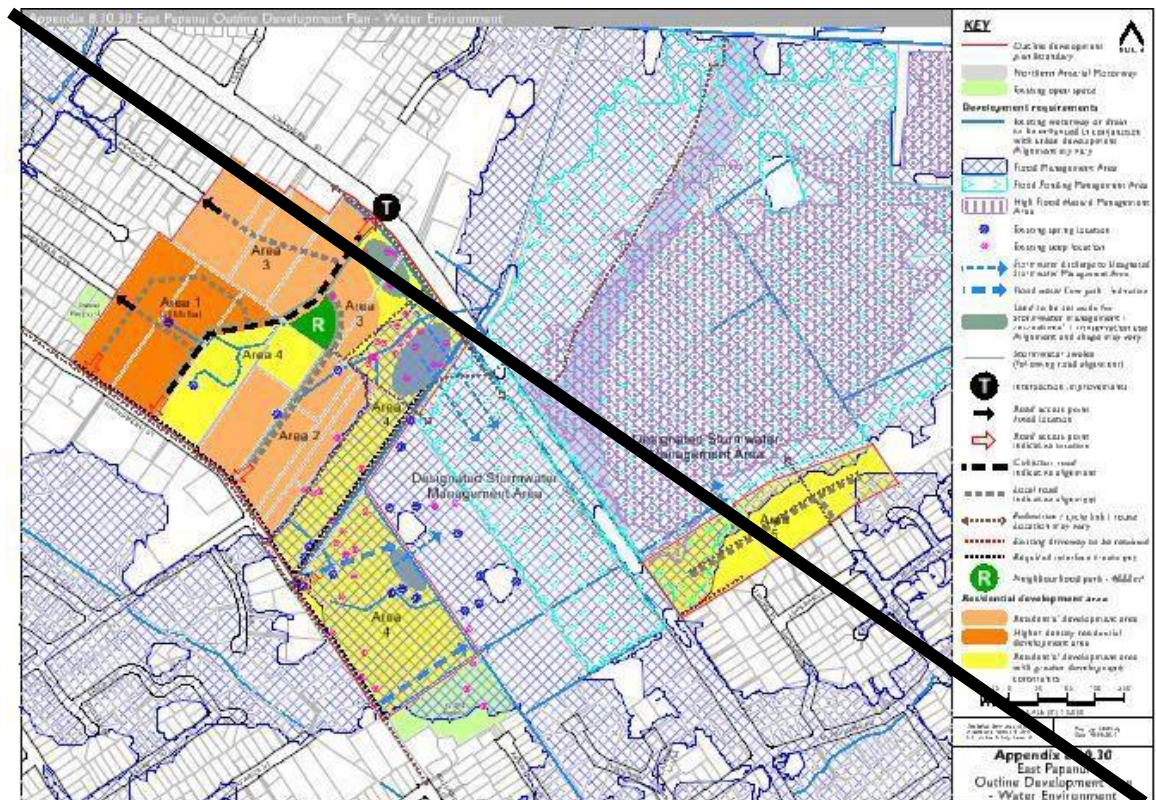
8.10.29.D DEVELOPMENT REQUIREMENTS

a. The development requirements for the purposes of Rule ~~8.6.11(a)~~ and Rule ~~14.12.2.16~~ are described below and shown on the accompanying plan.

1. ~~A linear community park along the north eastern edge of the neighbourhood following Haytons drain. The open space will accommodate stormwater infrastructure and help form a buffer between the residential area and the industrial area. The provision of open space to accommodate Haytons drain will provide an opportunity to protect and enhance ecological and tangata whenua values and restore wildlife habitat.~~
2. ~~Community (neighbourhood) parks well distributed throughout the neighbourhood.~~
3. ~~A collector road along the route of the runway, completing The Runway road between Awatea Road and Haytons Road.~~
4. ~~A stormwater management system to include swales and flow paths as well as detention/soakage facilities within the public open spaces linking and containing the Heathcote River and realigned Haytons Drain. All stormwater systems are to be designed in a manner which recognises the values important to tangata whenua particularly in regards to enhancing ecological values and water quality associated with the Heathcote River and Hayton Drain.~~
5. ~~Residential density types are defined on the Outline Development Plan map or on an approved subdivision consent plan.~~

