3.10 Community consultation

Introduction

Consultation for an Expressway through the Project Area has occurred over an extended period of time with previous consultation occurring in 2001 and 2009. The current consultation process began in February 2011 with the final consultation period beginning in June 2012. Throughout this process there has been input from and consultation with key stakeholders, affected land owners and the general public.

A range of methods for consultation were utilised. This included direct one-on-one meetings, engagement with specific stakeholders, workshops, letters, newsletters, brochures and open days. Engagement with iwi, regulatory authorities and several key stakeholders has been on-going since 2010 when the current phase of the Project commenced.

The consultation and methods adopted were developed to provide targeted and effective engagement with iwi and consultation with stakeholders and the public.

A consultation strategy was developed to assist in the progressing of the investigation and design development of the Expressway proposal.

Previous of consultations

As stated previously, an alternative to the existing SH1 has been a topic of discussion and investigation for some time. Several key consultation events are now briefly outlined below.

1998 consultation

A study of the area between Himatangi and Waikanae was undertaken in 1998 and consultation for that Project occurred. The two routes for the current Project Area that arose out of the 1998 investigations and reporting, and on which consultation was undertaken were a coastal route and a central route.

2001 consultation

The objective of the 2001 consultation was to focus on specific Project development and effects on the environment and properties.

The consultation process included a presentation to the Otaki Community Board, general distribution of two Project newsletters and a public open day in Otaki.

2002 consultation

The 2002 consultation process was undertaken to focus on the Otaki – Te Horo Expressway preferred route. This followed on from the 2001 consultation on alternative options.

The purpose of the 2002 consultation was to provide widespread public knowledge of the preferred route for the Otaki – Te Horo Expressway and a range of opportunities for potentially affected landowners and interested people to meet with the then Transit representatives to discuss the Project and its effects.

Current phase of consultation

2009 consultation

As part of investigations into improvements into this section of SH1, it was announced on 20 August 2009 that the NZTA would be consulting on four-lane Expressway options from MacKays Crossing to Peka Peka and from Peka Peka to Otaki. These two sections formed the Kapiti Expressway.

The NZTA’s objectives for consulting on the Expressway proposal were to:

• Inform affected communities, key stakeholders, iwi and the general public about the proposal;
• Provide an opportunity for these parties to give feedback to the NZTA on the Expressway proposal;
• Provide the NZTA Board with an understanding of the views of the affected community, key stakeholders, iwi and general public regarding the proposal; and
• Provide a method of community stakeholder and general public engagement on the preferred route for a four-lane Expressway from Peka Peka to North Otaki, which meets the requirements of the LAMA.

The consultation included sending brochures to over 26,500 postal addresses in the Kapiti Coast District, open days and meetings with stakeholders. These included potentially affected property owners and key stakeholders such as KCDC and local iwi.

A total of 1,720 submissions were received on the section of the Expressway proposed for Peka Peka to North Otaki.

The 2009 consultation can be considered as the beginning of the current phase of consultation as feedback formed the basis for locations of interchanges and cross corridor connections for the scoping process leading up to the 2011 consultation.

Feedback from the 2009 consultation highlighted substantial support for an Expressway throughout the District, however there were concerns about the affect that it may have on local communities and directly affected people.

2011 Consultation

The focus of this consultation was to gain feedback, obtain information and get assistance in refining the form, function and location of interchanges and connections. This specifically related to:

• Alignment options around Te Horo and Mary Cest;
• The location of interchanges north and south of Otaki; and
• Cross corridor connections located at Rahui Road, Old Hautere Road and Te Horo.

Directly affected landowners were encouraged to attend the open days, and were met on site on an as-required basis.
The outcomes from the 2011 consultation were communicated to the community through a newsletter in September 2011.

2012 Consultation

The Expressway location and form were confirmed in January 2012 following the Scheme Assessment Report Addendum and communicated to the community through a newsletter soon after that.

The refinements to the design and the preliminary mitigation measures that had been developed to mitigate environmental effects were then taken back to the general public and key stakeholders in June 2012.

Feedback was received from key stakeholders, iwi and the local community. This feedback was used to finalise the mitigation measures for the Project and to ensure all matters that are required to be considered through the design, are in fact considered.

Leading up to the 2012 consultation, each of the directly affected landowners were met with individually. Where there was a need for mitigation on a property as a result of the Project, these landowners were also met with individually to discuss the need for the mitigation and what the options for mitigation were.

Parties consulted

The following parties have been consulted as part of the proposed Expressway development process. Directly affected landowners; Wider community; Greater Wellington Regional Council; Kapiti Coast District Council; Otaki Community Board; KiwiRail; Raukawa; Nga Hapu o Otaki; Muaupoko; Various transport industry organisations; Various statutory agencies; Community, business and interest groups including Friends of the Otaki River and Keep Otaki Beautiful; and Emergency services.

Communication with the public

The methods of communication were generally the same for both the 2011 and 2012 consultation periods. The community was consulted with by sending out information brochures and holding two public open days for each of the 2011 and 2012 consultation phases. The brochures also provided links to a website and an 0800 number where further information could be gained.

Summary of 2011 feedback

The main themes that were submitted during the 2011 consultation included general support or opposition, design, local accessibility or connectivity, property, construction issues and environmental effects. Some of these are elaborated on below, but all have been considered in the design process.

Summary of 2012 feedback

There were a total of 36 submissions received during the 2012 consultation period. The main issues that were raised in submissions included:

- Flooding;
- Geotechnical;
- Stormwater;
- Railway issues;
- Noise;
- Landscape;
- Emergency services;
- Heritage and culture; and
- Property access.

Among the issues raised, a number of attendees were concerned about potential visual and noise effects to their properties. Residents were also concerned that there was a lack of noise mitigation measures in the design and that they had not had enough prior detail on the potential effect of the alignment on their properties.

Residents in the area raised concerns about access to the Expressway, particularly in the Te Horo area. Residents immediately adjacent to the proposed alignment raised concerns about access to their properties once the Expressway was operational.

Each of the comments and feedback topics raised were passed to the Project team to ensure that the final mitigation developed reflected these comments where possible.
Landscape and urban design

Key urban design and landscape themes raised during the 2012 consultation include issues relating to bunding, planting, screening and design development of the Project.

Public feedback

Requests for bunding and planting to screen views of the Expressway were noted from a number of residents. In particular, several Old Hautere Road residents stated that they wanted planted bunding to extend 300-500m southward of the end of Old Hautere Road to improve screening of the Expressway, and reduce noise effects. This feedback was considered by the Project team and as a result the proposed bunding for the Project has now been extended.

Another common concern from property owners was that shelterbelts and fencing would be lost as a result of the Expressway. It is expected that Project mitigation will include replacement of shelterbelts and fencing where appropriate.

Feedback from KCDC

The submission from KCDC also highlighted a number of points related to landscape and urban design, which includes the following:

- KCDC has expressed an interest in the design development of the bridges along the Project length.
- KCDC has emphasised their desire for bunding and embankments to reflect the natural landform of the area (such as dunes or river terraces).
- KCDC has asked that planting along the edges of the Expressway is undertaken in a way that reflects the context of the various areas and environments along the Expressway. For instance, in the Te Horo area, the planting of totara could increase the coherence of the existing totara stands. Again, the intention of the planting design development would be to reflect the local vegetation patterns and biodiversity of the area.
- KCDC has expressed in their submission that appropriate ‘like for like’ landscape mitigation is undertaken for the loss of land (and its associated amenity) within Pare-o-Matangi Reserve. KCDC would like directly affected trees in Pare-o-Matangi Reserve to be transplanted where possible, and that landscape and planting development of offset land to be started as early as possible.

As a key stakeholder, for the Project, KCDC will be involved at key stages during the design development. Their above comments about bunding and planting, and the treatment of Pare-o-Matangi Reserve have been considered and are acknowledged within the design principles outlined in Sections 4 and 5 of this ULDF.

