

## **APPENDIX 6**

### **SUMMARY ASSESSMENT OF ENVIRONMENTAL EFFECTS**

#### **Economics**

1. The Project is expected to generate a wide range of enduring economic benefits and avoid any material economic costs.
2. The Project will address the shortfall in greenfield capacity for standalone homes, delivering substantial economic benefits by significantly increasing the District's dwelling capacity and helping to align future supply with demand. This responsiveness to growth will contribute to alleviating the rate of house price inflation, thereby enhancing affordability.
3. By providing for development in the Kaiapoi Development Area that offers a variety of lot sizes and housing typologies, the Project will create a critical mass necessary for improving local services and reducing retail spending leakage to Christchurch City. By achieving infrastructure efficiency, the Project will mitigate financial risks for Waimakariri District Council while keeping the costs of new homes as low as possible.
4. The construction activity will generate significant one-off economic stimulus and ongoing employment at the neighbourhood commercial centre and retirement village, contributing to the District's employment self-sufficiency. Additionally, the economic cost of forfeiting the land for rural uses is considered to be negligible compared to the substantial boost in employment provided by the Project. The Project will not cause adverse effects on the vitality of nearby centres, as the proposed neighbourhood commercial centre is of small scale, expected to grow organically in response to demand, and will occupy a different (and complementary) role and function.
5. The Project includes a high-density, high-quality master-planned retirement village. This will not only enhance economic efficiency in the land market by utilising the land to its highest potential, but will also facilitate the release of older, larger homes, making them available for families or first-time buyers.

#### **Urban Design**

6. The Greater Christchurch Spatial Plan 2024, Waimakariri 2048 District Development Strategy, Canterbury Regional Policy Statement and Proposed Waimakariri District Plan consistently identify the Site as a location for future residential development at Kaiapoi. The identification of the Site (and adjacent land) as the only Future Development Area in Kaiapoi signals the strategically

planned direction of growth for the township, being contiguous with the established urban environment and well-connected to the town centre, community facilities and road networks.

7. The North Block is an appropriate location for small lot sizes and increased densities as it is in relatively close proximity to existing public transport connections, employment and services within the Kaiapoi town centre. Almost the entirety of the North Block is within 1km (10-minute walk) of Kaiapoi North School and the surrounding area has extensive open recreation spaces. The North Block is also only 1km from the Kaiapoi town centre and 2km from Kaiapoi High School.
8. The Housing Development is essentially an extension of Beachgrove to the south, and the two areas will share a similar character, eliminating the need for a sensitive boundary treatment. The area to the west is an existing residential neighbourhood (Moorcroft Subdivision) with an established suburban residential character. A paper road along this boundary will provide for active transport and open space amenity connecting the North and South Blocks with the wider urban environment. This physical buffer will also facilitate the transition between the Housing Development and Moorcroft Subdivision and avoid any visual dominance effects that could arise from the change in dwelling density and building scale.
9. The South Block is wholly contained within existing urban development, meaning the Retirement Village will contribute to the compact urban form sought for Kaiapoi while reducing the need for unplanned expansion into rural land to meet the District's housing needs. The Retirement Village benefits from existing pedestrian-centric, high amenity connections to the town centre and Norman Kirk Park, and future connections to the neighbourhood commercial centre in the Housing Development. The increasing catchment associated with Beachgrove and the Project will support the provision of additional public transport links.
10. The apartment buildings within the Retirement Village, at four and six levels, will be higher than existing development in the surrounding area and anticipated in a residential area. This is considered to be positive from an urban design attribute perspective as it will contribute to legibility and wayfinding, provide higher landscape amenity through occupying less ground area, and encourage passive surveillance from within the apartments. Any overshadowing will be contained within the South Block, with a limited number of villas receiving minimal shading. The visual dominance of the apartments will be minimised, with views obstructed by existing boundary landscaping or adjacent properties being setback from the common boundary.
11. From an urban design perspective, the Project will achieve a positive relationship between the Site and the existing residential neighbourhoods of north Kaiapoi as well as the rural land to the east. Proposed movement networks will effectively integrate with existing transport networks, and the

extension of McIntosh Reserve will create an appropriate transitional zone between the Site and rural land to the east.

12. The Project will deliver an appropriate distribution of density within the wider context of Kaiapoi, supporting a more compact urban form by increasing density within a walking/cycling catchment of transport connections and the commercial centre of Kaiapoi. The Project will achieve this while also consolidating the urban boundary of Kaiapoi, with the extension of McIntosh's Reserve clearly demarcating the extent of the urban environment.

