



**ANNEX H: LEED-ND SCORES OF THE SEVEN CASE STUDY  
NEIGHBOURHOODS (NH102/10)**

**Annex to :**

**Lietz, K., Bijoux, D., Saville-Smith, K., Howell, M. (2006). *Testing the Prototype Neighbourhood Sustainability Framework*. Report NH102/2 for Beacon Pathway Ltd**

## **WAIMANU BAY**

### **LOCATION EFFICIENCY – 8 out of 31 points**

#### **Prerequisite: Transportation Efficiency - achieved**

##### **Intent**

*Reduce air pollution, energy consumption, and greenhouse gas emissions generated by transportation by encouraging new development in locations that reduce automobile dependence. Promote public health by encouraging new development in locations that provide increased opportunities for walking.*

The development is adjacent to existing development.

#### **Prerequisite: Water and Stormwater Infrastructure Efficiency - achieved**

##### **Intent**

*Conserve natural and financial resources required for construction and maintenance of infrastructure. Encourage new development within and near existing communities, in order to reduce multiple environmental impacts caused by haphazard sprawl.*

Te Atatu Peninsula was already served by the required infrastructure. The additional infrastructure for the development was provided as part of the development.

#### **Credit: Contaminated Brownfields Redevelopment – 0 out of 4 points**

##### **Intent**

*Conserve land and reduce air, water, and land pollution from contaminated land.*

The site was not contaminated and does therefore not qualify for this credit

#### **Credit: High Cost Contaminated Brownfields Redevelopment – 0 out of 1 points**

##### **Intent**

*Encourage the cleanup of more complicated or challenging contaminated brownfields sites.*

See above

#### **Credit: Adjacent, Infill or Previously Developed Site - 3 out of 10 points**

##### **Intent**

*Encourage development within existing communities and already-developed places to reduce multiple environmental harms associated with haphazard sprawl. Reduce development pressure beyond the limits of existing development. Conserve natural and financial resources required for construction and maintenance of infrastructure.*

Waimanu Bay borders development to the west. It does not form a connection between previously developed sites. It was therefore deemed to be a **adjacent** site.

#### **Credit: Reduced Automobile Dependence – 0 out of 6 points**

**Intent**

*Encourage development in locations that exhibit superior performance in providing transportation choices or otherwise reducing motor vehicle use.*

The majority of dwellings are more than 400m walking distance from the nearest bus stop.

**Credit: Contribution to Jobs-Housing Balance – 4 out of 4 points**

**Intent**

*Encourage balanced communities with a diversity of uses and employment opportunities. Reduce energy consumption and pollution from motor vehicles by providing opportunities for shorter vehicle trips and/or use of alternative modes of transportation.*

Waimanu Bay easily earns this credit. There are more jobs available locally than the number of dwellings in the development.

**Credit: School Proximity – 0 out of 4 points**

**Intent**

*Promote children's health through physical activity by facilitating walking to school. Promote a sense of community.*

Even though there is a local primary and intermediate school, only 25% of dwellings are within 800m walking distance of the primary and only 37% within walking distance of the intermediate school.

**Credit: Access to Public Spaces - 1 out of 2 points**

**Intent**

*Provide access to public gathering space in order to promote sense of community.*

All dwellings and business entrances are easily within 800m walk of a reserve, however other than walking tracks there are no facilities available at the coastal reserve.

**ENVIRONMENTAL PRESERVATION – 3 out of 14 points**

**Prerequisite: Imperilled Species and Ecological Communities – unlikely to be achieved**

**Intent**

*Protect imperilled species and ecological communities.*

While no ecological assessment was found it is known that there is Fernbird habitat along the shore. Development is within 92 metres of this habitat.

**Prerequisite: Parkland Preservation - achieved**

**Intent**

*Protect natural habitat.*

The site was not previously a public park.

**Prerequisite: Wetland and Water Body Conservation – possibly achieved**

**Intent**

*Conserve water quality, natural hydrology and habitat through conservation of water bodies and wetlands.*

There is a wetland that is part of the development. This is well planted by houses are quite close, possibly just beyond 30 metres.

**Prerequisite: Farmland Preservation – unable to assess.**

**Intent**

Preserve irreplaceable agricultural resources by protecting prime and unique farmland from development.

**Credit: Support Off-Site Land Conservation – 0 out of 2 points**

**Intent**

*Protect land that is important for natural or cultural resources from development.*

No land was purchased off-site for conservation by the developer.

**Credit: Site Design for Habitat or Wetland Conservation – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

While some habitat is clearly been retained and possible been improved, it is unlikely that the exact requirements of this credit have been met.

**Credit: Restoration of Habitat or Wetlands - 0 out of 1 point**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies*

Some of the area was planted in native vegetation and the area contains a wetland, however this area is less than 10% of the total development.

**Credit: Conservation Management of Habitat or Wetlands – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

There is no long term management plan in place.

**Credit: Steep Slope Preservation – 1 out of 1 points**

**Intent**

*Minimize erosion to protect habitat, and reduce stress on natural water systems, by preserving steep slopes in a natural, vegetated state.*



The site area does not have slopes steeper than 15%.

**Credit: Minimize Site Disturbance During Construction – 0 out of 1 points**

**Intent**

*Conserve existing natural areas and protect trees to provide habitat and promote biodiversity.*

For the majority of sites no building footprints were identified nor were all major trees retained.

**Credit: Minimize Site Disturbance Through Site Design – 0 out of 1 points**

**Intent**

*Preserve existing tree canopy, native vegetation and pervious surfaces while encouraging high density, smart growth communities.*

The site was not previously developed and no significant areas of land were left un disturbed.

**Credit: Maintain Stormwater Runoff Rates – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

The post development discharge to the sea is clearly higher than the pre development discharge.

**Credit: Reduce Stormwater Runoff Rates – 0 out of 2 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

See above.

**Credit: Stormwater Treatment – 2 out of 2 points**

**Intent**

*Reduce surface water pollution from stormwater.*

Stormwater management does comply with best management practice at the time. There are wetlands and a stormwater pond.

**Credit: Outdoor Hazardous Waste Pollution Prevention – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution from the use of pesticides and fertilizers*

There are no limitations on pesticide or fertiliser use.

**COMPACT, COMPLETE & CONNECTED NEIGHBORHOODS 8 out of 38**

**Prerequisite: Open Community – not achieved**

**Intent**

*Promote developments that are good neighbours to their surrounding communities. Foster a sense of community and connectedness beyond the development.*

The development includes a gated retirement community.

**Prerequisite: Compact Development - achieved**

**Intent**

*Conserve land. Promote livability, transportation efficiency, and walkability.*

The residential density is 17.4 dwellings per hectare.

**Prerequisite: Diversity of Uses - achieved**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

Most of the services listed are available in the Te Atatu Peninsula town centre nearby.

**Credit: Compact Development – 0 out of 5 points**

**Intent**

*Conserve land. Promote community livability, transportation efficiency, and walkability.*

The residential density is 17.4 dwellings per hectare and therefore lower than the minimum for this credit.

**Credit: Transit-Oriented Compactness – 0 out of 1 points**

**Intent**

*Maximize walking trips to and from transit stops in the area immediately surrounding the transit stop.*

The density is low throughout the development, although it is slightly higher near the medical centre.

**Credit: Diversity of Uses – 1 out of 3 points**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

The majority of the dwellings can walk to walking trails, a church and a medical facility within 800m.

**Credit: Housing Diversity – 0 out of 4 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

The Simpson Diversity Index for the development is 0.41. The index for the surrounding area was not calculated, but is likely to be similar. Homes are basically all large stand alone dwellings, with the exception of the retirement community.

**Credit: Affordable Rental Housing – 0 out of 2 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

The development contains no HNZ units.

**Credit: Reduced Parking Footprint – 2 out of 2 points**

**Intent**

*Reduce stormwater runoff per capita. Encourage neighbourhood walkability and promote public health through physical activity.*

There are no commercial premises and the total land taken up by surface parking is clearly under 20%.

**Credit: Block Perimeter – 0 out of 4 points**

**Intent**

*To promote connectivity.*

The average block perimeter is 980.

**Credit: Locating Buildings to Shape Walkable Streets- 1 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

All buildings that adjoined a public space faced that space.

**Credit: Designing Building Access to Shape Walkable Streets – 1 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets*

Every building that adjoined a public space had an entrance off it.

**Credit: Designing Buildings to Shape Walkable Streets 1 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

All public spaces are overlooked by buildings.

**Credit: Comprehensively Designed Walkable Streets - 2 out of 2 points**

**Intent**

*Encourage pedestrian-oriented streets.*

This credit required earning the above three credits.

**Credit: Street Network – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

Only 2 out of 6 cul-de-sacs have pedestrian connections.

**Credit: Pedestrian Network 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The development does not have footpaths on all streets and some streets only have a footpath on one side of the road.

**Credit: Maximise Pedestrian Safety and Comfort – 0 out of 1 points**

**Intent**

*Provide direct, safe, and comfortable connections, for pedestrians and bicyclists, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The distance between street trees is more than 12 metres.

**Credit: Superior Pedestrian Experience – 0 out of 2 points**

**Intent**

*Provide appealing and comfortable pedestrian street environments in order to promote pedestrian activity.*

The development has no commercial buildings and the shading requirement is not met.

**Credit: Transit Subsidy – 0 out of 3 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No transit subsidy was available



**Credit: Transit Amenities – 0 out of 1 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No bus stops were provided as part of the development. The bus stop on Beach Road does not have basic shelter or time table information.

**Credit: Access to Nearby Communities – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health by facilitating walking and bicycling.*

There is not a through road at least every 270m.

**Credit: Adaptive Reuse of Historic Buildings – 0 out of 2 points**

**Intent**

*Encourage use of historic buildings in a manner that preserves their historic materials and character.*

The site contained no historic buildings.

**RESOURCE EFFICIENCY – 1 out of 10 points**

**Credit: On-Site Power Generation – 0 out of 1 points**

**Intent**

*Reduce air, water, and land pollution from energy consumption and production by increasing the efficiency of the power delivery system. Increase the reliability of power.*

There is no on site generation

**Credit: On-Site Renewable Energy Sources – 0 out of 1 points**

**Intent**

*Reduce environmental impacts associated with fossil fuel energy generation by increasing the use of on-site renewable energy sources.*

There is no on site generation

**Credit: Efficient Irrigation – 1 out of 1 points**

**Intent**

*Conserve potable water.*

There are no in built irrigation systems in public spaces.