Figure 18B. A public consultation open day in Otaki in 2011.
Section 4. Corridor design
4.1 Overarching principles

<table>
<thead>
<tr>
<th>DESIGN ISSUES</th>
<th>DESIGN OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local connectivity</strong></td>
<td>The existing Kapiti communities are severed in places by the NIMT railway line and/or existing SH1. The proposed Expressway could potentially exacerbate this.</td>
</tr>
<tr>
<td><strong>Design continuity with the overall RoNS</strong></td>
<td>The Project route is approximately 12.2km long and passes through various character types. Other Wellington Northern Corridor RoNS projects will tie into the Project and could be visually mismatched if not considered. It is important to achieve design continuity between the various RoNS projects within the Kapiti District. This continuity helps to create a unified character for the whole coastal area. For motorists on the Expressway, it creates a consistent backdrop against which local variations and individual signature elements can be better understood.</td>
</tr>
<tr>
<td><strong>Legibility (clear routes for wayfinding)</strong></td>
<td>The Project length is predominantly rural and without legible entry and exit points along the Expressway, the Kapiti Coast economy and local connectivity will suffer.</td>
</tr>
<tr>
<td><strong>Integration in the landscape</strong></td>
<td>The proposed Expressway alignment crosses a number of waterways, areas of vegetation of ecological value and introduces a large built element into a predominantly rural landscape.</td>
</tr>
<tr>
<td><strong>The Project is likely to require the removal of localised native vegetation clusters. This has potential to affect the landscape character of parts of the route.</strong></td>
<td>Ensure the Project footprint size is kept to the minimum practicable.</td>
</tr>
<tr>
<td><strong>Corridor width / footprint</strong></td>
<td>Due to the new local arterial road (former SH1), Expressway, NIMT railway (and sometimes a local road too) running parallel for parts of the Project length, the footprint is likely to be quite dominant.</td>
</tr>
<tr>
<td><strong>Business sustainability on the local arterial (former SH1)</strong></td>
<td>Businesses along the proposed local arterial are likely to change in a natural process of “succession”. As through traffic is removed and the quality of the environment improves, retail activity is likely to become more local in character or take on a “visitor-destination” focus. There is some risk of large-format vehicle-oriented retail activity evolving along the strip of land between the local arterial and the Expressway. In this location, sites are conspicuous to motorists on the Expressway and accessible via the new local arterial road. However, this risk is substantially reduced by placing Expressway off-ramps well before the Township.</td>
</tr>
<tr>
<td>DESIGN ISSUES</td>
<td>DESIGN OBJECTIVES</td>
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<tr>
<td><strong>Local arterial road (former SH1) treatment</strong></td>
<td>Ensure the transition of the existing SH1 to a local arterial road is successful in terms of improving community connectivity, and being a pleasant local environment.</td>
</tr>
<tr>
<td>Community engagement involving local businesses, iwi and community support is crucial.</td>
<td>Where practicable, select an Expressway alignment that retains and provides views of key features (e.g., landform, waterways, historic sites, etc.) along the Project. Develop design responses (earthworks location and profiles, bridge and culvert structures, median treatments, barrier types and planting proposals) that are appropriate to the character of the adjacent landscape and land use. Celebrate views as part of the driver, pedestrian or cyclist experience.</td>
</tr>
<tr>
<td><strong>Project route character</strong></td>
<td>Where practicable, select an Expressway alignment that retains and provides views of key features (e.g., landform, waterways, historic sites, etc.) along the Project. Develop design responses (earthworks location and profiles, bridge and culvert structures, median treatments, barrier types and planting proposals) that are appropriate to the character of the adjacent landscape and land use. Celebrate views as part of the driver, pedestrian or cyclist experience.</td>
</tr>
<tr>
<td>Route character is one of several design issues or objectives which take the motorists’ experience of the Kapiti District into account. Given the number of motorists who will pass through the District, this is an important design consideration.</td>
<td>Where practicable, design Expressway and local road elements and landscape treatments that respond to the scale and landscape character of adjoining rural, lifestyle and urban areas.</td>
</tr>
<tr>
<td><strong>Scale</strong></td>
<td>Where practicable, design Expressway and local road elements and landscape treatments that respond to the scale and landscape character of adjoining rural, lifestyle and urban areas.</td>
</tr>
<tr>
<td>The Project traverses both expansive rural areas and smaller scale urban areas.</td>
<td>Ensure that residual spaces are considered during the design process. Make the spaces large enough to be usable if practicable, and consider what the spaces could be used for if they are likely to be disconnected or too small for productive use. It is possible that one use for residual or “landlocked” spaces is as a visual separation between different transport modes and speeds.</td>
</tr>
<tr>
<td><strong>Landlocked sites</strong></td>
<td>Where practicable, design Expressway and local road elements and landscape treatments that respond to the scale and landscape character of adjoining rural, lifestyle and urban areas.</td>
</tr>
<tr>
<td>The location of the Expressway, alongside the NIMT railway, local arterial, and in some places an additional local connection, creates some residual, landlocked or ‘dead’ spaces. These spaces will be of little benefit to the community if not considered during the design process.</td>
<td>Ensure that residual spaces are considered during the design process. Make the spaces large enough to be usable if practicable, and consider what the spaces could be used for if they are likely to be disconnected or too small for productive use. It is possible that one use for residual or “landlocked” spaces is as a visual separation between different transport modes and speeds.</td>
</tr>
<tr>
<td><strong>Flood zones</strong></td>
<td>Consider the impact of changes to levels and topography. Appropriate, well-considered changes could create a better overall community outcome e.g., reduction in flood risk.</td>
</tr>
<tr>
<td>Change in levels and topography could divert flooding to new areas.</td>
<td>Consider CPTED (Crime Prevention through Environmental Design) principles in the selection and development of design solutions.</td>
</tr>
<tr>
<td><strong>Public safety</strong></td>
<td>Consider whole of life costs, including maintenance costs, when selecting design solutions.</td>
</tr>
<tr>
<td>The Project includes the use of bridges and culverts, which could create unsafe spaces.</td>
<td>Consider whole of life costs, including maintenance costs, when selecting design solutions.</td>
</tr>
<tr>
<td><strong>Value for money</strong></td>
<td>Consider whole of life costs, including maintenance costs, when selecting design solutions.</td>
</tr>
<tr>
<td>The Project involves considerable capital and potential future maintenance expenditure.</td>
<td>Consider whole of life costs, including maintenance costs, when selecting design solutions.</td>
</tr>
<tr>
<td><strong>Stakeholder support</strong></td>
<td>Continue to hold stakeholder workshops with all stakeholders to ensure that each stakeholder can express their views, and any conflicting views can be identified and resolved efficiently and to the satisfaction of all of the stakeholders.</td>
</tr>
<tr>
<td>Community engagement with local businesses, iwi and community support is crucial for the Project’s success and progression.</td>
<td>Continue to hold stakeholder workshops with all stakeholders to ensure that each stakeholder can express their views, and any conflicting views can be identified and resolved efficiently and to the satisfaction of all of the stakeholders.</td>
</tr>
<tr>
<td>Potential for NZTA, GWRC, KCDC and KiwiRail to have competing or conflicting views and priorities for the outcomes of the Project.</td>
<td>Continue to hold stakeholder workshops with all stakeholders to ensure that each stakeholder can express their views, and any conflicting views can be identified and resolved efficiently and to the satisfaction of all of the stakeholders.</td>
</tr>
</tbody>
</table>
4.2 Corridor-wide design principles

4.2.1 Landscape and planting

General objectives
- Maintain and enhance the natural landform patterns where practicable.
- Establish the Expressway as an attractive environment, integrated with the wider landscape.
- Protect natural drainage patterns.
- Enhance and retain views of significant landscape features where practicable. The key physical and cultural landscape features which are visible from the Project and/or existing SH1 include:
  - Foothills of the Tararua Ranges
  - Otaki River
  - Sand dune topography
  - Otaki Township
  - Otaki Railway Retail Area
  - Otaki Lake development
  - Otaki ‘Clean Tech’ area
  - Mary Cest bush remnants
  - Te Hapua sea cliff escarpment between Te Kowhai Rd and Te Hapua Road
- Create a landscape that contributes to improving ecological value and biodiversity within the designation and in the surrounding environment. This would also utilise a series of green fragments or ‘fingers’ along the Project length (refer to Section 54 of this document).
- Ensure the experience of travelling through different character areas is maintained both along the Expressway and the local arterial (existing SH1). It is important that road users experience transitions between rural and urban areas for way-finding purposes, and for variety along the journey.
- Enhance and maintain views of existing SH1 include: Te Hapua Road with the wider Wellington Northern Corridor RoNS where practicable. Within a 6m median, low height and low maintenance planted medians are preferred to grass, due to the maintenance requirements for mowing grass and subsequent lane closures to do so.
- Mitigate ecological effects through habitat creation and enhancement (including water bodies).
- Where earthworks are required, integrate with the surrounding landscape by mimicking the natural landform and vegetation cover where practicable.
- Where practicable, integrate structures into the surrounding landscape so as not to compete with the landscape features. Project outcomes are more likely to be successful if infrastructure and landscape are considered parts of a single design concept. Investing in high-quality landscape, infrastructure and “highway elements” is more likely to produce a favourable design result than “applied” decoration or overlaid enhancements.
- Where appropriate, establish screen planting and re-establish affected shelterbelt patterns to reduce the visual effect of the Expressway and traffic within the wider landscape.
- Ensure the experience of travelling through different character areas is maintained both along the Expressway and the local arterial (existing SH1). It is important that road users experience transitions between rural and urban areas for way-finding purposes, and for variety along the journey.
- Utilise the natural urban containment lines of the waterways (Otaki River to the south and Waitohu Stream to the north) to emphasise the gateway experience. These waterways are key thresholds in a sequence of gateway experiences, and where practicable, should be emphasised by open views towards the water, and formal landscape treatments from the approach to the off-ramps to the banks of the adjacent waterways, marking the entry into the urban environment.
- Local arterial road objectives
  - Gateway objectives
    - Gateway treatments should be located along the Expressway before the approach to off-ramps which provide access to Otaki from the north and south. Informing Expressway users of access points to Otaki with visual cues will enhance business sustainability for the Railway Retail Area in particular, but also the river-side industrial and proposed ‘Clean Tech’ areas.
    - Utilise the natural urban containment lines of the waterways (Otaki River to the south and Waitohu Stream to the north) to emphasise the gateway experience. These waterways are key thresholds in a sequence of gateway experiences, and where practicable, should be emphasised by open views towards the water, and formal landscape treatments from the approach to the off-ramps to the banks of the adjacent waterways, marking the entry into the urban environment.
    - Gateway treatments should be located along the Expressway before the approach to off-ramps which provide access to Otaki from the north and south. Informing Expressway users of access points to Otaki with visual cues will enhance business sustainability for the Railway Retail Area in particular, but also the river-side industrial and proposed ‘Clean Tech’ areas.
- Lighting and local artwork could also be considered and integrated as part of an overall gateway theme.
- Employing natural features and elements of infrastructure as part of the gateway experience is likely to be more successful than just installing purpose-made signs, artworks or “markers” as stand-alone elements.
- Any signs and commission artwork should be considered as a complimentary part of the gateway experience and draw on the Otaki Vision and sense of place.
- Formal, bold planting design shall be integrated with signage at entry/exit thresholds to Otaki. Consider integration of sculptural or cultural elements influenced by local artists in these formal planted gateways.
Planted
Where practical, the following principles will be applied:

- Design planting to emphasise the surrounding landscape and to reflect adjacent landuse and vegetation patterns.
- Emphasise underlying topography, for instance by establishing riparian planting along margins of streams but leaving the high points within duneland areas in open pasture.
- Plant in a bold manner using restricted species palettes and broad spatial patterns in order to suit the scale of the landscape, and the speed at which motorists will view it.
- Design planting within the Project corridor to achieve continuity with vegetation and landuse patterns beyond the corridor.
- Other than where road margins are being returned to a pastoral use or there is a specific urban context, revegetate cut and fill batters with a simple palette of pioneer shrubland and grassland species specific to the Kapiti Ecological District.
- Ensure that underlying landscape patterns continue on both sides of the Project and its associated roading development.
- Provide planting patterns that create a sequence of enclosure and openness that reflects the surrounding landscape.
- Bring landuse and vegetation patterns as close to the carriageway as practicable.
- Planting will provide all year round visual interest, maintain ecological corridors along the Project and will also be located to frame key views towards the western foothills of the Tararua Ranges, and gateways.

Design planting to reflect the character of specific aspects and locations along the Expressway as follows:

**Planting on riparian margins**

- Where waterways are crossed by the Project and riparian margins can be fenced from stock, riparian margins should be planted with native riparian plants to emphasise natural topography, enhance habitat and improve water quality.
- Provide planting patterns that create a sequence of enclosure and openness that reflects the surrounding landscape.
- Bring landuse and vegetation patterns as close to the carriageway as practicable.
- Planting will provide all year round visual interest, maintain ecological corridors along the Project and will also be located to frame key views towards the western foothills of the Tararua Ranges, and gateways.

Any stream banks which are affected by construction works should be appropriately replanted to prevent erosion, provide habitat and restore vitality to the waterways.

Encourage multifunctional riparian planting, with the aim to provide a healthy habitat for aquatic fauna, as well as emphasising the waterways across the land.

- Plant any proposed stormwater wetlands with indigenous wetland species naturally found along the Kapiti Coast.
- Use riparian and margin species indigenous to the area. Appropriate plant species are listed at www.gw.govt.nz/ecological-zones-of-the-wELLINGTON-Region.
- Where practicable, follow Figure 19 as a guide for streamside planting for habitat development.
- When selecting species for planting adjacent to the Otaki River, refer to the Otaki River Environmental Strategy (1999), and consider how proposed planting will tie in to any adjacent planting Friends of the Otaki River (FOTOR) has undertaken in the area.

**Figure 19.** Ideal heights of streamside planting for habitat development

![Diagram showing ideal heights of streamside planting for habitat development.]

- <3m stream width
- 1-2m grasses/shrubs
- >6m stream width
- Shade extents
- Trees 2-4m
- >12m stream width
- Shade extents
- Trees >4m

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Screen/buffer areas
- Where appropriate, place screen planting to mitigate the visual effects that the Project will have on the travelling public and residential properties, while contributing to the visual qualities of the Project corridor.
- The retention of existing planting will be considered to retain screening for various properties adjoining the Project.

Cut batters
- Re-vegetate cut batters with a simple palette of low-growing pioneer shrubland and grassland species, as appropriate.
- Select planting types and species to respond to adjacent landscape character.

Fill batters
- Rehabilitate fill batters to merge with surrounding landscape patterns.
- Merge re-vegetation on fill batters with adjacent riparian planting at stream crossings.
- Overfill and re-grass fill batters where they merge with existing pasture. In such instances the fence-line might be located inside the designation so that the adjacent land use appears to extend as far as the road.

Urban and recreation areas
- Planting design for areas that will become KCDC’s maintenance responsibility such as along the existing SH1 and in Otaki Township, needs to be designed in conjunction with KCDC’s ‘Streetscape Strategy and Guideline’ document.
- Where appropriate, existing planting will be retained as part of the landscape and urban design redevelopment of the Otaki Railway Retail Area. Particular consideration will be given to the retention of large trees given the scale and stature they bring to what will be a significantly re-built part of the local community. Consideration will also be given to retaining existing shrub and ‘front garden’ plantings as screening for various properties adjoining the Expressway designation.
- CPTED principles will be applied, with particular consideration given to ensuring visibility of pedestrian and cyclists relative to personal safety and traffic safety.
- Consider the mature size of plant species and locate them practically. For example, flax should be planted a minimum of 2m away from the edge of footpaths or kerbs to prevent trip hazards or maintenance issues when it has reached a mature size.
- As discussed with Keep Otaki Beautiful and KCDC, consider early planting, particularly in the proposed reconfigured Pare-o-Matangi Reserve. This would allow some new vegetation to establish prior to the removal of the eastern side of the reserve for the construction of the realigned NIMT railway and Expressway.
- Involve Keep Otaki Beautiful and KCDC in the plant species selection for the reconfigured Pare-o-Matangi Reserve.

Figure 20. The Otaki Railway Retail Area and Otaki Railway Station (bottom left of the picture), and the Waitohu Plateau and Pare-o-Matangi Reserve (centre of the picture).
4.2.2 Earthworks

The earthworks related to the construction of the Expressway formation and the associated approach embankments for bridge structures have the potential to be an obvious visual element of the Project. Any negative visual effects that arise from earthworks will need to be mitigated so that Project is integrated with the surrounding landform.

Where practicable, the following principles will be applied to earthworks design:

- Given that the local rural landform and its contour are flat to gently rolling, where practicable, the earthwork profiles will be shaped to form gentle slopes consistent with the surrounding landscape.
- Round the top and toe and sides of slopes to blend with the surrounding landform - especially in areas of duneland character.
- Avoid steep slopes over short lengths to reduce erosion and ensure good growth conditions; and

**Cut batters**
- Where terrain is rolling with reduced batter heights, flatten the batter slopes where practicable, so that earthworks merge with adjacent terrain and so that cut batters can be readily topsoiled and re-vegetated.
- Re-spread topsoil and re-vegetate as appropriate in order to match adjacent land use.
- In duneland areas, use coconut fibre or similar surface blanket treatment to provide initial erosion protection and aid re-vegetation.

**Fill batters**
- Where practicable, minimise fill batter slopes in order to merge with surrounding terrain, and to facilitate re-vegetation to merge with surrounding land use.
- Re-spread topsoil and re-vegetate as appropriate in order to match adjacent land use.

**Soil and construction activities**

The construction activities associated with highway development may affect soil quality and therefore construction design and management needs to ensure that the potential effect on soil structure (including natural and drainage features) is minimised.

The following general principles for soil conservation will be followed where practicable:

- Aim to limit construction activities to the footprint of the works (including the contractors yard and stockpile areas) to minimise unnecessary damage to soil structure.
- Use topsoil harvested from site to cover exposed subsoils after construction is completed.