APPENDIX 8.10.3023 EAST PAPANUI OUTLINE DEVELOPMENT PLAN





8.10.3023.A CONTEXT

The area comprises approximately 38 hectares of land bounded by Cranford Street, the Cranford Basin and Grassmere Street, and existing suburban residential and lifestyle properties. The latter incorporate significant tree planting, which contributes to the landscape quality of the area. It also includes 4.7 ha of land bounded by the stormwater basin in the vicinity of Croziers Road and Cranford Street. It is located close to the Papanui Key Activity Centre (KAC), other business areas and community infrastructure. There are several established transport links between the Cranford Basin and the Central City, including Cranford Street, the Northern Arterial, and the strategic cycleway network. The area is well serviced by public passenger transport, with the majority of the land being within 500 metres of a bus route. There are several schools and recreation facilities located nearby and the area is well served by parks and playgrounds.

The rural area adjoining the proposed development area was historically a major wetland/raupo swamp, but over the last 100 years has been drained and farmed, particularly for horticultural activities suited to the peat soil conditions. The area is characterised by both peaty and liquefiable soils and a number of artesian springs. The City Council has acquired this land and plans to develop it over the long term for stormwater management and public open space purposes.

8.10.3023.B GUIDANCE

Guidance on the means to achieve the development requirements and form and design elements is provided within the Christchurch City Council's Creating New Neighbourhood Design Guide.

8.10.3023.C DEVELOPMENT FORM AND DESIGN

The following design elements and features are relevant considerations in exercising control over the matters in Rules - Rule 8.5.1.2 Controlled activity C5; Rule 14.12.1.2 C1, C2, C4, C7; in exercising discretion over the matters set out under Rule 8.5.1.3 Restricted discretionary activities RD2, RD17 and all restricted discretionary activities in Rule 14.12.1.3; and for assessment under Rule 8.5.1.4 Discretionary activity D7.

1. New development will form an extension of the existing suburban residential areas. Subdivision designs will be required to demonstrate how the new development area achieves direct physical connections with the established residential areas.
2. New subdivision and development will avoid adverse effects on, and enhance, a naturalised waterway network and springs, and the strategic cycleway network.
3. Subdivision and development of some areas will be constrained due to the geotechnical and geo-hydrological conditions of the land (presence of springs and seeps), and limitations on the filling of flood prone areas. Further investigations will be required to refine the extent of areas subject to constraints (including the identification of TC2 and TC3 land). Subdivision designs and development will need to respond to these constraints with appropriate design and remediation. It is expected that as a consequence of these and the required density, that the subdivision pattern will result in comprehensively designed residential clusters, at different densities.

4. **Subdivision** and development of land within Area 5 is to maintain the flood storage capacity of the Cranford Basin as a natural floodplain, as defined by the Flood Ponding Management Area.
5. The **subdivision** design and development is to give consideration to the creation of view shafts and linkages to the Council's planned Cranford Basin facility. This could be achieved through the positioning of **reserves**, alignment of **roads**, footpaths and **cycleway** connections, and consideration to where future high density development may be located.
6. An open and attractive interface should be created between the edge of new residential areas and Cranford Basin. Where private property **boundaries** back onto a publicly accessible open area, appropriate **boundary** planting or fencing and generous **building setbacks** are required.
7. Consideration should be given in the **subdivision** design and development as to how the interface between Areas 1 and 5 and the existing suburban residential development will be managed to offset potential adverse effects in respect to privacy, and outlook. Consideration must also be given to ways of managing potential **reverse sensitivity** effects between development of Area 1 and the Top 10 Holiday Park.
8. Consideration should be given to recognising and enhancing the ecological, historical and tangata whenua values of the area, in association with the naturalised waterway network (being the upper tributaries of the Styx River).
9. Consideration should be given to how **archaeological sites** are to be managed and works undertaken in a manner that reduces the risk of damage to sites;
10. The **subdivision** design and development should ensure the retention of existing specimen trees and groupings of these, which contribute to the landscape quality, amenity and identity of the area.
11. Any foundation or ground improvement works, including preloading of land, shall be designed so that any adverse effects will be appropriately managed. Adverse effects include depressurisation or contamination of aquifers, establishment of pathways for groundwater to migrate to the surface, and changes to established seeps and **springs** as they relate to works on the **sites** and adjoining **sites**. The effect of ground improvement works on hydrogeology shall be assessed. These effects should also be considered under the design seismic events.
12. The presence of waterways, including a naturalised waterway network, and the effects of lateral spread shall be taken into account in any **subdivision** and development and appropriate mitigation undertaken.
13. The design, construction and maintenance of **subdivision** and development (including foundations and pre-loading) shall take into account the effects of settlement, including the effects on adjoining properties. Settlement due to the following shall be considered;
 - i. immediate soil compression, soil consolidation and long term secondary or creep effects;
 - ii. any imposed loads from foundations or **filling**;
 - iii. reduced loads from extraction, if any, causing rebound; and
 - iv. seismic or post seismic events including foundation ratcheting, ground liquefaction and potential ground settlement due to volumetric reductions of soil caused by the ejection of liquefied soil to the ground surface.

