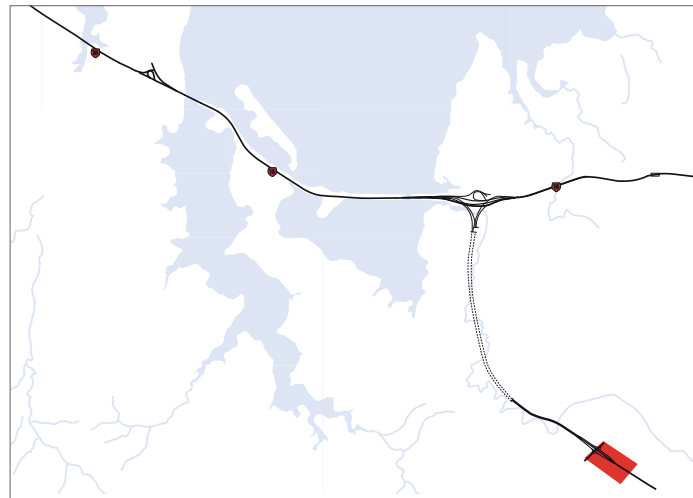


C10 Maioro Interchange



This section of the motorway is not part of the WRR - Waterview Connection and will be complete in advance of that project. It is included here to explain and illustrate the relationships with adjoining Sector 9. Particularly important are: the 'paired' bridge approach to the Maioro and Richardson Road bridge concept design; consistency in noise wall design; and the future redevelopment opportunities for land adjoining the corridor post-construction, to support ACC aspirations for the Stoddard centre.

C10.1 Existing situation

C10.1.1 Movement and connectivity

- A cycle route along the Mount Roskill Extension to this project boundary has been recently completed. This includes an on-road section along Ernie Pinches Street
- A pedestrian / cycle bridge crosses SH20 linking Sandringham Road extension with Ernie Pinches Street. A full diamond interchange will replace the temporary roundabout and connection to Maioro Street
- There are three schools in this area, generating considerable movement and strong desire lines across the motorway. Both intersections north and south of the Maioro Street interchange are on school walking routes

- The Maioro Street extension will become one of the main vehicular access routes to the motorway and is likely to impact on pedestrian amenity and movement between north and south.
- North and adjacent to the motorway corridor is the rail designation for the future Southdown Railway. A rail station by Ontrack is envisaged within this sector, although the final location has yet to be determined as Ontrack and Auckland City Council Future Planning Framework aspirations differ.

C10.1.2 Landscape, planting, views

- An unnamed tributary of Oakley Creek runs through this sector. It is weed infested and views towards it are limited by intervening industrial buildings and topography
- From within the designation corridor the views north are of the backs of large industrial properties
- Views to and from the cone and slopes of Mount Albert are available from elevated streets within this sector
- Existing (new) motorway planting comprises a formal row of poplars on the north, with massed native planting around the existing pedestrian bridge. A bund south of the Maioro Street connection is massed single species flax
- The location and height of existing noise walls has resulted in unsafe spaces at either end of Ernie Pinches Street. These spaces are not well overlooked and the walls in these locations have been repeatedly tagged.

C10.1.3 Structures

- A recently constructed cable stay pedestrian / cycle bridge spans the motorway south of the Sandringham Road extension
- Existing timber noise walls dominate due to their height and extent (walls are in one vertical plane with no relief), are subject to graffiti and contribute negatively to the visual environment.



Figure C-10.72: Photo 10-1 The unnamed tributary of Oakley Creek at the back of the Stoddard Road industrial properties



Figure C-10.73: Photo 10-2 View from Christ the King School towards existing Maioro Street noise wall



Figure C-10.74: Photo 10-3 View west along Stoddard Road towards the proposed Maioro Street intersection

Western Ring Route ▶ Waterview Connection



Figure C-10.75: Photo 10-4 View towards existing noise walls at the end of Ernie Pinches Street



Figure C-10.78: Photo 10-7 View from Ernie Pinches Street towards temporary roundabout and pedestrian overbridge



Figure C-10.76: Photo 10-5 View of existing noise walls and planting at Maioro Street extension



Figure C-10.79: Photo 10-8 View from pedestrian overbridge west towards the proposed interchange



Figure C-10.77: Photo 10-6 View west towards proposed Maioro interchange from Ernie Pinches Street

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Figure C-10.80: Maioro Interchange existing plan