**Spoil disposal sites**
- Locate spoil disposal areas near terraces or natural benches, and around shallow basins at the head of localised gullies so that the disposal material can be readily shaped as part of the natural contour. Avoid locating spoil disposal sites in or near streams or ephemeral watercourses.
- Locate spoil disposal on areas of pasture or adjacent to proposed embankments (to enable embankment slopes to be flatter and merge with the surrounding terrain), avoiding areas of remnant or other significant vegetation.
- Maintain low profile landforms by restricting spoil disposal to a maximum 3m depth with rounded edges. It is preferable to occupy a larger footprint with low profile landforms on less sensitive sites than to create deep disposal sites in sensitive areas.
- Strip, stockpile and re-spread topsoil over completed spoil disposal sites and re-vegetate to merge.
- Consider the opportunity to use spoil in areas that require bunding or screening.

Locations for spoil disposal will be identified as the design progresses.
4.2.3 Structures

Bridges
Where bridges are visible from surrounding communities, or the highway, the following general objectives apply:

1. To develop a set of design consistencies for bridges according to type (who experiences the structures) and hierarchy.

2. To make a positive contribution to the surrounding environment and communities.

3. To ensure new bridges complement their context with an appropriate form, scale, design and quality, and consider the relationship to existing bridges (road and rail).

4. To ensure all users are considered and catered for. All local road bridges should cater for pedestrian and cyclist access.

5. To consider the design quality of the bridge: amenity, aesthetics, of the experience, safety, accessibility, and landscape design.

6. To make a positive contribution to highway users and the driving experience.

7. To consider the opportunities for consistency of bridge elements across the Wellington Northern Corridor RoNS.

8. To ensure the bridge location and geometry fits in well with the wider movement network, making a positive contribution to the urban form.
Additional to the general objectives outlined on the previous page, the following principles apply to the design of bridges:

**Accessibility (pedestrian and cycle)**
- Where practicable, ensure that a 2m width minimum is allowed on at least one side of urban local road bridges for pedestrian and cycle pathways. Where there is high pedestrian/cyclist use, or potential for significant growth, consider facilities on both sides.
- Where practicable, create new connections to existing pedestrian and cycle networks or desire lines. For example, a pedestrian and cycle connection to Pare-o-Matangi Reserve from the proposed new ‘ramp’ bridge.

**Context**
- Bridges should complement their context. This means considering factors such as, but not limited to: topography, location of watercourses, the rural or urban setting, bridge visibility, existing valuable vegetation or ecology features, proximity to houses or open spaces and the presence of pedestrian/cycle paths across or in the vicinity of the bridge.
- Consider how a new bridge will aesthetically tie in or contrast with other bridges nearby. For example, the existing road and rail bridges over Otaki River.
- Ensure that colour is not a dominant feature in rural settings.

**Form and scale**
- Consider the ‘family’ of bridges when designing the form of the bridges. Refer to ‘Experience’ over the page.
- A favourable design outcome is more likely to result from strong formal or visual integrity among the basic parts (bridges, ramps, retaining walls, etc.), than it is from an overlay of “decorative” or “mitigating” elements.
- If closed abutments are used in urban setting, ensure the edges have a ‘finished,’ clean appearance to approaching traffic.
- Ensure the ratio of height and span are carefully considered to achieve balance, and create a simple, elegant whole.
- Ensure that bridge length and position takes into account river/stream characteristics and hydraulics.
- Ensure that barriers and handrails compliment the bridge form.

**Landscape development**
- Where suitable, plant the bridge area, and any sloped abutments to provide integration into the surrounding landscape, and reduce the visual effect of ramps and barriers.

**Maintenance**
- Select durable materials and finishes, and use anti-graffiti coatings where required.
- Adopt Whole-of-Life principles in the selection of materials, joints, bridge bearings etc.
- Consider the natural topography could it be an advantage to the bridge design?
- Where practicable, plant or grass the embankments on bridge approaches with slopes 1h:2v or flatter.
- Consider viewshafts of the local landscape features (e.g. the Tararua Ranges, the dunescape, and Otaki River) from the bridge.

**Safety**
- Consider the safety of all users.
- Ensure path widths cater for both pedestrians and cyclists safely without collisions.
- Ensure lighting design at interchange bridges (quantity, location and type) creates a safe environment for pedestrians, and prevents vandalism. Pedestrians and motorists often have quite different lighting needs. Sometimes, separate installations are required for each user group.
- Consider CPTED principles when designing bridges and planting layouts. Natural surveillance should be encouraged - can pedestrians be seen while using the bridge?

**Services**
- Conceal drainage systems from all views, within the bridge structure.
- Ensure services are hidden from viewing points (including views from river walkways).
**Experience**

The bridge design to date has been developed with careful consideration of consistency, user experience and value. As the Project progresses, it will be important to continue to consider the visual experience for the various user types both on and under the bridge. Design consistencies are desirable for structures which are experienced by the Expressway user, as it is the Expressway user that will experience the route as a whole. Structures and elements which are experienced by the local community need to be considered, but do not need to be consistent, as these experiences are localised. Structures/elements which are experienced by the local community should respond to local context and reflect local themes.

Tables 4, 5 and 6 explain the design consistencies based on those who are experiencing the bridge.

<table>
<thead>
<tr>
<th>User</th>
<th>Expressway underpasses - Expressway user under local vehicular bridge</th>
</tr>
</thead>
</table>
| **Considerations** | - At four locations the Expressway passes underneath local roads. These are bridges 2, 4, 6 and 8.  
- At these locations, all Expressway users will have a clear view of the structure. These structures will be most visible (viewed by the most people each day) of any along the route. They are local roads and located within the most densely populated areas along the route.  
- There is a desire for these structures to appear consistent in their design approach.  
- Two of these structures are located on a skew that would make it difficult to provide a clear span across the Expressway. Attempting to provide this clear span would increase the depth of the structure and remove the ability to achieve some of the desired structural and visual design outcomes.  
- At Rahui Road there is a need to reduce the overall bridge structure depth to provide improved visual outcomes. |
| **Design priority** | **Highest** |
| **Bridges** | - Bridge 2  
- Bridge 4, Rahui Road Underpass  
- Bridge 6  
- Bridge 8, Te Horo Underpass |

Table 4. User experience for Expressway underpasses
User River bridges - local user under Expressway bridge

Considerations
- There are two river bridges, 1 and 5 (crossing the Waitohu Stream and Otaki River). These bridges will be mostly visible to recreational users passing under the structures. This is more of a factor at the Otaki River, at present there is no intention for there to be recreational access under the Waitohu Bridge.
- Due to the location of the new local arterial road and rail bridges the Expressway bridge will have only limited visibility from local roads.
- The intention is to ensure a clean, simple design that provides open views for users on the Expressway.
- Split bridges providing light between.

Design priority Moderate

Bridges
- Bridge 1: Waitohu Stream Bridge
- Bridge 5: Otaki River Bridge

Table 5. User experience for River bridges

User Rail bridges - train user or property access under Expressway bridge

Considerations
- There are two locations where local road has a short span across the rail corridor (bridges 3 and 7). At Mary Crest the Expressway crosses the rail corridor and a property access serving a number of properties.
- Other than by rail users, bridges 3 and 7 are relatively hidden from view from the Expressway and local road. At these locations, the proposal is to use a simple thin and efficient design that provides best value for money.
- A similarly efficient design can be employed at the Mary Crest crossing but due to the length of this crossing, the skew and geometry of bridge to rail and the fact that it will be used by a small number of local property owners further consideration has been given to open up end sections of the structure to provide a more open and naturally lit experience.

Design priority Low

Bridges
- Bridge 3
- Bridge 7
- Bridge 9: Mary Crest Rail Bridge

Table 6. User experience for Rail bridges
Figure 23. Existing view looking towards Rahui Road and County Road from the SH1 ‘ramp’ bridge

Figure 24. Visualisation looking at the proposed Expressway and Rahui Road Underpass with the proposed Kennedy wetland to the left, and reconfigured Pare-o-Matangi Reserve to the right
Retaining walls
There are no retaining walls currently proposed as part of the Project (other than those associated with bridge abutments).

Culverts
Where culverts are to be used, and are visible to road users and/or members of the community, the following design principles apply:

Headwalls
- Minimise effects on streams and watercourses by designing shorter culvert lengths, and providing energy dissipation where practicable.
- Where practicable, for visual consistency (as well as ease of maintenance and construction), design similar headwall solutions along the length of the Project. Currently there is an exception at the Kumutoto culvert where a drop structure will be required to carry water under the road.