**Credit: Greywater & Stormwater Reuse – 0 out of 2 points**

**Intent**

*Conserve potable water.*

There is no stormwater or greywater reuse.

**Credit: Wastewater Management – 0 out of 1 points**

**Intent**

*Reduce pollution from wastewater and reuse nutrients from the wastewater stream.*

The development is connected to the town sewage system without any prior treatment.

**Credit: Reuse of Materials – 0 out of 1 points**

**Intent**

*Promote reuse of materials and resources.*

No reuse of materials was documented.

**Credit: Recycled Content – 0 out of 1 points**

**Intent**

*Promote use of recycled materials.*

No use of recycled materials was documented.

**Credit: Comprehensive Waste Management – 0 out of 1 points**

**Intent**

*Promote safe and efficient disposal or reuse of waste streams generated by occupants.*

While there is a curb side collection for glass, plastic and metal cans, there is no system for compostables or hazardous materials.

**Credit: Contaminant Reduction in Brownfields Remediation – 0 out of 1 points**

**Intent**

*Encourage brownfields cleanup methods that reduce contaminant volume or toxicity and thereby minimise long-term remediation or monitoring burdens.*

The site was not contaminated

## **DANNEMORA**

### **LOCATION EFFICIENCY –11 out of 31 points**

#### **Prerequisite: Transportation Efficiency - achieved**

##### **Intent**

*Reduce air pollution, energy consumption, and greenhouse gas emissions generated by transportation by encouraging new development in locations that reduce automobile dependence. Promote public health by encouraging new development in locations that provide increased opportunities for walking.*

The development is adjacent to existing development.

#### **Prerequisite: Water and Stormwater Infrastructure Efficiency - achieved**

##### **Intent**

*Conserve natural and financial resources required for construction and maintenance of infrastructure. Encourage new development within and near existing communities, in order to reduce multiple environmental impacts caused by haphazard sprawl.*

Dannemora was already served by the required infrastructure. The additional infrastructure for the development was provided as part of the development.

#### **Credit: Contaminated Brownfields Redevelopment – 0 out of 4 points**

##### **Intent**

*Conserve land and reduce air, water, and land pollution from contaminated land.*

It is not known if the site was contaminated. It is assumed that it wasn't.

#### **Credit: High Cost Contaminated Brownfields Redevelopment – 0 out of 1 points**

##### **Intent**

*Encourage the cleanup of more complicated or challenging contaminated brownfields sites.*

See above

#### **Credit: Adjacent, Infill or Previously Developed Site - 3 out of 10 points**

##### **Intent**

*Encourage development within existing communities and already-developed places to reduce multiple environmental harms associated with haphazard sprawl. Reduce development pressure beyond the limits of existing development. Conserve natural and financial resources required for construction and maintenance of infrastructure.*

Dannemora borders development to the west. The areas to the north and south developed at approximately the same time. The area to the east consists of lifestyle blocks.

#### **Credit: Reduced Automobile Dependence – 0 out of 6 points**

**Intent**

*Encourage development in locations that exhibit superior performance in providing transportation choices or otherwise reducing motor vehicle use.*

While there is a bus stop on Chapel Road the bus service is extremely poor at 11 rides a day. The only bus service available is the Howick and Eastern Service and a journey into downtown Auckland takes 1 hour and 40 minutes and includes two transfers.

**Credit: Contribution to Jobs-Housing Balance – 4 out of 4 points****Intent**

*Encourage balanced communities with a diversity of uses and employment opportunities. Reduce energy consumption and pollution from motor vehicles by providing opportunities for shorter vehicle trips and/or use of alternative modes of transportation.*

There are a number of retail and light industrial premises nearby and it is likely that these provide at least 107 jobs which is the minimum required for this credit. There are 110 business location in the census area unit.

**Credit: School Proximity – 3 out of 4 points****Intent**

*Promote children's health through physical activity by facilitating walking to school. Promote a sense of community.*

There is a local primary school and early childhood centre within the study area. All households are within 800m of these facilities. Botany Downs College is also nearby (about one km). There is no intermediate school within 800m.

**Credit: Access to Public Spaces - 1 out of 2 points****Intent**

*Provide access to public gathering space in order to promote sense of community.*

All dwellings and business entrances are easily within 800m walk of the reserve on Rialto Court, however other than seat there are no facilities available there. There are other reserves within 800m of the development, however because of the road layout most houses are not within walking distances to any of these.

**ENVIRONMENTAL PRESERVATION – 1 out of 14 points****Prerequisite: Imperilled Species and Ecological Communities – likely to be achieved****Intent**

*Protect imperilled species and ecological communities.*

While no ecological assessment was accessed the area is surrounded by suburban development and lifestyle blocks, it is therefore assumed that there were no threatened species present.

**Prerequisite: Parkland Preservation - achieved**

**Intent**

*Protect natural habitat.*

The site was not previously a public park.

**Prerequisite: Wetland and Water Body Conservation – not achieved**

**Intent**

*Conserve water quality, natural hydrology and habitat through conservation of water bodies and wetlands.*

There are two streams that run through the development. They have not been buffered and it appears that they are piped in at least some areas.

**Prerequisite: Farmland Preservation – unable to assess.**

**Intent**

*Preserve irreplaceable agricultural resources by protecting prime and unique farmland from development.*

**Credit: Support Off-Site Land Conservation – 0 out of 2 points**

**Intent**

*Protect land that is important for natural or cultural resources from development.*

No land was purchased off-site for conservation by the developer.

**Credit: Site Design for Habitat or Wetland Conservation – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

Water bodies were not conserved.

**Credit: Restoration of Habitat or Wetlands - 0 out of 1 point**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies*

No habitat restoration was undertaken.

**Credit: Conservation Management of Habitat or Wetlands – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

There is no long term management plan in place.

**Credit: Steep Slope Preservation – 1 out of 1 points**

**Intent**

*Minimize erosion to protect habitat, and reduce stress on natural water systems, by preserving steep slopes in a natural, vegetated state.*

The denser suburban area is relatively flat. Some of the lifestyle blocks are likely to contain land steeper than 15%, however this was not part of the new development.

**Credit: Minimize Site Disturbance During Construction – 0 out of 1 points**

**Intent**

*Conserve existing natural areas and protect trees to provide habitat and promote biodiversity.*

It is assumed that no building footprints were identified.

**Credit: Minimize Site Disturbance Through Site Design – 0 out of 1 points**

**Intent**

*Preserve existing tree canopy, native vegetation and pervious surfaces while encouraging high density, smart growth communities.*

The site was not previously developed and the requirements of point 2 were not met.

**Credit: Maintain Stormwater Runoff Rates – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

Run-off would have definitely increased since development.

**Credit: Reduce Stormwater Runoff Rates – 0 out of 2 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

See above.

**Credit: Stormwater Treatment – 0 out of 2 points**

**Intent**

*Reduce surface water pollution from stormwater.*

There are no signs of stormwater treatment.

**Credit: Outdoor Hazardous Waste Pollution Prevention – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution from the use of pesticides and fertilizers*

There are no limitations on pesticide or fertiliser use.

## **COMPACT, COMPLETE & CONNECTED NEIGHBORHOODS 8 out of 38**

### **Prerequisite: Open Community – achieved**

#### **Intent**

*Promote developments that are good neighbours to their surrounding communities. Foster a sense of community and connectedness beyond the development.*

Are public spaces are available for public use.

### **Prerequisite: Compact Development - achieved**

#### **Intent**

*Conserve land. Promote livability, transportation efficiency, and walkability.*

The residential density is 19 dwellings per hectare.

### **Prerequisite: Diversity of Uses – achieved**

#### **Intent**

*Promote community livability, transportation efficiency, and walkability.*

The site is larger than 2.8 hectares. It is estimated that more than 90% of the internal space is residential. The project boundary is however within 800m walking distance of the required services. There are local parks, a Buddhist Temple, a school within walking distance. The bulk retail area on Te Irirangi Drive is likely to contain at least three other services. While most households can not walk to the bulk retail area because of there are few pedestrian crossings on Chapel Rd, the requirement for this prerequisite is for the boundary of the study area to be within walking distance.

### **Credit: Compact Development – 0 out of 5 points**

#### **Intent**

*Conserve land. Promote community livability, transportation efficiency, and walkability.*

The residential density is 19 dwellings per hectare and therefore lower than the minimum for this credit.

### **Credit: Transit-Oriented Compactness – 0 out of 1 points**

#### **Intent**

*Maximize walking trips to and from transit stops in the area immediately surrounding the transit stop.*

The density is low throughout the development and there is no bus stop within 250m of any of the dwellings.

### **Credit: Diversity of Uses – 1 out of 3 points**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

The majority of residents can walk to the neighbourhood shopping centre within 800m. Services there include a restaurant, supermarket, healthspa, real estate agent, butcher, Asian grocery store and fast food outlet

**Credit: Housing Diversity – 0 out of 4 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

There are only large stand alone dwelling in the neighbourhood

**Credit: Affordable Rental Housing – 0 out of 2 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

The development contains no HNZ units.

**Credit: Reduced Parking Footprint – 2 out of 2 points**

**Intent**

*Reduce stormwater runoff per capita. Encourage neighbourhood walkability and promote public health through physical activity.*

The total land taken up by surface parking is clearly under 20%. The commercial area does not have more than one row of parking separating the buildings from the street.

**Credit: Block Perimeter – 0 out of 4 points**

**Intent**

*To promote connectivity.*

The development's street layout does not consist of blocks. If the surrounding blocks are measured average block length is more than one kilometre.

**Credit: Locating Buildings to Shape Walkable Streets- 1 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

All buildings that adjoined a public space faced that space.

**Credit: Designing Building Access to Shape Walkable Streets – 1 out of 1 points**

**Intent**



*Encourage pedestrian-oriented streets*

Every building that adjoined a public space had an entrance off it.

**Credit: Designing Buildings to Shape Walkable Streets 1 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

All public spaces are overlooked by buildings.