8.10.3023.D DEVELOPMENT REQUIREMENTS

The development requirements for the purposes of Rule 8.5.12 Controlled activities C5 and Rule 8.5.1.3 Restricted discretionary activities RD17, are described below and shown on the accompanying plan.

1. INTEGRATION

- a. There are multiple land owners within this ODP area and a number of existing properties. **Subdivision** designs are to provide for good connectivity between different land ownership areas through the inclusion of **road**, open space and pedestrian and **cycle way** and visual linkages in accordance with the ODP.

2. DENSITY VARIATIONS AND HOUSEHOLD YIELDS

- a. Area 1– A minimum net density of 30 lots or households per hectare shall be achieved within this area given its close proximity to the Papanui/Northlands **Key Activity Centre**. Where an existing **residential unit** (as at 1 August 2017) is to be retained, a maximum site area of 2000m², that includes the **residential unit**, can be excluded from the 30 lots or households per hectare required density. Area 2 is required to meet normal **Future Urban Zone RNN** densities.
- b. Part of Area 3 is time constrained because of the existence of the holiday park (as at 1 August 2017) but there is an opportunity for this area to be developed for residential purposes in the medium to long term at ~~residential-suburban~~ **medium residential** densities to minimise traffic effects on Meadow Street. That part of Area 3 occupied by a holiday park is to be developed at densities anticipated for a **Medium Density Residential Zone** ~~Residential-Suburban-Zone~~ in the event that the land is proposed for residential development. Rule **8.6.11.b** density exceptions shall apply to this part of Area 3.
- c. Rule **8.6.11.b** density exemptions shall apply to Area 4 due to geotechnical constraints, limitations on the filling of land, and the need to protect existing springs and waterways.
- d. Area 5 is constrained due to access restrictions from Cranford Street and the presence of a Flood Ponding Management Area. There shall be no more than 60 **residential units** within Area 5. Rule **8.6.11.b** density exemptions shall apply to Area 5.
- e. There shall be no more than 320 **residential units** within Areas 1 – 4 of the East Papanui ODP boundary as defined on the ODP, excluding that part of Area 3 occupied by a holiday park (as at 1 August 2017).
- f. There shall be no more than 105 **residential units** within that part of Area 3 occupied by a holiday park (as at 1 August 2017).

3. OPEN SPACE, RECREATION AND COMMUNITY FACILITIES

- a. Land for recreational (additional local parks and linkages) and conservation use shall be provided as a part of the naturalised waterway network and stormwater management facilities. Opportunities for linear parks will be considered at the subdivision stage, particularly where in Area 4 there are existing waterways and other water features.
- b. To provide for new residents within the ODP area, provision shall be made for a Neighbourhood Park of between 3,000 – 4,000 m² in the location defined on the ODP as “Local Park”, which is **accessible** and has playground equipment, seating and **landscaping**.
- c. There shall be **landscaping** and/or fencing on lots **adjoining** the proposed extension of the cycleway from the Northern Arterial Extension to Grassmere Street, as identified on the Outline Development Plan in **Appendix 8.10.230D** as “Required Interface Treatment”. Any fencing shall be to a maximum height of 1.2 metres, or shall be at least 80% open if exceeding 1.2 metres.