### **Rural Character, Amenity and Landscape**

13. The Site is located on the edge of a well-established residential neighbourhood. Future development of the existing rural land is anticipated by the relevant statutory planning documents, which will inevitably bring about change to the existing rural characteristics on the Site and the balance of the Future Development Area to the north.
14. The Housing Development will provide an approximately 100m-wide green buffer that will visually soften the transition and provide separation from the wider rural landscape. This open space will be occupied by stormwater management reserves, recreational amenities, open green space, the realigned McIntosh Drain and extensive native planting.
15. In contrast, the rural character along the southern and western boundaries of the North Block, and all boundaries of the South Block, are enclosed by the abrupt edge of the neighbouring residential environment, resulting in a very limited visual catchment. It is therefore considered the Site has the capacity to absorb the Project, which will naturally extend from the adjacent well-established residential neighbourhoods of Beachgrove and Moorcroft, and provide future connectivity to the land to the north which is also anticipated for future development.
16. Taking into account the landscape character and visual amenity values of the receiving landscape, it is considered the Project will have a low adverse landscape and visual effect beyond what is anticipated for development within a Future Development Area. The Project appropriately provides for vehicle and pedestrian connections, open space and amenity and stormwater management. Overall, the development outcome will be one that is suitable to the growth of Kaiapoi and consistent with the values of the receiving and anticipated landscape.

### **Reverse Sensitivity Effects**

17. The entire South Block and part of the North Block is located under the 50dBA airport noise contour, as is the majority of the established urban area of Kaiapoi. The Project accounts for

potential reverse sensitivity effects associated with the operations of Christchurch Airport, noting that:

- the Proposed Plan provides for residential activities as permitted activities under the 50 dBA noise contour and 55 dBA noise contour (subject to achieving indoor sound levels), an approach that is consistent with the Operative Plan;
- there is a strong legal, planning, and evidential case in support of residential development within the 50 dBA and 55 dBA contour. Put simply, aircraft noise at 50-55 dBA is not sufficiently loud to generate complaints that might affect operation of Christchurch Airport;
- Plan Change 1 to the CRPS introduced the Future Development Areas now identified on Map A, indicating their suitability for greenfield development;
- the NPS UD elevates housing shortage as a matter of national significance, and does not require or prioritise protection of strategic infrastructure when making planning decisions that contribute to well-functioning urban environments and enable a variety of homes that meet community needs in terms of type, price and location
- the Greater Christchurch Spatial Plan 2024 seeks to protect strategic infrastructure (including Christchurch Airport) by "carefully managing" urban development within the airport noise contour, which is a notable departure from the "avoid" approach in the CRPS.

## **Flooding**

18. The Site is located within a High Flood Hazard Area as defined in the CRPS (being subject to water depths greater than 1m in a 500-year flood event), and the Non-Urban Flood Assessment Overlay (North Block), Urban Flood Assessment Overlay (South Block) and Coastal Flood Assessment Overlay in the Proposed Plan.
19. Flood modelling indicates that appropriate design of landform and freeboard can reduce water depths within the Site (during a 200-year event) to zero while the surrounding area will experience a small increase in water depth as a result of displacement. Further, the Project will not cause any additional buildings within the surrounding area to be inundated. Provided the proposed surface flooding mitigation is implemented, the post-development Site will no longer be considered a High Hazard Area as defined in the CRPS or Proposed Plan.
20. Any flood risk can be appropriately managed through appropriate design of landform and freeboard, such that significant adverse effects associated with flood hazard within the Site and surrounding area will be avoided.

## **Transport**

21. Traffic generated by the Project can be accommodated on the adjacent roading network, with an indicative assessment showing that a minor improvement scheme at the Williams Street / Beach Road / Smith Street roundabout will be required at some point in the future. The indicate solution would create a short, second traffic lane on the Beachgrove approach to increase capacity, enabling two vehicles to exit Beach Road (rather than just one). This solution is both viable and able to be accommodated within the legal road reserve.
22. The crash history in the vicinity of the Site does not indicate that there would be any adverse safety effects from the Project.
23. There is generally a good level of existing infrastructure for non-car modes of travel in the vicinity of the Site, and appropriate provision will be made for interconnectivity. The existing school, preschool and mixed-use area are within a 1km walking distance, with Kaiapoi town centre also located within a viable walk or cycle ride.
24. The relatively flat topography of the Site means the internal roading network can be readily designed to meet appropriate guides and standards. There will be a high degree of compliance with the transportation requirements of the Proposed Plan, with the only anticipated non-compliance in respect of intersection separation, however a first principles assessment shows that appropriate separation distance can be provided.
25. The Project is located within an appropriate transport environment as it is expected that the traffic generated by the Project can be accommodated on the adjacent roading network without compromising its safety and efficiency. The existing frontage roads have suitable provision for the increased level of walking and cycling attributed to the Project. Further, the location of the proposed neighbourhood commercial centre will be within 1km of all of the North Block, most of the South Block and all of Beachgrove.

## **Ecology**

26. Terrestrial vegetation and habitat on the Site are heavily influenced by agricultural activities, with managed pasture the dominant vegetation type. Freshwater values are limited to constructed drains (both farm and roadside), with the highly modified, but natural McIntosh Drain on the eastern boundary of the North Block. Instream values are limited due to the artificial nature of the channels, water levels, rural land use and lack of riparian vegetation.
27. Indigenous lizard habitat has not been identified within the South Block, which suggests arboreal geckos are unlikely to be present.