**Credit: Comprehensively Designed Walkable Streets - 2 out of 2 points**

**Intent**

*Encourage pedestrian-oriented streets.*

This credit required earning the above three credits.

**Credit: Street Network – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

None of the cul-de-sacs have pedestrian connections.

**Credit: Pedestrian Network 1 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The new development does have footpaths on all streets even though the life style block area does not have footpaths.

**Credit: Maximise Pedestrian Safety and Comfort – 1 out of 1 points**

**Intent**

*Provide direct, safe, and comfortable connections, for pedestrians and bicyclists, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

All streets have on street parking and there are street trees every 12 metres.

**Credit: Superior Pedestrian Experience – 0 out of 2 points**

**Intent**

*Provide appealing and comfortable pedestrian street environments in order to promote pedestrian activity.*



The commercial buildings are all retail buildings but the shading requirement is not met.

**Credit: Transit Subsidy – 0 out of 3 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No transit subsidy was available

**Credit: Transit Amenities – 0 out of 1 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No bus stops were provided as part of the development.

**Credit: Access to Nearby Communities – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health by facilitating walking and bicycling.*

There is not a through road at least every 270m.

**Credit: Adaptive Reuse of Historic Buildings – 0 out of 2 points**

**Intent**

*Encourage use of historic buildings in a manner that preserves their historic materials and character.*

The site contained no historic buildings.

**RESOURCE EFFICIENCY – 1 out of 10 points**

**Credit: On-Site Power Generation – 0 out of 1 points**

**Intent**

*Reduce air, water, and land pollution from energy consumption and production by increasing the efficiency of the power delivery system. Increase the reliability of power.*

There is no on site generation

**Credit: On-Site Renewable Energy Sources – 0 out of 1 points**

**Intent**

*Reduce environmental impacts associated with fossil fuel energy generation by increasing the use of on-site renewable energy sources.*

There is no on site generation

**Credit: Efficient Irrigation – 1 out of 1 points**

**Intent**

*Conserve potable water.*

There are no in built irrigation systems in public spaces.

**Credit: Greywater & Stormwater Reuse – 0 out of 2 points**

**Intent**

*Conserve potable water.*

There is no stormwater or greywater reuse.

**Credit: Wastewater Management – 0 out of 1 points**

**Intent**

*Reduce pollution from wastewater and reuse nutrients from the wastewater stream.*

The development is connected to the town sewage system without any prior treatment.

**Credit: Reuse of Materials – 0 out of 1 points**

**Intent**

*Promote reuse of materials and resources.*

No reuse of materials was documented.

**Credit: Recycled Content – 0 out of 1 points**

**Intent**

*Promote use of recycled materials.*

No use of recycled materials was documented.

**Credit: Comprehensive Waste Management – 0 out of 1 points**

**Intent**

*Promote safe and efficient disposal or reuse of waste streams generated by occupants.*

While there is a curb side collection for glass, plastic and metal cans, there is no system for compostables or hazardous materials.

**Credit: Contaminant Reduction in Brownfields Remediation – 0 out of 1 points**

**Intent**

*Encourage brownfields cleanup methods that reduce contaminant volume or toxicity and thereby minimise long-term remediation or monitoring burdens.*



The site was not contaminated

## **HARBOUR VIEW**

### **LOCATION EFFICIENCY – 10 out of 28 points**

#### **Prerequisite: Transportation Efficiency - achieved**

##### **Intent**

*Reduce air pollution, energy consumption, and greenhouse gas emissions generated by transportation by encouraging new development in locations that reduce automobile dependence. Promote public health by encouraging new development in locations that provide increased opportunities for walking.*

Compliance path 3)

The project boundary is within 400 walking distance of at least 15 of the listed services.

Note: The majority of dwellings and business entrances are also within 400m of a bus stop. However the bus service on the Te Atatu Peninsula is less frequent than the minimum required for compliance path 2.

#### **Prerequisite: Water and Stormwater Infrastructure Efficiency - achieved**

##### **Intent**

*Conserve natural and financial resources required for construction and maintenance of infrastructure. Encourage new development within and near existing communities, in order to reduce multiple environmental impacts caused by haphazard sprawl.*

Te Atatu Peninsula was already served by the required infrastructure. The additional infrastructure for the development was provided as part of the development.

#### **Credit: Contaminated Brownfields Redevelopment – 0 out of 4 points**

##### **Intent**

*Conserve land and reduce air, water, and land pollution from contaminated land.*

The site was not contaminated and does therefore not qualify for this credit

#### **Credit: High Cost Contaminated Brownfields Redevelopment – 0 out of 1 points**

##### **Intent**

*Encourage the cleanup of more complicated or challenging contaminated brownfields sites.*

See above

#### **Credit: Adjacent, Infill or Previously Developed Site - 3 out of 10 points**

##### **Intent**

*Encourage development within existing communities and already-developed places to reduce multiple environmental harms associated with haphazard sprawl. Reduce development pressure beyond the limits of existing development. Conserve natural and financial resources required for construction and maintenance of infrastructure.*

Harbour View only borders development to the north and west. It does not form a connection between previously developed sites. It was therefore deemed to be an adjacent site.

**Credit: Reduced Automobile Dependence – 0 out of 6 points**

**Intent**

*Encourage development in locations that exhibit superior performance in providing transportation choices or otherwise reducing motor vehicle use.*

Even though the majority of dwellings are within 400m walking distance of a bus stop the number of rides available at these stop is only 43 per week day. The minimum required for this credit is 60 rides. Only rides out of the peninsula were counted because the bus route does not go very far beyond the development (further north on the peninsula) and is a loop route. Had rides been counted in both directions 2 points would have been awarded (however it would also be necessary to cross Te Atatu Road to reach the northbound buses).

**Credit: Contribution to Jobs-Housing Balance – 4 out of 4 points**

**Intent**

*Encourage balanced communities with a diversity of uses and employment opportunities. Reduce energy consumption and pollution from motor vehicles by providing opportunities for shorter vehicle trips and/or use of alternative modes of transportation.*

Harbour View easily earns this credit. There are more jobs available locally than the number of dwellings in the development.

**Credit: School Proximity – 1 out of 1 points**

**Intent**

*Promote children's health through physical activity by facilitating walking to school. Promote a sense of community.*

86% of dwellings are within 800m walking distance of Te Atatu Intermediate school. Most of the remaining dwellings would be within 800m walking distance of Rutherford College and primary school, if there was a pedestrian crossing across Te Atatu Road.

**Credit: Access to Public Spaces - 2 out of 2 points**

**Intent**

*Provide access to public gathering space in order to promote sense of community.*

All dwellings and business entrances are easily within 800m walk of a reserve, all in fact are closer than 400m.

**ENVIRONMENTAL PRESERVATION – 4 out of 14 points**

**Prerequisite: Imperilled Species and Ecological Communities - achieved**

**Intent**

*Protect imperilled species and ecological communities.*

An ecological assessment was undertaken that did not identify any imperilled species.

**Prerequisite: Parkland Preservation - achieved**

**Intent**

*Protect natural habitat.*

The site was not previously a public park.

**Prerequisite: Wetland and Water Body Conservation - achieved**

**Intent**

*Conserve water quality, natural hydrology and habitat through conservation of water bodies and wetlands.*

There is an extensive wetland area bordering the development, however there appears to be at least a 30 m buffer, most of which is not developed.

**Prerequisite: Farmland Preservation - ??**

**Intent**

*Preserve irreplaceable agricultural resources by protecting prime and unique farmland from development.*

**Credit: Support Off-Site Land Conservation – 0 out of 2 points**

**Intent**

*Protect land that is important for natural or cultural resources from development.*

No land was purchased off-site for conservation by the developer.

**Credit: Site Design for Habitat or Wetland Conservation – 1 out of 1 points**

**Intent**

*Conserve native wildlife habitat, wetlands and water bodies.*

There was no significant habitat identified in the ecological assessment.

**Credit: Restoration of Habitat or Wetlands - 0 out of 1 point**

**Intent**

*Conserve native wildlife habitat, wetlands and water bodies*

None of the site area was restored using native vegetation. However the area buffering the lower from the upper terrace was restored by the Council (also the developer). Because this area lies outside the immediate study area this credit was not awarded.

**Credit: Conservation Management of Habitat or Wetlands – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, wetlands and water bodies.*

There are no on-site significant habitats. See also above.

**Credit: Steep Slope Preservation – 1 out of 1 points**

**Intent**

*Minimise erosion to protect habitat, and reduce stress on natural water systems, by preserving steep slopes in a natural, vegetated state.*

The site area does not have slopes steeper than 15%.

**Credit: Minimize Site Disturbance During Construction – 0 out of 1 points**

**Intent**

*Conserve existing natural areas and protect trees to provide habitat and promote biodiversity.*

For the majority of sites no building footprints were identified nor were all major trees retained.

**Credit: Minimize Site Disturbance Through Site Design – 0 out of 1 points**

**Intent**

*Preserve existing tree canopy, native vegetation and pervious surfaces while encouraging high density, smart growth communities.*

The site was not previously developed and no significant areas of land were left un disturbed. However if the case study had included the entire Harbour View land, including the lower terrace and the area that will become the People's Park to the south, this credit would have easily been earned.

**Credit: Maintain Stormwater Runoff Rates – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

The post development discharge to the lower terrace is clearly higher than the pre development discharge.

**Credit: Reduce Stormwater Runoff Rates – 0 out of 2 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

See above.

**Credit: Stormwater Treatment – 2 out of 2 points**

**Intent**

*Reduce surface water pollution from stormwater.*





Stormwater management does comply with best management practice at the time.

**Credit: Outdoor Hazardous Waste Pollution Prevention – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution from the use of pesticides and fertilizers*

There are no limitations on pesticide or fertiliser use.

**COMPACT, COMPLETE & CONNECTED NEIGHBORHOODS**

**Prerequisite: Open Community - achieved**

**Intent**

*Promote developments that are good neighbours to their surrounding communities. Foster a sense of community and connectedness beyond the development.*

All streets and public spaces are accessible.

**Prerequisite: Compact Development - achieved**

**Intent**

*Conserve land. Promote livability, transportation efficiency, and walkability.*

The residential density is 22.6 dwellings per hectare.

**Prerequisite: Diversity of Uses - achieved**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

Most of the services listed are available in the Te Atatu Peninsula town centre nearby.