4. ACCESS AND TRANSPORT

- a. There shall be a fully interconnected **local road** network that achieves a high level of **accessibility** for walking, cycling and public transport that utilises the transport and open space network as defined on the ODP.
- b. There shall be a collector road from Cranford Street to Grassmere Street in accordance with the District Plan and Infrastructure Design Standards as part of any **subdivision** within the area identified for the **collector road**. There shall be no more than 99 **residential units** in Areas 1 – 4 prior to completion of a **Collector road** from Cranford Street to Grassmere Street.
- c. There shall be no access to Cranford Street until the Christchurch Northern Corridor is operational except for Area 5.
- d. The intersection of Cranford Street/and the **collector road** is to be designed to provide a Level of Service D (as defined in Highway Capacity Manual 2010) or better for right turning vehicles from the **collector road** onto Cranford Street during the peak hour 'Peak hour' is defined as those hours between 07:00hrs and 09:00hrs and 15:00hrs and 19:00hrs on a weekday.
- e. Shearer Avenue shall be extended to connect to the Cranford Street to Grassmere Street **collector road** in conjunction with **subdivision** of Area 1.
- f. An extension of the Northern Arterial strategic cycleway along the eastern boundary of the ODP area shall be provided through to Grassmere Street in conjunction with **subdivision** of the **adjoining** land.
- g. There shall be no more than four **road access** points onto Grassmere Street, to protect the functioning, safety and amenity of the Papanui Parallel major cycle route.
- h. Grassmere Street to be widened on the north-east side to enable the construction of the Papanui Parallel cycleway.
- i. Within Area 5 there shall be no more than six **residential units** with direct **vehicle access** from Cranford Street. **Vehicle access** shall be limited to one **access** from Cranford Street in the location of the existing **access**.
- j. There shall be no more than two **residential units** with direct **vehicle access** to Area 5 from Frome Place.
- k. Other than those provided for in i. and j above, all **residential units** within Area 5 shall be accessed and egressed from Croziers Road.

5. GROUND CONDITIONS

- a. Any ground settlement, and any consequent effects on adjacent **properties**, shall be within accepted MBIE Earthquake geotechnical engineering practice guidelines.
- b. In the design, construction and maintenance of development, it shall be demonstrated that the following standards are complied with as are relevant to each area.
 - i. A. Area 5 shall meet all of the requirements in clauses (A) to (E) below.
 - ii. B. Areas 1 – 4 shall meet clauses (D) and (F) below.

- A. The minimum requirements for site investigation density of the MBIE Guidelines for the geotechnical investigation and assessment of subdivisions in the Canterbury Region are complied with;
 - B. A Liquefaction assessment of the site has been completed in accordance with MBIE guidelines;
 - C. A preliminary estimate has been completed of the 'non-development' ground subsidence due to seismic effects and/or secondary (creep) settlement, which could be expected over the design life of the sub-division, including an assessment of differential settlement;
 - D. The area has been classified according to the liquefaction and secondary settlement assessment, either as a whole or as micro-zones if variable subsidence is predicted;
 - E. A preliminary estimate has been completed of the induced settlements both on the site of the proposed **subdivision** and **adjoining properties** over the design life of the **subdivision**, where ground levels need to be raised by **filling**. This is to include an assessment of differential settlement;
 - F. An assessment of effects has been undertaken of the cumulative settlements determined in (C) and (E) on the development infrastructure for the areas determined under clause (D) and any downstream effects.
- c. Any **subdivision** and use of land that is deemed to be potentially contaminated is subject to rules under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health. Further investigations will be required to determine whether soils are potentially contaminated.

6. STORMWATER, GROUNDWATER AND FLOODING

- a. No **earthworks**, **building** and **subdivision** development, fencing or paving shall occur within 30m of any existing **spring** (excluding seeps) nor within 10m of a waterway except for the purpose of naturalising a waterway in accordance with clause 6(d). The East Papanui Outline Development Plan and Water Environment Plan in **Appendix 8.10.230** provides guidance on the location of **springs** and seeps as identified and mapped in September 2016. The ODP Water Environment Plan should be used as a baseline for identifying these features, however any additional **springs** that may be identified subsequently shall comply with the rule above.
- b. The outflow from **springs** indicated on the ODP Water Environment plan shall be conveyed to the Tysons Stream (which is a tributary of the Styx River) at Cranford Street via a re-formed non-linear network of channels of natural appearance.
- c. No investigation, dewatering, drainage or construction may reduce the outflow from **springs** or the quality of **spring** water.
- d. Naturalisation of waterways is to be completed as part of any **subdivision** and development and waterways shall act as a flow conduit for **springs** and groundwater seepage. Naturalisation of the waterways shall include the following:
 - i. Planting of riparian areas with indigenous species to provide shading;
 - ii. Enabling fish passage including the removal or modification of structures as required; and