Fish passage
- Provide fish passage in all perennial and intermittent streams that connect tributary networks in the Taarua foothills with the coastal zone.
- Set culverts at shallow gradients.
- Install culverts below the natural bed of streams to enable natural material to build up on the base of the culvert.
- Insert natural durable rock or artificial baffles within base of culverts to assist build up of natural material and to provide fish passage during normal flows.
- Construct rock ladders below downstream portal as part of energy dissipation and to aid fish access in to the culvert during low flows. Downstream culvert inlets should be constructed below the downstream minimum water level to avoid perched culverts.
4.2.4 Noise Mitigation

**Note**
Currently the noise mitigation recommended by the Project’s noise specialist is to use OGPA (low noise) road surface at key locations along the route. It is expected that walls and bunds will not be required for noise mitigation, although landscape bunding (for visual screening or separation) and structural bunding (for flood protection) will have some benefits to noise levels.

**General objectives**
1. Consider the design quality of noise bunding (if any): amenity, safety, context.
2. Ensure an appropriate form and scale.
3. Make a positive contribution to the surrounding communities, road users and the driving experience.

**Alignment**
- Ensure that where practical, any noise barriers (including bunds) follow the road geometry.

**Location**
- Consider the effect on flood zones if creating bunds.
- If noise bunds are required, avoid locating the bunds where they will obstruct significant views (outlined in Section 4.2.1), both towards and from the road.

**Form**
- Due to the predominantly rural nature of the Project site, and a need for consistency along the route, where practical, planted earth bunds and other noise control methods such as low noise road surfaces should be used in preference to noise walls.
- If there is any excess fill from the Project, consider using it in the creation of earth bunds.

**Landscape development**
- Ensure landscape treatment of earth noise bunds is integrated with the surrounding landform and character, and to provide an attractive interface to nearby properties and paths.
4.2.5 Pedestrian, cycle and bridleway Links

The transition of the existing SH1 to a local arterial road provides the opportunity for a safe, pleasant pedestrian and cycle corridor along the alignment. It also provides the opportunity to enhance connections with the existing bridleway network. The location of the potential recreational corridor is indicatively shown on the Landscape Plans (and Figure 25 below) and could tie in to existing recreational paths such as Chrystalls Bend Walkway along the Otaki River, existing bridleway networks (such as towards Otaki Forks,) and Pare-o-Matangi Reserve.

The design of pedestrian, cycle and bridleway links should consider the vision outlined in KCDC’s ‘Cycleways, Walkways and Bridleways Strategy’, and ‘Streetscape Strategy and Guideline.’

The following principles should also be considered in the design of this recreational corridor opportunity:

- Shared paths are for use by pedestrians and low speed recreational cyclists. Path gradients will be consistent with NZ accessibility standards where possible.
- Safety, coherence, convenience, directness (desire lines), comfort and attractiveness must be considered in all path designs.
- The preferred gradient for shared cycle and pedestrian paths is a mean of 5%, although the natural topography also needs to be considered as it provides variation, interest, and represents the local area. Where relevant, pathways should follow the contours and ridgeline of the existing dunes, acknowledging existing landform.
- Shared and cycle paths must be continuous and link with open space and pedestrian / cycle networks.
- Where the route traverses steep land, a smooth gradual gradient change with regular landings for resting should be provided.
- Intersection design must take into account safe, easy crossing for pedestrians, cyclist and where appropriate, horses.
- Intersection design must take into account safe, easy crossing for pedestrians, cyclist and where appropriate, horses.
- Shared paths should be 2.5m minimum width to allow cyclists to safely pass pedestrians and other cyclists.
- Path design and landscape treatment should allow natural surveillance from the road and/or adjacent land.
- Design paths to maximise forward visibility and minimise the potential for pedestrian-cyclist conflicts.
- Consider viewpoint opportunities at Otaki River, Waitohu Stream, and locations where the Tararua Ranges and other key landscape features are visible.
- Shared lanes must have an even and continuous sealed surface.

Note

- The recreational pedestrian and cycle corridor proposed (as well as the work required to change the existing SH1 environment to a local arterial road) shall be part of the separate SH1 Revocation Project. However, the design of the recreational walkway/cycleway should aim to integrate the principles listed in this ULDF.

- Proposed bridges at Te Horo, Rahui Road, and Otaki Gorge Road will allow pedestrians and cyclists to cross. The principles relevant to these bridges are covered in Section 4.2.3 of this ULDF.

- Shared paths should be 2.5m minimum width to allow cyclists to safely pass pedestrians and other cyclists.
- Path design and landscape treatment should allow natural surveillance from the road and/or adjacent land.
- Design paths to maximise forward visibility and minimise the potential for pedestrian-cyclist conflicts.
- Consider viewpoint opportunities at Otaki River, Waitohu Stream, and locations where the Tararua Ranges and other key landscape features are visible.
- Shared lanes must have an even and continuous sealed surface.

Figure 25. Typical cross section north of Te Horo
4.2.6 Road furniture

Road furniture needs to be incorporated into the Project in a clear and legible way along the Project route, which meets current standards.

**Expressway principles**

The road furniture specified will be designed to meet current standards. Provision for safe maintenance access should also be considered as part of the design process.

Where appropriate and practicable, lighting, sign gantries and signage, guard rails, fences, wire rope barriers and median barriers should be designed as part of a coherent suite of Expressway furniture, consistent with that specified for other Wellington Region RoNS Projects, in particular the other Wellington Northern Corridor RoNS.

There may be some site specific traits which need to be treated differently (e.g. to avoid negative effects on landscape features, or to enhance important views, or to create a gateway). In this case, the following principles below should be followed for road furniture of the Expressway.

**Side barriers (roads)**

Where side barriers are required, where practicable the following principles should be followed:

- The height of all barriers should be kept to a minimum to retain views beyond the carriageway.
- Short sections of steel barrier should be avoided, but where they are required (i.e. between cut faces) earth mounds shall be the priority.
- Where barriers are required on both sides of carriageway they should be the same.
- The profile and surface treatment of earth mounds should transition smoothly into adjacent land forms and finished ground level. Abrupt and hard ends to barriers should be avoided - the start and finish of barriers should be considered as an integral part of an overall design.
- Refer to Section 4.2.3 for design principles for bridge barriers.

**Lighting columns**

Locate lighting at interchanges only (and where required for safety, legibility or threshold treatment), and in accordance with RoNS guide.

- Lighting poles should be located on outer edges, not in the median.
- To avoid visual clutter, use consistent heights within each group of light standards (i.e. Expressway and ramps as one group, and local roads as another group).

**Sign gantries and signage posts**

Construct pillars to prevent unauthorised access without the need for such secondary fittings as barbed wire.

- Use simple steel posts for smaller signs installed adjacent to highway.
- If appropriate, design gantry to be integrated with the signage.

**Gateways**

Gateways that make use of landscape design, lighting, public art and community signage help orient visitors to the environment, and communicates to the motorist that they are approaching a slower speed environment.

A theme and opportunities for any public art, lighting, community signage and planting at gateways should be established with KCDC. Any public art should be from local artists, and enforce the cultural identity of the area.

**Local arterial principles**

Given the SH1 Revocation is not part of the Project, the following principles are simply suggested considerations:

- Consider cohesive streetscape elements such as benches, rubbish bins, wayfinding signs, and paving design, particularly through Otaki Township. This would provide an added dimension to the creation of a ‘sense of place’ for each character area and the improvement/establishment of gateway features to further emphasise this idea.
- Consider continuity in themes, materials, texture and forms. The public domain of the street should possess a simple but high-quality palette of materials and elements. This simplicity helps to unify the inevitable variety and complexity of private property developments along the sides of the street. It is also important that the street furniture palette is consistent with the theme and art strategy.
- Consider a public art strategy. This should be consistent with the proposed theme (to be progressed by KCDC).
- Refer to KCDC guideline documents. The road furniture design should consider the KCDC 'Streetscape Strategy and Guideline’ document.
- Consider the local road experience and local identity.
- Create a pleasant environment to entice repeat visitors to the Railway Retail Area.
4.2.7 Stormwater

For culvert design principals, refer to 4.2.3.

1. Respect the natural landform patterns.
2. Preserve natural drainage patterns.
3. Where practicable, restore native biodiversity and create amenity features around stormwater features.
4. Where practicable, use low impact design measures to treat surface waters before they are released in nearby waterways.
5. Choose plant species indigenous to the Kapiti Coast, and that are suitable to the hydrological characteristics of the wetland, basin or swale, and clear weeds and exotic species.