Western Ring Route ▶ Waterview Connection



Figure C-10.81: Maioro Interchange proposed plan

C10.2 Proposed design

C10.2.1 Movement and connectivity

- The design enables the continuation of the SH20 cycleway along the southern side of the motorway, rising with the Maioro Street offramp, crossing Maioro Street at grade and then travelling back down to pass under the Richardson Road bridge and enter Alan Wood Reserve
- The continuation of the off-road cycle path east of the interchange removes the need for the Ernie Pinches on-road section
- Cycling access is provided north and south across the Maioro Street overbridge, both on-road (cycle boxes at signalised intersections) and on a 3m wide shared path
- The Maioro Street intersection is configured to ensure the narrowest footprint, reducing potential severance issues between the residential community to the west and the proposed Stoddard Road growth node. Both intersections north and south of the diamond have had free left turns deleted to improve pedestrian safety. At-grade pedestrian movement is supported by signalised crossings
- The existing Ontrack rail station location is allowed for in this location, although allowance is also made for this to be shifted closer to the Stoddard Road growth node.

C10.2.2 Landscape, planting, views

- A diverse range of native species will be interplanted amongst the existing flax on the southern bund, representative of the coastal lowland forest that would have characterised this area
- A large area of flax planting on the northern edge of the corridor will be available for harvesting for weavers from the Unitec campus
- Completion of the Maioro Street link will see a significantly softened streetscape profile through the introduction of street tree and low shrub planting to both sides of the street between the noise walls and the footpath, as well as median island street tree planting. Planting will be used to address current CPTED issues created by installation of the noise walls
- The stormwater ponds are shown in a temporary location under the Maioro Street overbridge, and these will move northwest following completion of the diamond. The central section is to be finished in gravel to allow for future SH20 enabling works. If these are delayed for any reason this area is to be returned as grass
- Views to Mount Albert will be available from the new Maioro Street bridge.