- iii. Integration of waterways with the adjoining Cranford stormwater management area.
- e. Any subdivision or development shall not result in an overall lowering or raising of the groundwater level.
- f. A Geo-hydrological Management Plan shall be prepared and submitted as part of the first application for subdivision and land use activity within Areas 1 – 4 and shall relate to all of Areas 1 – 4 at least. A Geo-hydrological Plan shall be prepared and submitted as part of the first application for subdivision or land use activity (whichever is the earlier) within Area 5 for all of Area 5, unless Area 5 has already been included within a Geo-hydrological Management Plan prepared and submitted for the whole of the ODP area.
The Geo-hydrological Management Plan is required to demonstrate how subdivision and development will:
 - i. maintain spring and seepage flows, and not result in the lowering or raising of groundwater levels;
 - ii. protect, and where possible enhance ecological and cultural value;
 - iii. achieve an integrated approach in managing effects on flooding and groundwater with the wider Cranford Basin proposed stormwater facility;
 - iv. address effects on artesian conditions of the Springston Formation Lower Alluvium or the lower Confined Aquifer One associated with the Riccarton Formation.
In addressing the points above, the Geo-hydrological Management Plan shall describe its purpose, the principles of the plan, mitigation and control measures, as well as including an investigation and monitoring plan, and reporting and review procedures. For further requirements, refer to [appendix 8.10.230E](#).
Any Geo-hydrological Management Plan shall be independently reviewed and endorsed by a suitably qualified expert in geo-hydrology prior to submission to the Council.
- g. Any required filling of land shall include the installation of subsurface groundwater drainage treatment, including permeable aggregate drainage blankets and subsoil drains, to divert groundwater to an identified waterway.
- h. Provision shall be made for flood attenuation and treatment of the stormwater first flush (25mm) on-site to meet the mitigation standards of the operative Stormwater Management Plan for the catchment and the operative stormwater discharge consent.
- i. Any stormwater discharge from Areas 1-5 shall be to the Council's Stormwater Management Area as identified on the ODP Water Environment Plan in [Appendix 8.10.230](#).
- j. There shall be no mixing of stormwater with spring water, such that there will be separation of stormwater from spring heads and spring fed waterways.
- k. Stormwater may not be discharged from the site at a rate in excess of pre-development runoff in events up to the 50 year average recurrence interval.
- l. Subdivision and development must allow for, and may not unduly impede, the eastward passage of overland flood water from Papanui toward the Cranford Basin defined on the Water Environment Plan in [Appendix 8.10.230](#) as "Flood Water Flow Path – Indicative".
- m. Any subdivision or development within that part of Area 5 identified as a Flood Ponding Management Area or High Flood Hazard Management Area shall maintain the existing capacity of that area as a

ponding area unless compensatory storage is provided elsewhere on the same [site](#) (Also refer to rules in [Chapter 5](#) Natural Hazards).

7. WATER AND WASTEWATER

- a. Any [subdivision](#) and development shall be serviced by a pressure sewer system with control panels on each pump which allow the [Council](#) to monitor and control the pumps.

8. STAGING

- a. Area 1 shall be the priority development area for medium density residential development given its proximity to the KAC. Development in Areas 2, 3 and 4 shall not be of a scale and intensity that will preclude the ability to develop Area 1 to the minimum 30hh/ha required within the limit prescribed by clauses 2(e) and (f) of 425 [residential units](#) for Areas 1 - 4 of the ODP area.

8.10.230.E REQUIREMENTS FOR A GEO-HYDROLOGICAL PLAN

This section provides a framework for development of a Geo-hydrological Management Plan for the ~~Residential New Neighbourhood~~ Future Urban Zone (East Papanui). This framework shall be used as the basis for a detailed geo-hydrological management plan submitted as part of the first consent applications for [subdivision](#) or land use activity in this area, in accordance with [Appendix 8.10.230.D.6.f](#).

Prior to submitting the Geo-hydrological Management Plan to the Council in accordance with [Appendix 8.10.230.D 6\(f\)](#), a draft of the plan shall be provided to Environment Canterbury and Christchurch City [Council](#) for their review and comment.