**Wetlands and stormwater basins**
- Where appropriate, optimise natural character, ecological, landscape and amenity value of wetlands and stormwater basins.
- Create stormwater basins and wetlands with variable depths and irregular margins to create a natural appearance and provide a variety of niches for plants.
- Where practicable, vary the shape and gradient of fill embankments to mimic the surrounding rolling dune landscape.
- Where stock is present in wetland areas, it will be essential to fence the areas to exclude stock. Otherwise the investment and effort in creating and/or protecting the wetlands will be lost. Fencing to exclude stock from the Mary Crest bush remnants is recommended.
- Seek to integrate proposed treatment wetlands with natural stream environments to connect them visually and ecologically, if not hydrologically.
- The existing Railway Wetland and Kennedy Wetland will be linked with a pipe. This pipe will maintain the existing wet conditions in the wetland. The water that flows out of the Railway Wetland will flow into the Kennedy Wetland. Low flows (from groundwater seeping into the existing wetland) will keep the Kennedy Wetland wet most of the time, which will support a wetland plant community. The Kennedy Wetland will be formed behind the existing railway bund and this will provide flood storage volume to make up for the volume lost from the Railway Wetland (see Figure 26 below).
- Consider the design of the proposed wetland and basin at Mary Crest, so they may tie in to a recreational and educational walkway/cycleway/bridleway in the future.
- Provide for maintenance access.

**Swales**
- Encourage road surface run-off to flow directly off the roads into swales parallel to the carriageway as part of the stormwater treatment train where practicable.
- Re-vegetate swales primarily with low groundcovers and where appropriate, enhance with a mixture of native trees and shrubs, depending on the location and character area.
- Select plant species which will assist with stormwater treatment.
- Arrange the planting design to mimic the surrounding landscape character and create a natural appearance.
- The design of planted areas and selection of species shall comply with sightline and surveillance requirements.
- Where practicable, use kerb and channel only at bridges, intersections and in locations where space is constrained.

Figure 26. View of the existing land adjacent to the County Road railway bund. This bund will be retained and planted once the railway alignment is shifted. The open horse paddocks will become Kennedy Wetland and Expressway.
Section 5. Sector Design
5.1 Peka Peka to Mary Crest

Refer to Landscape Drawings for more detail around interchanges and Project alignment. A4 versions of the drawings can be found appended at the end of the ULDF, or A3 versions in the AEE Report.

Peka Peka to Mary Crest is a section of the Project that predominantly has a rural character, with the occasional lifestyle property evident. Between Peka Peka Road and Te Hapua Road, the landscape has visible remnant sand dune characteristics and a prominent escarpment rising to the east of the NIMT railway. The natural topography and rural character should be considered during the design process of the Project.

This sector has clusters of localised vegetation (including kahikatea, tawa, totara and nikau) near Mary Crest.

Refer to Figure 27 for a diagram of the Peka Peka to Mary Crest Project sector.

Key issues:
• Severance and community connectivity - this is the only sector within the Project, which includes the design of a section of new local arterial road, so design principles specific to this new road are required.
• Coherence - integration with the Mackay’s to Peka Peka Project and the character of the surrounding landscape.

Native vegetation clusters - there are clusters of vegetation which are likely to be affected by the Expressway Mitigation measures will need to be put in place.

Specific objectives:
• Create good quality local connections. Consider the possibility of the proposed new local arterial following the natural topography, to minimise effects on the landscape and achieve a visual buffer between the local road and the Expressway.
• Where practicable, protect the sand dune character and quality of the rural environment, or mimic and reflect the landform and sand dune characteristics through the design and shaping of earthworks.

Protect native vegetation clusters where possible, by minimising the Expressway footprint, and mitigate if vegetation is removed. Mitigation could include connecting remaining clusters to form one large stand of vegetation, or expanding on a remaining cluster, to form a more sustainable, diverse plantation and habitat.

At the bend of Mary Crest, there is mature vegetation amongst low rounded dunes. This is an important landscape feature of this sector, so if possible, there should not be any structures which will impede on these views, or compete with the rolling topography of the area.

Retain significant bush remnants where possible. It is important to note that the Expressway alignment has been reconfigured through Mary Crest to avoid significant bush remnants.

Expressway
Property access (existing SH1)
Local connections
Local arterial road
NIMT railway
Mary Crest bush remnants to be retained

Figure 27 Peka Peka to Mary Crest Project sector
Refer to engineering drawings in the AEE report for further detail.

Figure 29 Refer to engineering drawings in the AEE report for visualisation

The interchange at Peka Peka shown indicatively below will be determined as part of the Mackay’s to Peka Peka Project.
Figure 28. Existing site looking south along the existing SH1 at Mary Crest

Figure 29. Visualisation looking south along the local arterial at Mary Crest

Refer to Figure 27 for viewpoint location
5.2 Te Horo

Te Horo is a small rural community located near the southern end of the Project Area.

The urban form is a simple linear development, with the main community functions (church, community hall, primary school, rural fire station, tennis club, etc) structured along School Road to the east. Along the western side of the existing SH1 is a mix of market garden stalls, Red House Cafe and residential properties.

The School Road functions to the east and the market gardens (and Red House cafe) to the west are at right angles to each other and severed by the existing SH1 and NIMT railway rail corridor. Gear Road to the south offers local access and is currently linked to School Road parallel to SH1.

There is also Te Horo Beach settlement on the coast, which is accessed off the existing SH1 via Te Horo Beach Road, but also accessible via the Peka Peka turn-off.

In urban design terms there is an opportunity with the Project (including the extended School Road) to create better community connectivity for Te Horo across the transport corridors and ease the existing severance issues.

**Key issues:**
- Severance and community connectivity - Access between School Road, (main community facilities), SH1 businesses and properties, and Te Horo Beach (a residential area of Te Horo).
- Business viability.
- Potential landlocked sites.
- Native vegetation clusters - there are clusters of vegetation which are likely to be affected by the Expressway.
- Current and future land use.

**Specific objectives:**
- Create a good quality pedestrian, cycle and vehicular connection across the Expressway and rail corridors for local movements. At Te Horo, a bridge structure across the Expressway only needs to allow for shared pathway along one side of the structure, due to low demand. Horse riders should be able to use this shared path across the bridge, provided they are dismounted (this keeps barrier heights reduced to the 1.4m required for cycle paths).
- Protect native vegetation clusters where possible, (e.g. those adjacent to Te Waka Road), by minimising Expressway footprint, and mitigate if vegetation is removed. Mitigation could include connecting remaining clusters to form one large cluster, or expanding on a remaining cluster (particularly any new exposed edges of remnant bush), to form a more sustainable, diverse plantation and habitat.
- If practicable, ensure the Te Horo Underpass (see Figure 32) is not a statement structure and respects the rural character.
- Minimise residual or landlocked spaces by keeping the Project corridor as tight with the NIMT railway and local road alignments as practicable, while still allowing future NIMT double tracking and appropriate screening and separation where required.
- Protect the sand dune character and quality of the rural environment.
- Consider possible uses for the residual area of land between School Road and the Te Horo Underpass. Possible treatments could include planting the area for ecological mitigation, or treating the area as an amenity space with a recreational walkway through it.
- Protect the character and quality of the rural environment. This includes the design of bridge structures, so as to sit within the rural context.

![Diagram of current Te Horo Project sector with Expressway overlay](image)

Refer to engineering drawings in the AEE report for further detail.
Figure 31. Existing view looking north along the local arterial at Te Horo, towards the proposed Te Horo Underpass

Figure 32. Visualisation looking north along the local arterial at Te Horo, towards the proposed Te Horo Underpass

Refer to Figure 30 for viewpoint location
**Severance and community connectivity**

The Te Horo community is already bifurcated by the NIMT railway and the existing SH1. The Project will increase the width of this transport corridor, adding a further sense of visual separation between the east and west communities. However, a good quality pedestrian, cycle, and vehicular connection across the corridor may reduce the functional and social separation of the two sides of Te Horo.

At consultation, two options were tabled for the community to provide feedback on. Proposal A provided a direct connection between the Te Horo communities on either side of the existing SH1 and would have improved the pedestrian and cycling connectivity. Proposal B minimised the physical effects on local property and business. The community response indicated a strong preference for Proposal B even though it would create more residual space and a less direct route for local journeys. As a result, Proposal B is now the preferred option. Refer to Figure 33.

**Business sustainability**

Future residential growth is to be discouraged at Te Horo (as discussed on the following page), and existing SH1 businesses’ exposure to through-traffic will be reduced. This is likely to have an effect on some of the businesses (especially those relying on through-traffic), so it is important to provide easy legible access between the proposed east-west link and the local arterial (existing SH1). Good connections between these two local routes will improve the environment for businesses along the new local arterial road.

The mix of business along the existing SH1 may change due to the nature of traffic flows, so the quality and character of the area will be an important consideration for any enhancements as part of the SH1 Revocation Project.

Refer to Figure 34.
Potential landlocked sites

The Project will create a large residual spaces at Te Horo (as indicated on Figure 35), due to the approach geometry from School Road to access the bridge. It is important to consider the options for this space, which could include planting the area for ecological mitigation, or treating the area as an amenity space with a recreational walkway through it.