28. Stormwater management and the development of greenspace to the east of the Housing Development through realignment of McIntosh Drain will significantly increase ecological values through riparian planting, provision of fauna habitat and stormwater management.
29. Based on the ecological assessment undertaken to date, the Project is not expected to result in detrimental effects on ecological values, with any effects able to adequately mitigated through design, construction methodology and conditions of consent. On the contrary, the Project will enhance ecological values through increased botanical values, indigenous vegetation cover and habitat for native fauna.

### **Archaeological Effects**

30. McIntosh Drain is listed as an archaeological site. An archaeological authority under Section 44 of the Heritage New Zealand Pouhere Taonga Act 2014 has been obtained for the works associated with realignment of the Drain.
31. The remainder of the Site has not been identified as containing any archaeological features, however works will be undertaken in accordance with an Accidental Discovery Protocol.

### **Cultural Values**

32. The Site is within the takiwā of Te Ngāi Tūāhuriri Rūnanga. Natural resources (water, mahinga kai, indigenous flora and fauna, cultural landscapes and land) are taonga to manawhenua, and integral to the history and identity of mana whenua. The protection of sites and areas of significance to Māori for the benefit of current and future generations is essential to the cultural identity of Kaiapoi and Greater Christchurch, so it is therefore important that the Project does not impact them.
33. Given the works will involve disturbance to the ground, that may disturb or damage, previous unrecorded Māori archaeological material, earthworks will proceed under an Accidental Discovery Protocol. Should any previously unrecorded archaeological deposits be uncovered, appropriate procedures will be followed while maintaining tikanga Maori.

### **Earthworks and Construction Effects**

34. Earthworks and construction activities are a necessary component to enable the Site to be developed. In this sense, they are anticipated with land development of this nature. An Erosion and Sediment Control Plan, dust suppressing measures, Site Management Plan and Temporary Traffic Management Plan will be prepared and implemented. All works will be undertaken in accordance with *NZS 6803:1999 Acoustics – Construction Noise*.

35. Overall, earthworks and construction activities will be appropriately designed and adverse effects on the environment will be managed by conditions of consent to ensure that any adverse effects will be temporary and acceptable in the context of the receiving environment.

### **Land Suitability**

#### ***Geotechnical***

36. Geotechnical investigations have identified liquefaction generated from a seismic event poses a geotechnical risk to the Site in its current state. The Project is unlikely to worsen, accelerate, or result in geotechnical-related hazards provided the recommended geotechnical measures are implemented.
37. From a geotechnical perspective, the Site is geotechnically suitable for the Project, with effects appropriately managed through undertaking the recommended ground remediation measures.

#### ***Soil Contamination***

38. A Preliminary Site Investigation has identified the potential for contamination to be present in parts of the Site as a result of historical land uses. Further contaminated land investigations will be undertaken prior to bulk earthworks, the results of which will determine controls and procedures to manage any contaminated land present that will be set out in a Site Management Plan and Accidental Discovery Protocol. Subject to these further investigations and management of contaminated land, the Project is appropriate from a contaminated land perspective.

#### ***Land Productivity***

39. The physical attributes and productivity of the Site have been assessed to determine the impact of the Project on the productive potential of the Site for rural / rural lifestyle land uses (given the Site's zoning under the Operative and Proposed Plans).
40. Soils on the Site are predominantly unusable for grazing and / or land management activities for 5-6 months of the year due to being waterlogged or having excessive moisture content. Additionally, the existing infrastructure is poor and requires significant upgrade to increase productivity. The Site and access to it is a major disincentive for agricultural services support, noting particularly the urban activities surrounding the Site. Furthermore, the Site lacks the scale and land class diversity to manage and mitigate farming risk, and even at high stocking rates the financial returns are likely to be little better than breakeven. For these reasons, no prudent land user is likely to assess the Site as a sustainable and viable farming operation, and the loss of rural land is not considered an impediment for the Project.

## **Infrastructure**

41. There are no servicing impediments to the Project.
42. The approach to stormwater management has been developed in conjunction with flood modelling analysis and the proposed flood hazard mitigation. The design concept for the Housing Development will be managed through a combination of a reticulated pipe network and stormwater basins, while the Retirement Village will be through a reticulated pipe network and a proprietary treatment device.
43. Wastewater servicing will be managed via a combination of the remaining capacity within the existing low pressure sewer network established at Beachgrove and WDC's planned upgrade of an existing wastewater pumpstation.
44. There is sufficient source capacity in the Kaiapoi water supply scheme for the Project, with Council upgrades planned for expected increased future demand.
45. Overall, the Site's environmental conditions and existing reticulated networks do not preclude the Project from a servicing perspective.