Purpose of the Plan

The primary purpose of the Geo-hydrological Management Plan is to:

- ensure that groundwater levels and [spring](#) and stream flow volumes and quality are not adversely effected by land development;
- maximise the resilience of the development to changes in the location of [springs](#) and seepages that could occur as a result of future earthquake activity; and
- avoid, remedy or mitigate the potential effects associated with development over compressible ground (e.g. peat deposits)

Principals of Geo-hydrological Management in the East Papanui Outline Development Plan area ([Appendix 8.10.230](#))

The founding principles of the management plan shall include, but not be limited to the following:

- Flow rates in **springs** and streams, which drain from the Cranford Basin area shall be monitored for a sufficiently long period to establish natural seasonal variability under a range of climatic conditions. Depending on the availability of existing monitoring data and climatic conditions at the time of monitoring, this may mean that more than one year of monitoring is required.
- The depth to and seasonal water level range of artesian groundwater shall be established through site investigation and monitoring prior to any development work.
- There shall be no of drawdown of the water table associated with any temporary or permanent excavations at the **site**, other than within sheet-piled enclosures to any depth below the average seasonal low groundwater level unless it can be demonstrated that this will not cause land subsidence or affect **spring** fed stream flows.
- Special control measures will be required for excavation or piling at locations and depths where artesian groundwater is likely to be encountered so that the risk of artesian water leakage or contamination is avoided.
- The **site** development design shall consider and accommodate, as far as practically possible, the potential for **spring** and seepage locations to change as a result of future earthquake activity.
- The design of drainage infrastructure at the site shall account for the potential for ground settlement and subsidence.

Mitigation and control measures

The Geo-hydrological Management Plan shall define a set of mitigation and control measures that will be employed to minimise the potential for adverse effects during and post-development of the site. These measures shall include, but not be limited to the following:

1. Set-back distances from **springs** and streams;
2. Site drainage design mitigation and control measures;
3. Foundation design mitigation and control measures;
4. Underground service design mitigation and control measures, including provision to avoid creation of preferential flow pathways for groundwater;
5. Mechanisms to manage the effects of development over or in the vicinity of peat deposits, including the following provisions:
 - a. Ensure that consideration is given to how the possible changing water content of the peat in the area of the site over time (e.g. with climate change) will affect ground levels, as the peat shrinks and swells with drying out/soakage;
 - b. Consider how increasing the non-permeable surface area will affect water content of peat and consequent shrinkage;
 - c. Where **buildings** are proposed to sit directly on the peat, ensure that sufficient time is allowed for preloading of peat to pre-compact the ground;
 - d. Ensure that the effects of loading by **buildings** on both peaty ground and the groundwater are considered in an integrated fashion. For example, if there is subsidence of the ground, consider where groundwater will sit with respect to the new ground surface;
 - e. If **buildings** on peat are piled, they must be designed appropriately to account for possible subsidence under the building due to dewatering of the peat;
 - f. In-ground infrastructure is designed to be resilient to differential subsidence, and account must be taken of groundwater levels and the possibility of, for example, floating manholes;
 - g. If peat is removed, account must be taken of the different soakage properties of the peat versus the replacement ground with regard to stormwater management.

- h. Consideration of whether compaction of the ground due to development could reduce groundwater flow rates to local springs and streams.

Investigation and monitoring plan

The Geo-hydrological Management Plan shall include a detailed site investigation and monitoring plan. The investigation and monitoring plan shall set out:

- The purpose and principles of the monitoring and investigation programme;
- The proposed site investigation method and details; and
- The location and frequency of groundwater level and **spring** and stream flow and water quality monitoring.

The Council anticipates that the site investigation will include:

- A detailed investigation of the variability in depth to artesian groundwater at the site (e.g. using CPT coupled with pore water pressure logging, undertaken using best practice techniques to ensure that reliable data is obtained); and
- Installation of piezometers coupled with a sufficient period of water level monitoring to encapsulate a representative range of climatic conditions.

Reporting and review procedure

The plan shall set out a schedule for reporting and provision of information to Environment Canterbury and Christchurch City **Council** for review and comment. Details of reporting on and management of unforeseen issues (e.g. interception of significant groundwater inflows) during the **site** development shall also be defined.