**Credit: Compact Development – 0 out of 5 points**

**Intent**

*Conserve land. Promote community livability, transportation efficiency, and walkability.*

The residential density is 22.6 dwellings per hectare and therefore lower than the minimum for this credit.

**Credit: Transit-Oriented Compactness – 0 out of 1 points**

**Intent**

Maximize walking trips to and from transit stops in the area immediately surrounding the transit stop.

The denser parts of the development are near the town centre rather than near the closest bus stop.

**Credit: Diversity of Uses – 0 out of 3 points**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

Even though there are most of the listed uses very close to the development, the requirement that no road without a crossing where vehicles stop may be crossed, means that only 38% of dwellings are within 800 walking distance of two uses. The roads within the development are narrow and people drive slowly, the research team feels that crossing these roads does not present barriers to walking.

**Credit: Housing Diversity – 1 out of 4 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

The Simpson Diversity Index for the development is 0.55. The index for the surrounding area was not calculated, but is likely to be lower.

**Credit: Affordable Rental Housing – 0 out of 2 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

The development contains no HNZ units.

**Credit: Reduced Parking Footprint – 1 out of 2 points**

**Intent**

*Reduce stormwater runoff per capita. Encourage neighbourhood walkability and promote public health through physical activity.*

There are two rows of parking outside the childcare, therefore the first point is not earned. However the total land taken up by surface parking is clearly under 20% and the second point was awarded.

**Credit: Block Perimeter – 1 out of 4 points**

**Intent**

*To promote connectivity.*

The average block perimeter is 482 and one point was therefore awarded.

**Credit: Locating Buildings to Shape Walkable Streets- 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

Not all buildings faced public spaces and two out of the three commercial properties were not contiguous with the footpath. However 97% of dwellings were within 7.5m of the property line and 71% were within 5.5m.

**Credit: Designing Building Access to Shape Walkable Streets – 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets*

Not every building has a functional entrance that faces a public street.

**Credit: Designing Buildings to Shape Walkable Streets 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

See above

**Credit: Comprehensively Designed Walkable Streets - 0 out of 2 points**

**Intent**

*Encourage pedestrian-oriented streets.*

This credit required earning the above three credits.

**Credit: Street Network – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The one cul-de-sac in the development does not have a pedestrian connection.

**Credit: Pedestrian Network 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The development does not have footpaths on all streets and most streets only have a footpath on one side of the road.

**Credit: Maximise Pedestrian Safety and Comfort – 0 out of 1 points**

**Intent**

*Provide direct, safe, and comfortable connections, for pedestrians and bicyclists, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The maximum speed throughout the development is 50kmh, however the roads are very narrow and the design speed is clearly substantially lower.

**Credit: Superior Pedestrian Experience – 1 out of 2 points**

**Intent**

*Provide appealing and comfortable pedestrian street environments in order to promote pedestrian activity.*

The one office building at Harbour View has ground floor retail and all ground floor businesses are accessible from a public space. However the shading requirement for the second point was not met.

**Credit: Transit Subsidy – 0 out of 3 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No transit subsidy was available

**Credit: Transit Amenities – 0 out of 1 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No bus stops were provided as part of the development. The two bus stop on Te Atatu Road do not have basic shelter or time table information.

**Credit: Access to Nearby Communities – 1 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health by facilitating walking and bicycling.*

There is a through road at least every 270m.

**Credit: Adaptive Reuse of Historic Buildings – 0 out of 2 points**

**Intent**

*Encourage use of historic buildings in a manner that preserves their historic materials and character.*

The site itself contained no historic buildings. However the area to the north contains a historic building and historic gun encasements, both are now in Council ownership.

**RESOURCE EFFICIENCY – 1 out of 10 points**

**Credit: On-Site Power Generation – 0 out of 1 points**

**Intent**

*Reduce air, water, and land pollution from energy consumption and production by increasing the efficiency of the power delivery system. Increase the reliability of power.*

There is no on site generation

**Credit: On-Site Renewable Energy Sources – 0 out of 1 points**

**Intent**

*Reduce environmental impacts associated with fossil fuel energy generation by increasing the use of on-site renewable energy sources.*

There is no on site generation

**Credit: Efficient Irrigation – 1 out of 1 points**

**Intent**

*Conserve potable water.*

There are no in built irrigation systems in public spaces.

**Credit: Greywater & Stormwater Reuse – 0 out of 2 points**

**Intent**

*Conserve potable water.*

There is no stormwater or greywater reuse.

**Credit: Wastewater Management – 0 out of 1 points**

**Intent**

*Reduce pollution from wastewater and reuse nutrients from the wastewater stream.*

The development is connected to the town sewage system without any prior treatment.

**Credit: Reuse of Materials – 0 out of 1 points**

**Intent**

*Promote reuse of materials and resources.*

No reuse of materials was documented.

**Credit: Recycled Content – 0 out of 1 points**

**Intent**

*Promote use of recycled materials.*

No use of recycled materials was documented.

**Credit: Comprehensive Waste Management – 0 out of 1 points**



**Intent**

*Promote safe and efficient disposal or reuse of waste streams generated by occupants.*

While there is a curb side collection for glass, plastic and metal cans, there is no system for compostables or hazardous materials.

**Credit: Contaminant Reduction in Brownfields Remediation – 0 out of 1 points**

**Intent**

*Encourage brownfields cleanup methods that reduce contaminant volume or toxicity and thereby minimise long-term remediation or monitoring burdens.*

The site was not contaminated

## **BLAKE STREET**

### **LOCATION EFFICIENCY – 25 out of 28 points**

#### **Prerequisite: Transportation Efficiency - Achieved**

##### **Intent**

*Reduce air pollution, energy consumption, and greenhouse gas emissions generated by transportation by encouraging new development in locations that reduce automobile dependence. Promote public health by encouraging new development in locations that provide increased opportunities for walking.*

The project complies with all three compliance paths. It is a previously developed site and adequate local services and public transport are available.

#### **Prerequisite: Water and Stormwater Infrastructure Efficiency - achieved**

##### **Intent**

Conserve natural and financial resources required for construction and maintenance of infrastructure. Encourage new development within and near existing communities, in order to reduce multiple environmental impacts caused by haphazard sprawl.

The Blake Street area was already served by the required infrastructure.

#### **Credit: Contaminated Brownfields Redevelopment – 4 Out Of 4 Points**

##### **Intent**

*Conserve land and reduce air, water, and land pollution from contaminated land.*

The site did contain some contaminated parcels and it is assumed that these were cleaned up to the satisfaction of the local authority.

#### **Credit: High Cost Contaminated Brownfields Redevelopment – 0 out of 1 points**

##### **Intent**

*Encourage the cleanup of more complicated or challenging contaminated brownfields sites.*

No record or costs could be found.

#### **Credit: Adjacent, Infill or Previously Developed Site - 10 out of 10 points**

##### **Intent**

*Encourage development within existing communities and already-developed places to reduce multiple environmental harms associated with haphazard sprawl. Reduce development pressure beyond the limits of existing development. Conserve natural and financial resources required for construction and maintenance of infrastructure.*

The site was previously developed. The previous development was light industrial/commercial.

#### **Credit: Reduced Automobile Dependence – 4 out of 6 points**

**Intent**

*Encourage development in locations that exhibit superior performance in providing transportation choices or otherwise reducing motor vehicle use.*

All dwellings are within 400 of several bus stops. 424 rides per day are available at these stops.

**Credit: Contribution to Jobs-Housing Balance – 4 out of 4 points**

**Intent**

*Encourage balanced communities with a diversity of uses and employment opportunities. Reduce energy consumption and pollution from motor vehicles by providing opportunities for shorter vehicle trips and/or use of alternative modes of transportation.*

There are many commercial areas within 800m of the development and this credit is easily earned.

**Credit: School Proximity – 1 out of 1 points**

**Intent**

*Promote children's health through physical activity by facilitating walking to school. Promote a sense of community.*

The development borders Ponsonby Intermediate School.

**Credit: Access to Public Spaces - 2 out of 2 points**

**Intent**

*Provide access to public gathering space in order to promote sense of community.*

All dwellings and business entrances are within 800m walk of a reserve.

**ENVIRONMENTAL PRESERVATION – 5 Out Of 14 Points**

**Prerequisite: Imperilled Species and Ecological Communities - achieved**

**Intent**

*Protect imperilled species and ecological communities.*

The site was previously developed.

**Prerequisite: Parkland Preservation - achieved**

**Intent**

*Protect natural habitat.*

The site was not previously a public park.

**Prerequisite: Wetland and Water Body Conservation - achieved**



**Intent**

*Conserve water quality, natural hydrology and habitat through conservation of water bodies and wetlands.*

There are no wetlands, riparian areas or water bodies and the site was previously developed.

**Prerequisite: Farmland Preservation – unable to be assessed**

**Intent**

*Preserve irreplaceable agricultural resources by protecting prime and unique farmland from development.*

Like for all case study neighbourhoods the research team were unable to assess this credit.

**Credit: Support Off-Site Land Conservation – 0 out of 2 points**

**Intent**

*Protect land that is important for natural or cultural resources from development.*

No land was purchased off-site for conservation by the developer.

**Credit: Site Design for Habitat or Wetland Conservation – 1 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

There was no significant habitat on the site

**Credit: Restoration of Habitat or Wetlands - 0 out of 1 point**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies*

The site is previously developed, however not all exterior landscaping used native plants.

**Credit: Conservation Management of Habitat or Wetlands – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

There are no on-site significant habitats. See also above.

**Credit: Steep Slope Preservation – 1 out of 1 points**

**Intent**

*Minimize erosion to protect habitat, and reduce stress on natural water systems, by preserving steep slopes in a natural, vegetated state.*

The entire site was previously developed.

**Credit: Minimize Site Disturbance During Construction – 1 out of 1 points**

**Intent**

*Conserve existing natural areas and protect trees to provide habitat and promote biodiversity.*

The site was 100% previously developed and the zone of construction impact was previously developed.

**Credit: Minimize Site Disturbance Through Site Design – 1 out of 1 points**

**Intent**

*Preserve existing tree canopy, native vegetation and pervious surfaces while encouraging high density, smart growth communities.*

The site was previously developed.