The Expressway will sever access to properties along Gear Road. A new Gear Road connection is proposed to sit parallel to the Expressway to ensure that properties do not become landlocked, and to ensure access and viable street frontages can be achieved again.

Current and future land use

KCDC has outlined a desire for residential growth at Te Horo to be discouraged (to protect the rural character of the area), and that agricultural and horticultural development is to be encouraged (to utilise the fertile land of the area). As mentioned previously in the ULDF, discouraging urban growth at Te Horo was a contributing factor to the design of the Project interchanges.

Future potential: shared recreational pathway between Te Horo and Otaki

As shown in Figure 35, there is an future opportunity to create a shared pathway (perhaps including bridleway), linking Te Horo and Otaki. Some of the road width of the local arterial could be utilised for this pathway. This recreational corridor could tie into existing amenities, such as the Otaki River walkways, the rest area on the southern bank of the Otaki River, the Red House Café, the Mangaone Stream, Brown Sugar Café, the various businesses along the existing SH1, as well as the proposed Otaki Lake development.

The Expressway diverts through-traffic away from the existing SH1 businesses, whereas the proposed pathway could re-establish a new form of traffic to mitigate some of the loss of business.
5.3 Otaki

In Otaki, much of the retail development is linear and follows the existing SH1 corridor so that large numbers of commercial properties abut or are in close proximity to the highway. An older retail centre (the Main Street Town Centre) is located approximately 1km to the west of the existing SH1, catering for local residents needs - i.e. groceries.

The Main Street Town Centre is equidistant from the existing SH1 and Otaki Beach. Industrial development is located on either side of Riverbank Road along the northern bank of the Otaki River. This industrial development has a regional focus, and the Otaki Vision document expresses a desire to enhance and grow the industrial development.

The majority of residential development is located to the west of the existing SH1, east of the Main Street Town Centre. There is also a smaller residential area, disconnected from the main urban area (due to severance caused by the existing SH1 and NIMT railway) located east of the existing SH1 near the Waitohu Stream and elevated above on a local plateau.

As part of SH1 Revocation project, the opportunity arises to upgrade the new local arterial road (especially in the Railway Retail Area and Arthur Street), to ensure a pleasant shopping experience, and to ensure the viability of commercial businesses. This includes parking and streetscape improvements (refer to Section 5.4).

Key issues:

- Severance and community connectivity
- Current and future land use
- Local and regional gateways
- Potential landlocked sites
- The quality of the urban environment
- Business sustainability

Specific objectives:

- Create good quality connections across the Expressway and NIMT railway corridor.
- Create and emphasise legible routes and networks across the corridors - e.g. smaller ‘loop routes’ along pedestrian desire lines reinforce connections and choices.
- Create a sustainable, viable community.
- Enhance external (Regional) access and consider opportunities for improved internal (local) connectivity
- Emphasise the quality (design, material) of the urban environment – including around new interchange(s). The interchange should complement the context of the wider built environment.
- Reduce ‘sterilisation’ and residual spaces created by single focus on only vehicular transport modes.
- Encourage industrial development along Riverbank Road by providing legible, easy access for heavy vehicles.
- Encourage residential development to ‘radiate’ from the Main Street Town Centre and the ‘Railway Retail Area’, within the containment zones outlined in Figure 5B.

Create visually strong gateways to the north and south of Otaki, between the off-ramps and the natural containment lines of Otaki Township (the Waitohu Stream and the Otaki River). Ensure that views of Otaki River are still possible from the Expressway, as the river itself is a gateway marker. Refer to Sections 4.2.1 and 4.2.3 of this ULDF for more detail.

Refer to Section 5.4 for details specific to the Otaki Railway Retail Area.
Figure 36. Diagram of current Otaki Project sector with Expressway overlay

Refer to engineering drawings in the AEE report for further detail.

- Local arterial (existing SH1)
- NIMT railway
- Indicative Expressway location
- Local connections
- Retail/commercial area
- Industrial area
- Residential area
- Stream/waterway
- Green space / recreation space
- School
- Commercial horticulture
- Ecological heritage area
- Clusters of localised vegetation
- Otaki River flood plain extents
Severance and community connectivity

Figure 37 covers the same severance and connectivity issues as Figure 5A, but in more detail, at the local Otaki level.

Additional to the information provided with Figure 5A, Otaki requires legible, efficient routes and networks across the Expressway corridor, as well as within the developed areas on either side. It is important that connectivity networks are not just focused on vehicle movements, but also cater for pedestrians and cyclists - especially around schools and recreational areas. The proposed Rahui Road Underpass, North Otaki Interchange and South Otaki Interchange enable this connectivity to occur.

It is important that significant emphasis is put on the diagonal desire line between the two main residential areas separated by the Project and the new local arterial road, and the east-west connection along Rahui Road and Mill Road. There are numerous recreational facilities, schools, residences and businesses which are all accessed by this existing arterial pedestrian, cycle and vehicular route - including the Main Street Town Centre.

KCDC have outlined a number of plans for the future, which will need to be considered during design. For example, the Otaki Lake development adjacent to Winstones Aggregates will require local access in the future, so this should be considered during the detailed design phases of the Project.

Rahui Road and Mill Road are peripheral to built-up areas on both sides of the existing SH1 and NIMT railway corridors. Nevertheless, the two roads provide the traditional link between the east and west sides of the town. Their peripheral location has one advantage - the grade separated Rahui Road Underpass is slightly displaced from the heart of the commercial District, so the ramps are not so disruptive. Furthermore, the proximity of Pare-o-Matangi Reserve means that parts of a grade-separated link can be incorporated into the reserve's landscape.
Local and Regional gateways

It is important for business viability and for sense of place that legible gateways are created, acknowledging the entry into Otaki. Gateways, together with appropriate destination signage will encourage impulse shoppers to leave the Expressway to visit the outlet shops at the Otaki Railway Retail Area. Gateways should be part of a series of visual transition points and informal cues along the corridor to make travellers aware they are approaching the town and the Region, and the change in environment.

With the proposed interchange configurations (and gateway zones, shown in Figures 38, 39 and 40) at North and South Otaki, Northbound Expressway users will be able to leave the Expressway, visit the Otaki Railway Retail Area (or Clean Tech area), and then access the Expressway again to continue to northbound without having to ‘double back’ to get to the Expressway. The same applies for southbound Expressway users.

The gateway into Otaki from both sides is currently understated. Formal planting, landscape treatments, signage (and perhaps local artwork and lighting) should be designed between the approach to the off-ramps and the natural thresholds of the Waitohu Stream (for the northern gateway) and the Otaki River (for the southern gateway). It is important that formal gateway markers and treatment occurs well before the off-ramps so that motorists have time to make the decision to enter Otaki. Views of the proposed Otaki Lake and the increasing frequency of urban areas travelling south on the Expressway could become part of an extended Regional gateway sequence into the Kapiti Coast for Expressway users.

There are natural urban containment lines provided by the waterways of the Waitohu Stream to the north and the Otaki River to the south. Open views towards these waterways/containment should be enhanced as they are part of the gateway experience entering and exiting Otaki. Images depicting the ‘before and after’ of the South Otaki Interchange area is shown in Figures 42 and 43 respectively.

Refer to Drawing Sheets LA01 and LA03 in Appendix A for more full landscape plans, showing the gateway zones.
Future potential: recreational loop

The Otaki Vision document expresses a desire to enhance the local waterways, increase understanding of local culture and heritage and improve access to recreation. A future KCDC cycle and pedestrian (and possibly bridleway in some sections) as shown in Figure 41 would create the opportunity to improve access to and knowledge of Otaki's assets and heritage. This idea could also be extended to incorporate riverbank walkways along the town's southern margins.

The loop could tie into:
- existing bridleway route along Waitohu Valley Road
- waterways of Waitohu Stream, and Mangapouri Stream
- the heritage 'Pipi Trail'
- Haruatai Park
- Pare-o-Matangi Reserve
- Main Street Town Centre
- Otaki Racecourse
- Otaki Domain
- the historic Old Coach Road route
- the existing walkway from Mill Road to the Railway Station
Figure 42. Existing site
Figure 43. Visualisation of the Project from South Otaki Interchange

Refer to Figure 36 for viewpoint location
5.4 Otaki Railway Retail Area

The Otaki Railway Retail Area raises the Project’s most important urban design issues. The Project skirts the retail area and passes between two built-up areas.

South of Arthur Street, the NIMT railway provides a clear edge to the town’s commercial centre. As the Project follows the eastern side of the railway alignment, the Project has little additional effects on urban form. North of Arthur Street, the Project bisects the triangular area of open space between the existing SH1 and County Road, removing the eastern half of Pare-o-Matangi Reserve (see Figures 44 and 45). It also directly effects a block of residential development bounded by Rahui Road, County Road and the Mangapouri Stream. By incorporating the area of vacant land adjoining the Otaki Motel (on the west side of the reserve) with the reserve, the enlarged open space provides a very effective buffer between the Project and the adjacent built-up areas to the west.