**Credit: Maintain Stormwater Runoff Rates – 1 out of 1 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

Even though no data was found on this it is likely that the run-off rates remained the same because the site was previously industrial suggesting a high rate of impermeability. Some sites were fitted with stormwater detention tanks during development.

**Credit: Reduce Stormwater Runoff Rates – 0 out of 2 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

There is no evidence that run-off rates were reduced.

**Credit: Stormwater Treatment – 0 out of 2 points**

**Intent**

*Reduce surface water pollution from stormwater.*

There does not appear to be a stormwater management plan in place.

**Credit: Outdoor Hazardous Waste Pollution Prevention – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution from the use of pesticides and fertilizers*

There are no limitations on pesticide or fertiliser use.

**COMPACT, COMPLETE & CONNECTED NEIGHBORHOODS - 14 out of 38 points**

**Prerequisite: Open Community - achieved**

**Intent**

*Promote developments that are good neighbours to their surrounding communities. Foster a sense of community and connectedness beyond the development.*

All streets and public spaces are accessible.

**Prerequisite: Compact Development - achieved**

**Intent**

*Conserve land. Promote livability, transportation efficiency, and walkability.*

Residential density is very high and commercial intensity meets the prerequisite.

**Prerequisite: Diversity of Uses**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

The site is under 2.8 hectares and contains commercial and residential use, neither of which makes up 90 or more percent.

**Credit: Compact Development – 2 out of 5 points**

**Intent**

*Conserve land. Promote community livability, transportation efficiency, and walkability.*

The residential density is very high at 182 dwellings per hectare. However the commercial intensity is relatively low at 1.2.

**Credit: Transit-Oriented Compactness – 1 out of 1 points**

**Intent**

*Maximize walking trips to and from transit stops in the area immediately surrounding the transit stop.*

The residential density is clearly double as high as the surrounding area.

**Credit: Diversity of Uses – 2 out of 3 points**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

The residents on the western side of Blake Street can walk to services on Jervois Road.

**Credit: Housing Diversity – to be assessed but likely to be 1 point**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

The Simpson Diversity Index for the development is 0.43 which would earn no points. The index for the wider area is likely to be higher and will be assessed.

**Credit: Affordable Rental Housing – 0 out of 2 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

The development contains no HNZ units.

**Credit: Reduced Parking Footprint – 1 out of 2 points**

**Intent**

*Reduce stormwater runoff per capita. Encourage neighbourhood walkability and promote public health through physical activity.*

There are two rows of parking outside the commercial building at 19 Blake Street, therefore the first point is not earned. However the total land taken up by surface parking is clearly under 20% and the second point was awarded.

**Credit: Block Perimeter – 3 out of 4 points**

**Intent**

*To promote connectivity.*

The development only consists of one block, this has a perimeter of 378.

**Credit: Locating Buildings to Shape Walkable Streets- 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

Not all buildings faced public spaces.

**Credit: Designing Building Access to Shape Walkable Streets – 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets*

Not every building has a functional entrance that faces a public street.

**Credit: Designing Buildings to Shape Walkable Streets 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

See above

**Credit: Comprehensively Designed Walkable Streets - 0 out of 2 points**

**Intent**

*Encourage pedestrian-oriented streets.*

This credit required earning the above three credits.

**Credit: Street Network – 1 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

There were no cul-de sacs and there clearly are more than 116 intersections per square km.

**Credit: Pedestrian Network 1 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The development does have footpaths on all streets.

**Credit: Maximise Pedestrian Safety and Comfort – 0 out of 1 points**

**Intent**

*Provide direct, safe, and comfortable connections, for pedestrians and bicyclists, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The maximum speed throughout the development is 50kmh, and no documentation about a different design speed was available.

**Credit: Superior Pedestrian Experience – 0 out of 2 points**

**Intent**

*Provide appealing and comfortable pedestrian street environments in order to promote pedestrian activity.*

None of the office buildings include ground floor retail and the shading requirement for the second point was not met.

**Credit: Transit Subsidy – 0 out of 3 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No transit subsidy was available

**Credit: Transit Amenities – 1 out of 1 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

The bus stop on the corner of Sheehan and Redmond Streets has a shelter and timetable information.

**Credit: Access to Nearby Communities – 1 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health by facilitating walking and bicycling.*

There is a through road at least every 270m.

**Credit: Adaptive Reuse of Historic Buildings – 0 out of 2 points**

**Intent**

*Encourage use of historic buildings in a manner that preserves their historic materials and character.*

The development does not contain any historic buildings.

**RESOURCE EFFICIENCY – 1 out of 10 points**

**Credit: On-Site Power Generation – 0 out of 1 points**

**Intent**

*Reduce air, water, and land pollution from energy consumption and production by increasing the efficiency of the power delivery system. Increase the reliability of power.*

There is no on site generation

**Credit: On-Site Renewable Energy Sources – 0 out of 1 points**

**Intent**

*Reduce environmental impacts associated with fossil fuel energy generation by increasing the use of on-site renewable energy sources.*

There is no on site generation

**Credit: Efficient Irrigation – 1 out of 1 points**

**Intent**

*Conserve potable water.*

There are no in built irrigation systems in public spaces.

**Credit: Greywater & Stormwater Reuse – 0 out of 2 points**

**Intent**

*Conserve potable water.*

There is no stormwater or greywater reuse.

**Credit: Wastewater Management – 0 out of 1 points**

**Intent**

*Reduce pollution from wastewater and reuse nutrients from the wastewater stream.*

The development is connected to the town sewage system without any prior treatment.

**Credit: Reuse of Materials – 0 out of 1 points**

**Intent**

*Promote reuse of materials and resources.*

No reuse of materials was documented.

**Credit: Recycled Content – 0 out of 1 points**

**Intent**

*Promote use of recycled materials.*

No use of recycled materials was documented.

**Credit: Comprehensive Waste Management – 0 out of 1 points**

**Intent**

*Promote safe and efficient disposal or reuse of waste streams generated by occupants.*

While there is a curb side collection for glass, plastic and metal cans, there is no system for compostables or hazardous materials.

**Credit: Contaminant Reduction in Brownfields Remediation – 0 out of 1 points**

**Intent**

Encourage brownfields cleanup methods that reduce contaminant volume or toxicity and thereby minimise long-term remediation or monitoring burdens.

No records are available.

## **PETONE**

### **LOCATION EFFICIENCY – 25 out of 28 points**

#### **Prerequisite: Transportation Efficiency - achieved**

##### **Intent**

*Reduce air pollution, energy consumption, and greenhouse gas emissions generated by transportation by encouraging new development in locations that reduce automobile dependence. Promote public health by encouraging new development in locations that provide increased opportunities for walking.*

The project complies with all three compliance paths. It is a previously developed site and adequate local services and public transport are available.

#### **Prerequisite: Water and Stormwater Infrastructure Efficiency - achieved**

##### **Intent**

*Conserve natural and financial resources required for construction and maintenance of infrastructure. Encourage new development within and near existing communities, in order to reduce multiple environmental impacts caused by haphazard sprawl.*

Petone is served by existing infrastructure.

#### **Credit: Contaminated Brownfields Redevelopment – 4 out of 4 points**

##### **Intent**

*Conserve land and reduce air, water, and land pollution from contaminated land.*

The site does contain some contamination due to its historic use. It is assumed that as development occurs sites are cleaned up to the satisfaction of the local authority.

#### **Credit: High Cost Contaminated Brownfields Redevelopment – 0 out of 1 points**

##### **Intent**

*Encourage the cleanup of more complicated or challenging contaminated brownfields sites.*

No record of costs could be found.

#### **Credit: Adjacent, Infill or Previously Developed Site - 10 out of 10 points**

##### **Intent**

*Encourage development within existing communities and already-developed places to reduce multiple environmental harms associated with haphazard sprawl. Reduce development pressure beyond the limits of existing development. Conserve natural and financial resources required for construction and maintenance of infrastructure.*

The site is previously developed.

#### **Credit: Reduced Automobile Dependence – 4 out of 6 points**



**Intent**

*Encourage development in locations that exhibit superior performance in providing transportation choices or otherwise reducing motor vehicle use.*

All dwellings are within 400 of several bus stops, most dwellings are also within 800m of the ferry. 343 rides are available (18 on the ferry and 325 buses).

**Credit: Contribution to Jobs-Housing Balance – 4 out of 4 points**

**Intent**

*Encourage balanced communities with a diversity of uses and employment opportunities. Reduce energy consumption and pollution from motor vehicles by providing opportunities for shorter vehicle trips and/or use of alternative modes of transportation.*

There are many commercial areas within 800m of the development and this credit is easily earned.

**Credit: School Proximity – 1 out of 1 points**

**Intent**

*Promote children's health through physical activity by facilitating walking to school. Promote a sense of community.*

Petone Central School (full primary year 1-8) is within 800 walking distance of all dwellings.

**Credit: Access to Public Spaces - 2 out of 2 points**

**Intent**

*Provide access to public gathering space in order to promote sense of community.*

All dwellings and business entrances are within 800m walk of the beach reserve and other smaller neighbourhood parks.

**ENVIRONMENTAL PRESERVATION – 4 out of 14 points**

**Prerequisite: Imperilled Species and Ecological Communities - achieved**

**Intent**

*Protect imperilled species and ecological communities.*

The site was previously developed.

**Prerequisite: Parkland Preservation - achieved**

**Intent**

*Protect natural habitat.*

The site was not previously a public park.

**Prerequisite: Wetland and Water Body Conservation - achieved**

**Intent**

*Conserve water quality, natural hydrology and habitat through conservation of water bodies and wetlands.*

The site was previously developed.

**Prerequisite: Farmland Preservation – unable to assess.**

**Intent**

*Preserve irreplaceable agricultural resources by protecting prime and unique farmland from development.*

The research team was unable to obtain soil data for any of the case study areas.

**Credit: Support Off-Site Land Conservation – 0 out of 2 points**

**Intent**

*Protect land that is important for natural or cultural resources from development.*

No land was purchased off-site for conservation.

**Credit: Site Design for Habitat or Wetland Conservation – 1 out of 1 points**

**Intent**

*Conserve native wildlife habitat, wetlands and water bodies.*

There is no significant habitat on the site.