While this relationship is advantageous for most neighbouring properties, effects on the reserve are significant and will change the character of the open space (see Figures 46 and 47).

The Project will separate the residual open space bounding County Road from the reserve. Earthworks will disturb existing vegetation, vehicle noise may affect the reserve and the Project may be visually intrusive in places, especially if the Expressway is elevated above the natural contours of the site.

At the same time, the reserve will increase in area and will acquire a more cohesive shape. The residual open space on the County Road and NIMT railway margins will be a conspicuous feature on the Expressway, and has the potential to become a key component of a local or...
regional gateway experience for southbound motorists.

It is also noted Mill Road/Rahui Road and the Mangapouri Stream cross the reserve in an east-west direction and therefore have reduced exposure to the Project. On balance, the Project’s relationship to Pare-o-Matangi Reserve is an appropriate response to Otaki’s urban form.

As changes to the reserve are significant, a comprehensive landscape design should be prepared. This design should acknowledge and respect existing planting, some of which has special value for the Otaki community.

However, consideration should also be given to creating a strong contemporary landscape statement which is integrated with the other elements of a gateway experience. There is also scope to further integrate the reserve with the open space south of Rahui Road, the railway station and commercial properties in the Railway Retail Area.

Aside from the reserve, the principal urban design issue at Otaki is severance of the community. It has already been noted in Section 1.6 of this document that the majority of the built-up area lies to the west of the road/rail corridor. This means that the severance issue affects a relatively small portion of the town.

Nevertheless, from an urban design perspective, it is very desirable to maintain the east-west link along Rahui Road and Mill Road, which is achieved with the proposed Rahui Road Underpass (local road bridge over Expressway). The proposed link accommodates pedestrians, cyclists and two-way vehicle traffic. By utilising the historic alignment, the urban form and street pattern is maintained, which is important in overcoming the potential severance effects of the Expressway and NIMT railway corridors. Careful consideration has been given to the design aesthetics of the structure to minimise its landscape and visual effect and tie it into the underlying movement networks.

Finally, it should be noted that the Project allows Arthur Street (which connects the existing SH1 and Otaki Railway Retail Area to the Otaki Railway Station) to become a pedestrian-oriented “axis” which defines the centre of the Railway Retail Area.

Although the railway station may be moved a short distance, the building will retain a strong formal relationship with Arthur Street and the broader Railway Retail Area.

Between Mill Road and Waerenga Road, the new local arterial road can be re-developed (as part of the SH1 Revocation project) to have an obvious pedestrian orientation and a clear ‘town’ character. Centred within this zone, the Arthur Street intersection provides an effective way-finding device for visitors and acts as hub for Otaki.

Key issues:

- Severance and community connectivity
- Current and future land use, especially around Pare-o-Matangi Reserve (and the loss of reserve land)
- Business sustainability
- Access to and amenity of the future Pare-o-Matangi Reserve

Specific objectives:

- Allow for future NIMT railway double tracking.
- Maintain the railway station’s relationship to the line of Arthur Street (i.e. the station should be positioned at the eastern end of Arthur Street).
- Recognise the opportunity to enhance Otaki Railway Station and integrate with the Railway Retail Area.
- Ensure the Railway Station re-orientation maintains as much of the existing parking area as possible, and reflects the original context.
- Integrate Pare-o-Matangi Reserve and the Rahui Road link via the re-development of residual open space between the Otaki Railway Station and Rahui Road.
- Integrate stormwater basins and wetlands into the design of residual and landlocked spaces, creating green fragments or ‘fingers’ and mitigating loss of wetland elsewhere in the Project Area.
- Mitigate effects on Pare-o-Matangi Reserve by acquiring adjacent vacant land with SH1 frontage. Mitigation planting should reflect the amenity of the current Pare-o-Matangi Reserve and use a mixture of native and exotic plants, to provide seasonal colour, structure, and grassed areas for recreation. New vegetation should add to the aesthetic of the reserve, whilst still providing opportunities to enhance ecological values and improve biodiversity, especially around waterways.

As discussed with Keep Otaki Beautiful and KCDC, consideration will be given to early planting, particularly in the proposed reconfigured Pare-o-Matangi Reserve space. This would allow new vegetation to establish prior to the removal of the eastern side of the reserve for the construction of the realigned NIMT railway and Expressway.

Provide legible vehicular, pedestrian and cycle entrance and access points to Pare-o-Matangi Reserve, and utilise the highly visible local arterial frontage to the reconfigured reserve.

The construction of the Project will remove the on-street parking along Rahui Road and the small Pare-o-Matangi Reserve carpark. Consider appropriate alternative vehicular access and parking in the design of the new reserve. The adjacent vacant land acquired for the reserve will provide a frontage to the reserve from the former SH1 and could provide a new legible access and off-street reserve parking area.
Figure 46. The existing view from within Pare-o-Matangi Reserve, looking towards the ‘ramp’ bridge and County Road

Figure 47. The proposed view from within Pare-o-Matangi Reserve, showing the realigned rail, the new ‘ramp’ bridge, and pedestrian connection through the reserve

Refer to Figure 36 for viewpoint location
Severance and community connectivity

Additional to the issue of severance and community connectivity outlined in Figure 37, Figure 48 shows the two dominant desire lines which connect the residential areas of Otaki, which are severed by the proposed Expressway and realigned NIMT railway corridor. These desire lines have been considered during the design of the Project, as Otaki Township will only function successfully if some form of local connectivity is provided, catering to these lines.

It is important to provide safe, efficient access across the severance corridor, connecting Otaki. From a connectivity and urban design perspective, the ideal outcome is to maintain a vehicle, pedestrian and cycle link at Rahui Road, which has been achieved with the proposed Rahui Road Underpass.

Existing pedestrian routes must also be considered in the design of the Project. At a minimum, where the proposed Expressway and/or railway cuts through an existing local pedestrian route, a new pedestrian pathway must be provided, considering safety, efficiency and location, and the previous amenity values.

Future potential: reserves and pedestrian networks

Figure 48 also shows how pedestrian and cycle networks could tie in with the reconfigured Pare-o-Matangi Reserve.

The Project runs through what is currently a small area of residential properties (on the corner of Rahui Road and County Road) and a large portion of Pare-o-Matangi Reserve.

The Expressway and NIMT railway run between two portions of land - one of which is the proposed Kennedy Wetland, the other is the proposed reconfigured Pare-o-Matangi Reserve.

Kennedy Wetland (and the planted former railway bund) will provide a buffer between the County Road residences and the Expressway, while also providing some mitigation for the wetland lost in the construction of the North Otaki Interchange.

Pare-o-Matangi Reserve will be a reconfigured open space for the community to use, with a mixture of native and amenity plantings, and walking and cycling links between North Otaki, Mill Road and the Otaki Railway Station.
Business sustainability

Otaki Railway Retail Area has grown significantly in the last few years as a specialty outlet shopping destination. These businesses are largely reliant on Regional through-traffic. In order for these businesses to survive it is important that a number of things are considered:

1. Legible, efficient access in to and out of Otaki.

   Easy, legible routes to and from Otaki Railway Retail Area from the Expressway are crucial to the livelihood of this area:

   **Entering Otaki:**
   Approaching Otaki, it is important that there is early, easy to read signage and gateways markers, indicating that Otaki is approaching. There should be easy, logical exits off the Expressway which flow towards the Railway Retail Area.

   **Leaving Otaki:**
   Leaving Otaki should follow a clear, logical route, and be guided by signage. Access on to the proposed Expressway should be easily found by someone foreign to the area.

   The proposed North Otaki and South Otaki Interchanges have been design to ensure that access to and from Otaki is legible and efficient. Refer to Section 5.3 and Figures 38 and 49.

2. Streetscape upgrade of Otaki Railway Retail Area.

   Currently the streetscape of Otaki Railway Retail Area is a State highway, and characterised as a sterile, heavily traffic congested shopping environment. With future traffic relief and opportunity for streetscape upgrade (including parking upgrades), this environment could become a pleasant, stress-free shopping destination.

   **Proposed reserve or planted spaces as green ‘fingers’**

   During the design of the Project, some areas of landlocked or ‘dead’ spaces will be created. Where these spaces occur (and offset wetland, landscape or ecological mitigation is required), the opportunity arises to create a series of green ‘fingers’ along the Project (as indicated in Figure 50 through Otaki Township). Along the Project length, these green ‘fingers’ could include planted wetlands, stormwater attenuation, swales, grassed and planted reserve space, shelterbelt or ecological planting.

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**Figure 49. Business sustainability**

**Figure 50. Green fragments**
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