**Credit: Restoration of Habitat or Wetlands - 0 out of 1 point**

**Intent**

*Conserve native wildlife habitat, wetlands and water bodies*

The site is previously developed, however not all exterior landscaping used native plants.

**Credit: Conservation Management of Habitat or Wetlands – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, wetlands and water bodies.*

There are no on-site significant habitats. See also above.

**Credit: Steep Slope Preservation – 1 out of 1 points**

**Intent**

*Minimize erosion to protect habitat, and reduce stress on natural water systems, by preserving steep slopes in a natural, vegetated state.*

The entire site was previously developed. The site is also flat.

**Credit: Minimize Site Disturbance During Construction – 1 out of 1 points**



**Intent**

*Conserve existing natural areas and protect trees to provide habitat and promote biodiversity.*

The site was 100% previously developed and the zone of construction impact was previously developed.

**Credit: Minimize Site Disturbance Through Site Design – 1 out of 1 points**

**Intent**

*Preserve existing tree canopy, native vegetation and pervious surfaces while encouraging high density, smart growth communities.*

The site was previously developed.

**Credit: Maintain Stormwater Runoff Rates – 1 out of 1 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

This credit is very hard to assess for a ‘retrofit site’ because there is no actual predevelopment baseline. However it is assumed that run-off has remained roughly the same throughout recent history because the site has been intensively used for some time.

**Credit: Reduce Stormwater Runoff Rates – 0 out of 2 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

There is no evidence that run-off rates were reduced.

**Credit: Stormwater Treatment – 0 out of 2 points**

**Intent**

*Reduce surface water pollution from stormwater.*

There does not appear to be a stormwater management plan in place.

**Credit: Outdoor Hazardous Waste Pollution Prevention – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution from the use of pesticides and fertilizers*

There are no limitations on pesticide or fertiliser use.

**COMPACT, COMPLETE & CONNECTED NEIGHBORHOODS**

**Prerequisite: Open Community - achieved**

**Intent**

*Promote developments that are good neighbours to their surrounding communities. Foster a sense of community and connectedness beyond the development.*

All streets and public spaces are accessible.

**Prerequisite: Compact Development - achieved**

**Intent**

*Conserve land. Promote livability, transportation efficiency, and walkability.*

The residential density of the development is 35 dwellings per hectare and the commercial intensity is 0.81.

**Prerequisite: Diversity of Uses - achieved**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

Petone has a wide variety of uses none of which make up ninety percent.

**Credit: Compact Development – 0 out of 5 points**

**Intent**

*Conserve land. Promote community livability, transportation efficiency, and walkability.*

Petone did not meet the minimum density for this credit. The commercial density would have scored 1 point if the residential density was higher.

**Credit: Transit-Oriented Compactness – 0 out of 1 points**

**Intent**

*Maximize walking trips to and from transit stops in the area immediately surrounding the transit stop.*

While the density 400 m from PT stops was not actually assessed it is likely that it is relatively similar to that within 250m of Jackson Street (bus route). It is likely that many of the dwellings beyond 250 m from Jackson Street are within 250 m of another public transport stop, which makes it hard to assess this credit.

**Credit: Diversity of Uses – 1 out of 3 points**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

There are all the listed services available within 800m of most dwellings, however roads without crossings have to be crossed for most of them. Everyday and discretionary retail and medical services are available on most blocks and can therefore be reached without crossing a road.

**Credit: Housing Diversity – 2 out of 4 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

The Simpson diversity index is 0.66. A wide variety of dwelling types is available, however in very uneven numbers. This low rating is surprising for an area that has such a diverse housing stock.

**Credit: Affordable Rental Housing – 0 out of 2 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

According to Hutt City Council there are 34 HNZ dwellings in the study area, accounting for 5% of dwellings in the area. From the site visit it is however clear that there are other affordable housing providers who own properties in the study area.

**Credit: Reduced Parking Footprint – 1 out of 2 points**

**Intent**

*Reduce stormwater runoff per capita. Encourage neighbourhood walkability and promote public health through physical activity.*

There are two rows of parking outside some commercial buildings, therefore the first point is not earned. However the total land taken up by surface parking is clearly under 20% and the second point was awarded.

**Credit: Block Perimeter – 0 out of 4 points**

**Intent**

*To promote connectivity.*

The average block perimeter is 553m just above the maximum allowable for 1 point.

**Credit: Locating Buildings to Shape Walkable Streets- 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

Not all buildings faced public spaces.

**Credit: Designing Building Access to Shape Walkable Streets – 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets*

Not every building has a functional entrance that faces a public street.

**Credit: Designing Buildings to Shape Walkable Streets 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

See above

**Credit: Comprehensively Designed Walkable Streets - 0 out of 2 points**

**Intent**

*Encourage pedestrian-oriented streets.*

This credit required earning the above three credits.

**Credit: Street Network – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

There were no cul-de sacs and there are only 100 intersections per square km.

**Credit: Pedestrian Network 1 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The development does have footpaths on all streets.

**Credit: Maximise Pedestrian Safety and Comfort – 0 out of 1 points**

**Intent**

*Provide direct, safe, and comfortable connections, for pedestrians and bicyclists, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The maximum speed throughout the development is 50kmh, however the roads are likely to be designed for a lower speed, however no information was available to confirm this.

**Credit: Superior Pedestrian Experience – 1 out of 2 points**

**Intent**

*Provide appealing and comfortable pedestrian street environments in order to promote pedestrian activity.*

Most of the office buildings include ground floor retail but the shading requirement for the second point was not met.

**Credit: Transit Subsidy – 0 out of 3 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No transit subsidy was available

**Credit: Transit Amenities – 1 out of 1 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

All bus stops had either shelter or time table information, most had both.

**Credit: Access to Nearby Communities – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health by facilitating walking and bicycling.*

There is a through road at least every 270m in the north/south direction, but not in the east/west direction, because of the long and narrow block shape.

**Credit: Adaptive Reuse of Historic Buildings – 2 out of 2 points**

**Intent**

*Encourage use of historic buildings in a manner that preserves their historic materials and character.*

Jackson Street is a heritage area and most buildings are being re-used. Some buildings have been demolished, mainly because of earthquake regulations. However over all there has been extensive reuse and refurbishment of historic buildings.

**RESOURCE EFFICIENCY – 1 out of 10 points**

**Credit: On-Site Power Generation – 0 out of 1 points**

**Intent**

*Reduce air, water, and land pollution from energy consumption and production by increasing the efficiency of the power delivery system. Increase the reliability of power.*

There is no on site generation

**Credit: On-Site Renewable Energy Sources – 0 out of 1 points**

**Intent**

*Reduce environmental impacts associated with fossil fuel energy generation by increasing the use of on-site renewable energy sources.*

There is no on site generation

**Credit: Efficient Irrigation – 1 out of 1 points**

**Intent**

*Conserve potable water.*

There are no in built irrigation systems in public spaces.

**Credit: Greywater & Stormwater Reuse – 0 out of 2 points**

**Intent**

*Conserve potable water.*

There is no stormwater or greywater reuse.

**Credit: Wastewater Management – 0 out of 1 points**

**Intent**

*Reduce pollution from wastewater and reuse nutrients from the wastewater stream.*

The development is connected to the town sewage system without any prior treatment.

**Credit: Reuse of Materials – 0 out of 1 points**

**Intent**

*Promote reuse of materials and resources.*

No reuse of materials was documented.

**Credit: Recycled Content – 0 out of 1 points**

**Intent**

*Promote use of recycled materials.*

No use of recycled materials was documented.

**Credit: Comprehensive Waste Management – 0 out of 1 points**

**Intent**

*Promote safe and efficient disposal or reuse of waste streams generated by occupants.*

While there is a curb side collection for glass, plastic and metal cans, there is no system for compostables or hazardous materials.

**Credit: Contaminant Reduction in Brownfields Remediation – 0 out of 1 points**

**Intent**

*Encourage brownfields cleanup methods that reduce contaminant volume or toxicity and thereby minimise long-term remediation or monitoring burdens.*

No records are available.





## **ARANUI**

### **LOCATION EFFICIENCY – 23 out of 31 points**

#### **Prerequisite: Transportation Efficiency - achieved**

##### **Intent**

*Reduce air pollution, energy consumption, and greenhouse gas emissions generated by transportation by encouraging new development in locations that reduce automobile dependence. Promote public health by encouraging new development in locations that provide increased opportunities for walking.*

Compliance path 1)

The site was previously developed. The development also complies with the other two compliance paths.

#### **Prerequisite: Water and Stormwater Infrastructure Efficiency - achieved**

##### **Intent**

*Conserve natural and financial resources required for construction and maintenance of infrastructure. Encourage new development within and near existing communities, in order to reduce multiple environmental impacts caused by haphazard sprawl.*

Aranui is served by existing infrastructure.

#### **Credit: Contaminated Brownfields Redevelopment – 0 out of 4 points**

##### **Intent**

*Conserve land and reduce air, water, and land pollution from contaminated land.*

The site was not contaminated and does therefore not qualify for this credit

#### **Credit: High Cost Contaminated Brownfields Redevelopment – 0 out of 1 points**

##### **Intent**

*Encourage the cleanup of more complicated or challenging contaminated brownfields sites.*

See above

#### **Credit: Adjacent, Infill or Previously Developed Site - 10 out of 10 points**

##### **Intent**

*Encourage development within existing communities and already-developed places to reduce multiple environmental harms associated with haphazard sprawl. Reduce development pressure beyond the limits of existing development. Conserve natural and financial resources required for construction and maintenance of infrastructure.*

The site was previously developed.

#### **Credit: Reduced Automobile Dependence – 3 out of 6 points**

**Intent**

*Encourage development in locations that exhibit superior performance in providing transportation choices or otherwise reducing motor vehicle use.*

The majority of dwellings are within walking distance of several bus routes, where 236 rides are available per day.

**Credit: Contribution to Jobs-Housing Balance – 4 out of 4 points**

**Intent**

*Encourage balanced communities with a diversity of uses and employment opportunities. Reduce energy consumption and pollution from motor vehicles by providing opportunities for shorter vehicle trips and/or use of alternative modes of transportation.*

There are a number of local jobs available.

**Credit: School Proximity – 4 out of 4 points**

**Intent**

*Promote children's health through physical activity by facilitating walking to school. Promote a sense of community.*

Aranui is well served by schools. A full primary, a high school and an early learning centre are all available within easy walking distance.

**Credit: Access to Public Spaces - 2 out of 2 points**

**Intent**

*Provide access to public gathering space in order to promote sense of community.*

All dwellings and business entrances are easily within 800m walk of the park, where there are a wide variety of facilities available (basketball, small and larger children's playground, playing fields)

**ENVIRONMENTAL PRESERVATION – 5 out of 14 points**

**Prerequisite: Imperilled Species and Ecological Communities - achieved**

**Intent**

*Protect imperilled species and ecological communities.*

The site was previously developed

**Prerequisite: Parkland Preservation – not achieved**

**Intent**

*Protect natural habitat.*

The homes being constructed along the new road (Ben Rarere Rd) are on ex park land. However a land swap has ensured that the size of the park remained roughly the same and the



quality of the park will be improved because the new homes will provide passive surveillance of the space..

**Prerequisite: Wetland and Water Body Conservation - achieved**

**Intent**

*Conserve water quality, natural hydrology and habitat through conservation of water bodies and wetlands.*

The site is previously developed, there also appear to be no wetlands or streams in the area.

**Prerequisite: Farmland Preservation – unable to assess**

**Intent**

*Preserve irreplaceable agricultural resources by protecting prime and unique farmland from development.*

**Credit: Support Off-Site Land Conservation – 0 out of 2 points**

**Intent**

*Protect land that is important for natural or cultural resources from development.*

No land was purchased off-site for conservation by the developer.

**Credit: Site Design for Habitat or Wetland Conservation – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

Landscaping was not exclusively native.

**Credit: Restoration of Habitat or Wetlands - 0 out of 1 point**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies*

None of the site area was restored using native vegetation.

**Credit: Conservation Management of Habitat or Wetlands – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

There are no on-site significant habitats. See also above.

**Credit: Steep Slope Preservation – 1 out of 1 points**

**Intent**

*Minimize erosion to protect habitat, and reduce stress on natural water systems, by preserving steep slopes in a natural, vegetated state.*



The site area does not have slopes steeper than 15%.

**Credit: Minimize Site Disturbance During Construction – 1 out of 1 points**

**Intent**

*Conserve existing natural areas and protect trees to provide habitat and promote biodiversity.*

The site and the area of construction impact are previously developed.

**Credit: Minimize Site Disturbance Through Site Design – 1 out of 1 points**

**Intent**

*Preserve existing tree canopy, native vegetation and pervious surfaces while encouraging high density, smart growth communities.*

The site was previously developed.

**Credit: Maintain Stormwater Runoff Rates – 1 out of 1 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

Because the site is previously developed it is likely that stormwater run-off has remained constant.

**Credit: Reduce Stormwater Runoff Rates – 0 out of 2 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

It is unlikely that stormwater run-off was reduced by recent development.

**Credit: Stormwater Treatment – 0 out of 2 points**

**Intent**

*Reduce surface water pollution from stormwater.*

No evidence of stormwater management was observed.

**Credit: Outdoor Hazardous Waste Pollution Prevention – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution from the use of pesticides and fertilizers*

There are no limitations on pesticide or fertiliser use.

**COMPACT, COMPLETE & CONNECTED NEIGHBORHOODS**

**Prerequisite: Open Community - achieved**



**Intent**

*Promote developments that are good neighbours to their surrounding communities. Foster a sense of community and connectedness beyond the development.*

All streets and public spaces are accessible.

**Prerequisite: Compact Development – not achieved**

**Intent**

*Conserve land. Promote livability, transportation efficiency, and walkability.*

The residential density is only 16.5 dwellings per hectare.

**Prerequisite: Diversity of Uses - achieved**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

Most of the services listed are available within 800m.

**Credit: Compact Development – 0 out of 5 points**

**Intent**

*Conserve land. Promote community livability, transportation efficiency, and walkability.*

The residential density is 16.5 dwellings per hectare and therefore lower than the minimum for this credit.

**Credit: Transit-Oriented Compactness – 0 out of 1 points**

**Intent**

*Maximize walking trips to and from transit stops in the area immediately surrounding the transit stop.*

Density is reasonably uniform throughout the development.

**Credit: Diversity of Uses – 3 out of 3 points**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

10 of the listed services are available within 800m walking distance of most dwellings.

**Credit: Housing Diversity – 0 out of 4 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*



The Simpson Diversity Index for the development is 0.49, just below the minimum requirement for this credit. The index for the surrounding area was not calculated, but is likely to be lower.

**Credit: Affordable Rental Housing – 2 out of 2 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

There is a high percentage of Housing New Zealand properties

**Credit: Reduced Parking Footprint – 2 out of 2 points**

**Intent**

*Reduce stormwater runoff per capita. Encourage neighbourhood walkability and promote public health through physical activity.*

No buildings has more than one row of parking outside them and the total land taken up by surface parking is clearly under 20%.

**Credit: Block Perimeter – 0 out of 4 points**

**Intent**

*To promote connectivity.*

The average block perimeter is over 1000m and no points were awarded.

**Credit: Locating Buildings to Shape Walkable Streets- 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

All streets had good surveillance from houses, however parts of the park and the service lane behind the shops are lined by high solid fences making them quite unpleasant.

**Credit: Designing Building Access to Shape Walkable Streets – 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets*

See above. There are also several houses that are accessed off a right of way.

**Credit: Designing Buildings to Shape Walkable Streets 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

See above

**Credit: Comprehensively Designed Walkable Streets - 0 out of 2 points**

**Intent**

*Encourage pedestrian-oriented streets.*

This credit required earning the above three credits.

**Credit: Street Network – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

There are several cul-de-sacs in the development, none have a pedestrian connection.

**Credit: Pedestrian Network 1 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The development does have footpaths on all streets and they are at least 1200m wide.

**Credit: Maximise Pedestrian Safety and Comfort – 0 out of 1 points**

**Intent**

*Provide direct, safe, and comfortable connections, for pedestrians and bicyclists, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The maximum speed throughout the development is 50kmh, some residents commented on speeding cars, especially at night.

**Credit: Superior Pedestrian Experience – 1 out of 2 points**

**Intent**

*Provide appealing and comfortable pedestrian street environments in order to promote pedestrian activity.*

The shading requirement was also not met, however all community services and shops were accessible directly off the footpath in the commercial area.

**Credit: Transit Subsidy – 0 out of 3 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No transit subsidy was available



**Credit: Transit Amenities – 0 out of 1 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

Bus stops in the area do not have shelters, most have no time table information and one didn't even have a bus stop sign.

**Credit: Access to Nearby Communities – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health by facilitating walking and bicycling.*

There is only one through road in the development and this is more than 270 m from the next main road.

**Credit: Adaptive Reuse of Historic Buildings – 0 out of 2 points**

**Intent**

*Encourage use of historic buildings in a manner that preserves their historic materials and character.*

The site contained no historic buildings.

**RESOURCE EFFICIENCY – 1 out of 10 points**

**Credit: On-Site Power Generation – 0 out of 1 points**

**Intent**

*Reduce air, water, and land pollution from energy consumption and production by increasing the efficiency of the power delivery system. Increase the reliability of power.*

There is no on site generation

**Credit: On-Site Renewable Energy Sources – 0 out of 1 points**

**Intent**

*Reduce environmental impacts associated with fossil fuel energy generation by increasing the use of on-site renewable energy sources.*

There is no on site generation

**Credit: Efficient Irrigation – 1 out of 1 points**

**Intent**

*Conserve potable water.*

There are no in built irrigation systems in public spaces.

**Credit: Greywater & Stormwater Reuse – 0 out of 2 points**

**Intent**

*Conserve potable water.*

There is no stormwater or greywater reuse.

**Credit: Wastewater Management – 0 out of 1 points**

**Intent**

*Reduce pollution from wastewater and reuse nutrients from the wastewater stream.*

The development is connected to the town sewage system without any prior treatment.

**Credit: Reuse of Materials – 0 out of 1 points**

**Intent**

*Promote reuse of materials and resources.*

No reuse of materials was documented.

**Credit: Recycled Content – 0 out of 1 points**

**Intent**

*Promote use of recycled materials.*

No use of recycled materials was documented.

**Credit: Comprehensive Waste Management – 0 out of 1 points**

**Intent**

*Promote safe and efficient disposal or reuse of waste streams generated by occupants.*

While there is a curb side collection for glass, plastic and metal cans, there is no system for compostables or hazardous materials.

**Credit: Contaminant Reduction in Brownfields Remediation – 0 out of 1 points**

**Intent**

*Encourage brownfields cleanup methods that reduce contaminant volume or toxicity and thereby minimise long-term remediation or monitoring burdens.*

The site was not contaminated

## **CHRISTCHURCH ESAT INNER CITY**

### **LOCATION EFFICIENCY – 21 out of 31 points**

#### **Prerequisite: Transportation Efficiency - achieved**

##### **Intent**

*Reduce air pollution, energy consumption, and greenhouse gas emissions generated by transportation by encouraging new development in locations that reduce automobile dependence. Promote public health by encouraging new development in locations that provide increased opportunities for walking.*

Compliance path 1)

The site was previously developed. The development also complies with the other two compliance paths.

#### **Prerequisite: Water and Stormwater Infrastructure Efficiency - achieved**

##### **Intent**

*Conserve natural and financial resources required for construction and maintenance of infrastructure. Encourage new development within and near existing communities, in order to reduce multiple environmental impacts caused by haphazard sprawl.*

Christchurch Inner City East is served by existing infrastructure.

### **Credit: Contaminated Brownfields Redevelopment – 0 out of 4 points**

##### **Intent**

*Conserve land and reduce air, water, and land pollution from contaminated land.*

There is one contaminated site within the study area. This is currently used as a car yard and no information about a clean-up was available.

### **Credit: High Cost Contaminated Brownfields Redevelopment – 0 out of 1 points**

##### **Intent**

*Encourage the cleanup of more complicated or challenging contaminated brownfields sites.*

See above

### **Credit: Adjacent, Infill or Previously Developed Site - 10 out of 10 points**

##### **Intent**

*Encourage development within existing communities and already-developed places to reduce multiple environmental harms associated with haphazard sprawl. Reduce development pressure beyond the limits of existing development. Conserve natural and financial resources required for construction and maintenance of infrastructure.*

The site was previously developed.

**Credit: Reduced Automobile Dependence – 5 out of 6 points**

**Intent**

*Encourage development in locations that exhibit superior performance in providing transportation choices or otherwise reducing motor vehicle use.*

The majority of dwellings are within walking distance of several bus routes, where 540 rides are available per day.

**Credit: Contribution to Jobs-Housing Balance – 4 out of 4 points**

**Intent**

*Encourage balanced communities with a diversity of uses and employment opportunities. Reduce energy consumption and pollution from motor vehicles by providing opportunities for shorter vehicle trips and/or use of alternative modes of transportation.*

The site is close to Christchurch's CBD and therefore close to a large number of jobs.

**Credit: School Proximity – 2 out of 4 points**

**Intent**

*Promote children's health through physical activity by facilitating walking to school. Promote a sense of community.*

The study area includes a full primary school, however neither an early childhood centre nor a high school are within walking distance.

**Credit: Access to Public Spaces - 0 out of 2 points**

**Intent**

*Provide access to public gathering space in order to promote sense of community.*

There is a small neighbourhood reserve with a playground in the Avon Loop sub area, however this is not within 800m walk of most dwellings. Latimer Square is within walking distance of many dwellings, however this was judged to have limited use as a neighbourhood reserve as it contains neither play equipment nor seating.

**ENVIRONMENTAL PRESERVATION – 3 out of 14 points**

**Prerequisite: Imperilled Species and Ecological Communities - achieved**

**Intent**

*Protect imperilled species and ecological communities.*

The site was previously developed

**Prerequisite: Parkland Preservation – achieved**

**Intent**

*Protect natural habitat.*



No development on parkland occurred.

**Prerequisite: Wetland and Water Body Conservation - achieved**

**Intent**

*Conserve water quality, natural hydrology and habitat through conservation of water bodies and wetlands.*

The site is previously developed.

**Prerequisite: Farmland Preservation – unable to assess**

**Intent**

*Preserve irreplaceable agricultural resources by protecting prime and unique farmland from development.*

**Credit: Support Off-Site Land Conservation – 0 out of 2 points**

**Intent**

*Protect land that is important for natural or cultural resources from development.*

No land was purchased off-site for conservation by the developer.

**Credit: Site Design for Habitat or Wetland Conservation – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

Landscaping was not exclusively native.

**Credit: Restoration of Habitat or Wetlands - 0 out of 1 point**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies*

None of the site area was restored using native vegetation.

**Credit: Conservation Management of Habitat or Wetlands – 0 out of 1 points**

**Intent**

*Conserve native wildlife habitat, **wetlands** and water bodies.*

The Avon River runs through the study area, however it is unclear if a long term management plan is in place.

**Credit: Steep Slope Preservation – 1 out of 1 points**

**Intent**

*Minimize erosion to protect habitat, and reduce stress on natural water systems, by preserving steep slopes in a natural, vegetated state.*



The site area does not have slopes steeper than 15%.

**Credit: Minimize Site Disturbance During Construction – 1 out of 1 points**

**Intent**

*Conserve existing natural areas and protect trees to provide habitat and promote biodiversity.*

The site and the area of construction impact are previously developed.

**Credit: Minimize Site Disturbance Through Site Design – 1 out of 1 points**

**Intent**

*Preserve existing tree canopy, native vegetation and pervious surfaces while encouraging high density, smart growth communities.*

The site was previously developed.

**Credit: Maintain Stormwater Runoff Rates – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

The area has seen increases in density in recent times and the rate of imperviousness and with it run-off has likely increased.

**Credit: Reduce Stormwater Runoff Rates – 0 out of 2 points**

**Intent**

*Reduce stormwater pollution, prevent flooding, and promote aquifer recharge.*

See above

**Credit: Stormwater Treatment – 0 out of 2 points**

**Intent**

*Reduce surface water pollution from stormwater.*

No evidence of stormwater management was observed.

**Credit: Outdoor Hazardous Waste Pollution Prevention – 0 out of 1 points**

**Intent**

*Reduce stormwater pollution from the use of pesticides and fertilizers*

There are no limitations on pesticide or fertiliser use.

**COMPACT, COMPLETE & CONNECTED NEIGHBORHOODS 13 out of 38 points**



**Prerequisite: Open Community - achieved**

**Intent**

*Promote developments that are good neighbours to their surrounding communities. Foster a sense of community and connectedness beyond the development.*

All streets and public spaces are accessible.

**Prerequisite: Compact Development – achieved**

**Intent**

*Conserve land. Promote livability, transportation efficiency, and walkability.*

The residential density is 45.2 dwellings per hectare.

**Prerequisite: Diversity of Uses - achieved**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

Most of the services listed are available within 800m.

**Credit: Compact Development – 1 out of 5 points**

**Intent**

*Conserve land. Promote community livability, transportation efficiency, and walkability.*

The residential density is 45.2 dwellings per hectare.

**Credit: Transit-Oriented Compactness – 0 out of 1 points**

**Intent**

*Maximize walking trips to and from transit stops in the area immediately surrounding the transit stop.*

Density is reasonably uniform throughout the development.

**Credit: Diversity of Uses – 3 out of 3 points**

**Intent**

*Promote community livability, transportation efficiency, and walkability.*

Most of the listed services are available within 800m walking distance of most dwellings.

**Credit: Housing Diversity – 3 out of 4 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*



The Simpson Diversity Index for the development is 0.77. The index for the surrounding area was not calculated, but is likely to be lower.

**Credit: Affordable Rental Housing – 0 out of 2 points**

**Intent**

*To enable citizens from a wide range of economic levels and age groups to live within a community.*

No response as to the numbers of Housing New Zealand dwellings was received. It is however assumed that there are less than 10% Housing New Zealand units.

**Credit: Reduced Parking Footprint – 2 out of 2 points**

**Intent**

*Reduce stormwater runoff per capita. Encourage neighbourhood walkability and promote public health through physical activity.*

No buildings has more than one row of parking outside them and the total land taken up by surface parking is clearly under 20%.

**Credit: Block Perimeter – 0 out of 4 points**

**Intent**

*To promote connectivity.*

The average block perimeter is 656m and no points were awarded.

**Credit: Locating Buildings to Shape Walkable Streets- 1 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

All streets had houses fronting onto them

**Credit: Designing Building Access to Shape Walkable Streets – 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets*

There are also several houses that are accessed off a right of way.

**Credit: Designing Buildings to Shape Walkable Streets 0 out of 1 points**

**Intent**

*Encourage pedestrian-oriented streets.*

See above

**Credit: Comprehensively Designed Walkable Streets - 0 out of 2 points**



**Intent**

*Encourage pedestrian-oriented streets.*

This credit required earning the above three credits.

**Credit: Street Network – 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

There are several cul-de-sacs in the development, none have a pedestrian connection.

**Credit: Pedestrian Network 0 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

There are no footpaths on Dawson Street.

**Credit: Maximise Pedestrian Safety and Comfort – 0 out of 1 points**

**Intent**

*Provide direct, safe, and comfortable connections, for pedestrians and bicyclists, to local destinations and neighbourhood centres. Promote public health through increased physical activity.*

The maximum speed throughout the development is 50kmh.

**Credit: Superior Pedestrian Experience – 0 out of 2 points**

**Intent**

*Provide appealing and comfortable pedestrian street environments in order to promote pedestrian activity.*

No office buildings in the development had ground floor retail and the shading requirement was also not met.

**Credit: Transit Subsidy – 0 out of 3 points**

**Intent**

*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

No transit subsidy was available

**Credit: Transit Amenities – 0 out of 1 points**

**Intent**



*Reduce energy consumption and pollution from motor vehicles by encouraging use of public transit.*

Bus stops in the area do not have shelters, most have no time table information.

**Credit: Access to Nearby Communities – 1 out of 1 points**

**Intent**

*Provide direct and safe connections, for pedestrians and bicyclists as well as drivers, to local destinations and neighbourhood centres. Promote public health by facilitating walking and bicycling.*

There are many through roads, at least one every 270m.

**Credit: Adaptive Reuse of Historic Buildings – 2 out of 2 points**

**Intent**

*Encourage use of historic buildings in a manner that preserves their historic materials and character.*

The site contained several historic buildings, which are still being used. Even though no the historic places trust was unable to comment it is assumed that their use complies with historic places trust guidelines.

**RESOURCE EFFICIENCY – 1 out of 10 points**

**Credit: On-Site Power Generation – 0 out of 1 points**

**Intent**

*Reduce air, water, and land pollution from energy consumption and production by increasing the efficiency of the power delivery system. Increase the reliability of power.*

There is no on site generation

**Credit: On-Site Renewable Energy Sources – 0 out of 1 points**

**Intent**

*Reduce environmental impacts associated with fossil fuel energy generation by increasing the use of on-site renewable energy sources.*

There is no on site generation

**Credit: Efficient Irrigation – 1 out of 1 points**

**Intent**

*Conserve potable water.*

There are no in built irrigation systems in public spaces.

**Credit: Greywater & Stormwater Reuse – 0 out of 2 points**

**Intent**

*Conserve potable water.*

There is no stormwater or greywater reuse.

**Credit: Wastewater Management – 0 out of 1 points**

**Intent**

*Reduce pollution from wastewater and reuse nutrients from the wastewater stream.*

The development is connected to the town sewage system without any prior treatment.

**Credit: Reuse of Materials – 0 out of 1 points**

**Intent**

*Promote reuse of materials and resources.*

No reuse of materials was documented.

**Credit: Recycled Content – 0 out of 1 points**

**Intent**

*Promote use of recycled materials.*

No use of recycled materials was documented.

**Credit: Comprehensive Waste Management – 0 out of 1 points**

**Intent**

*Promote safe and efficient disposal or reuse of waste streams generated by occupants.*

While there is a curb side collection for glass, plastic and metal cans, there is no system for compostables or hazardous materials.

**Credit: Contaminant Reduction in Brownfields Remediation – 0 out of 1 points**

**Intent**

*Encourage brownfields cleanup methods that reduce contaminant volume or toxicity and thereby minimise long-term remediation or monitoring burdens.*

The site was not contaminated