Western Ring Route ▶ Waterview Connection

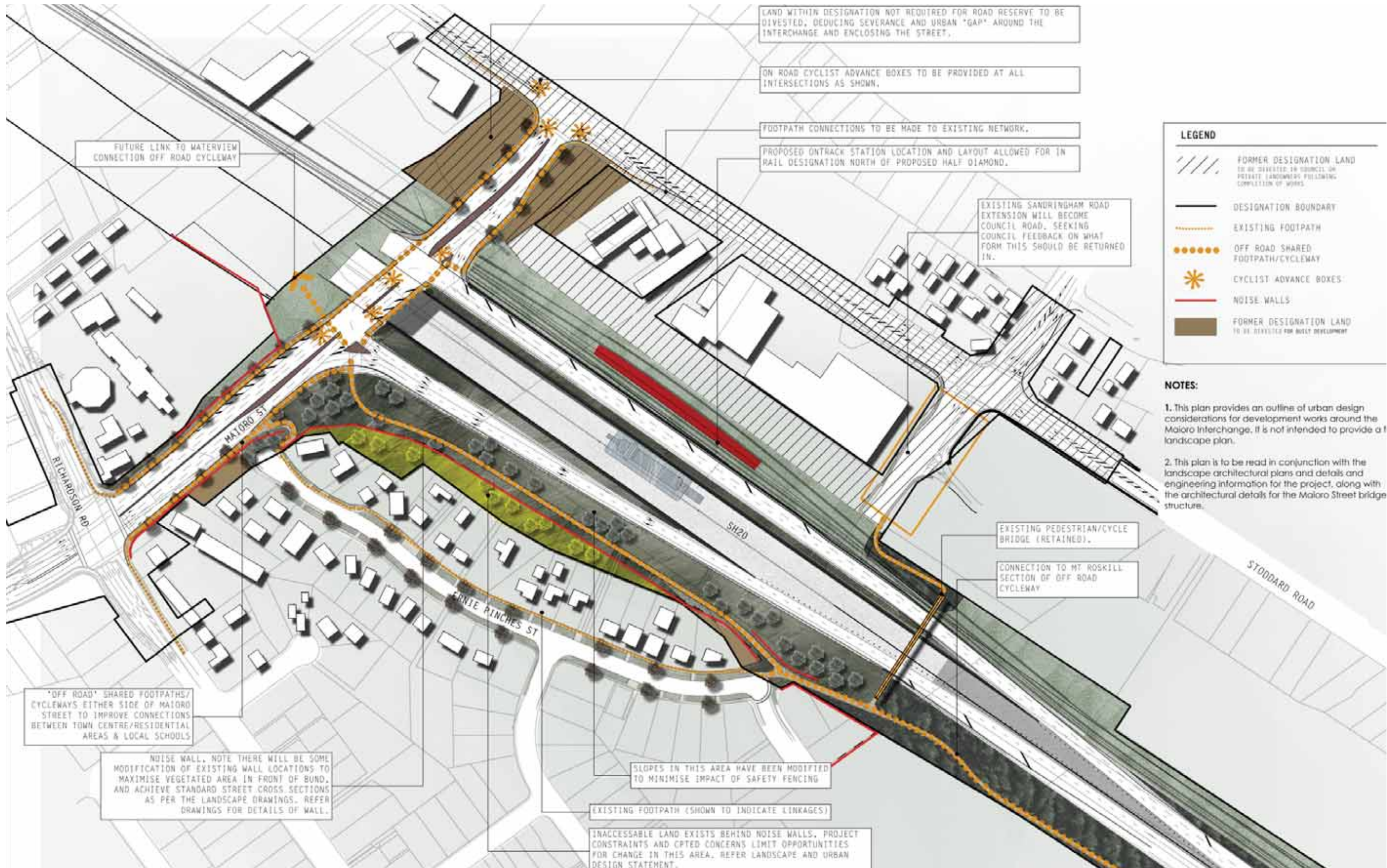


Figure C-10.82: Maoro Interchange proposed connections

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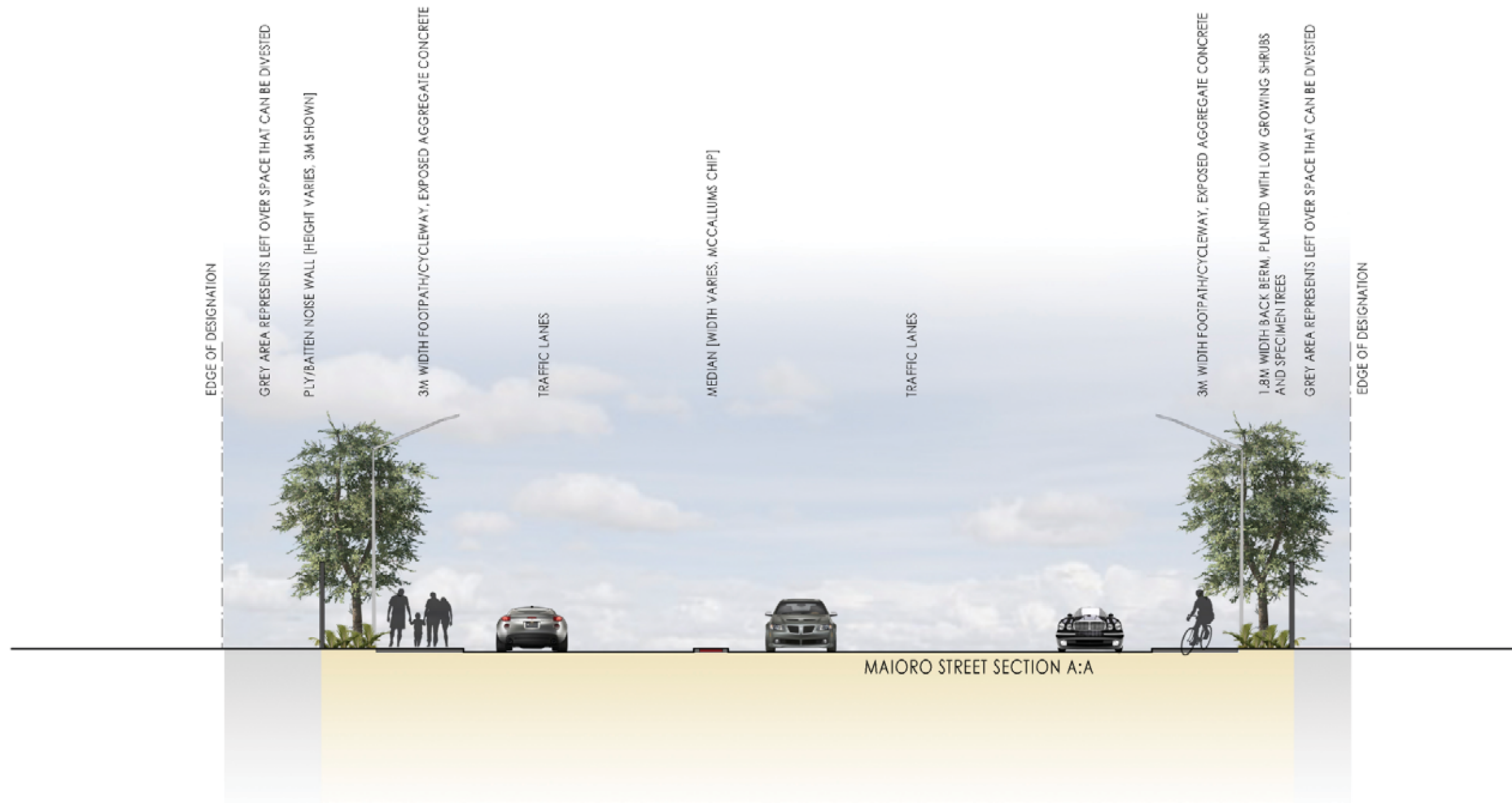
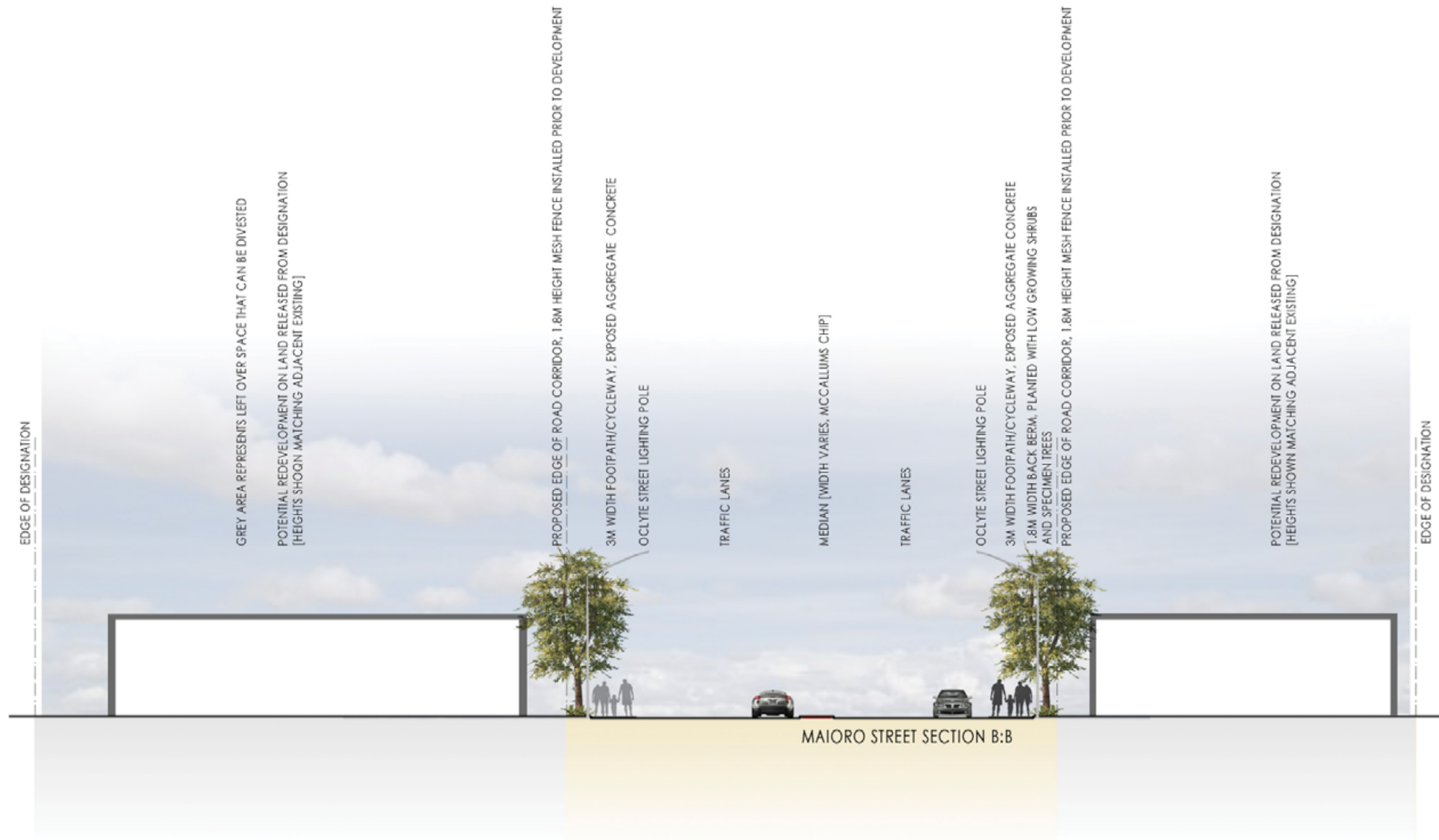


Figure C-10.83: Maioro Interchange proposed Section A-A

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NOTE: THE VACANT LOTS EAST AND WEST OF MAIRO ST ARE TO BE DIVESTED FOR DEVELOPMENT. IN THE INTERIM THEY WILL BE FENCED WITH A 1.8M HEIGHT CHAIN LINK FENCE (BLACK POSTS) AND THE SURFACE GRASSED.

Figure C-10.84: Maoro Interchange proposed Section B-B

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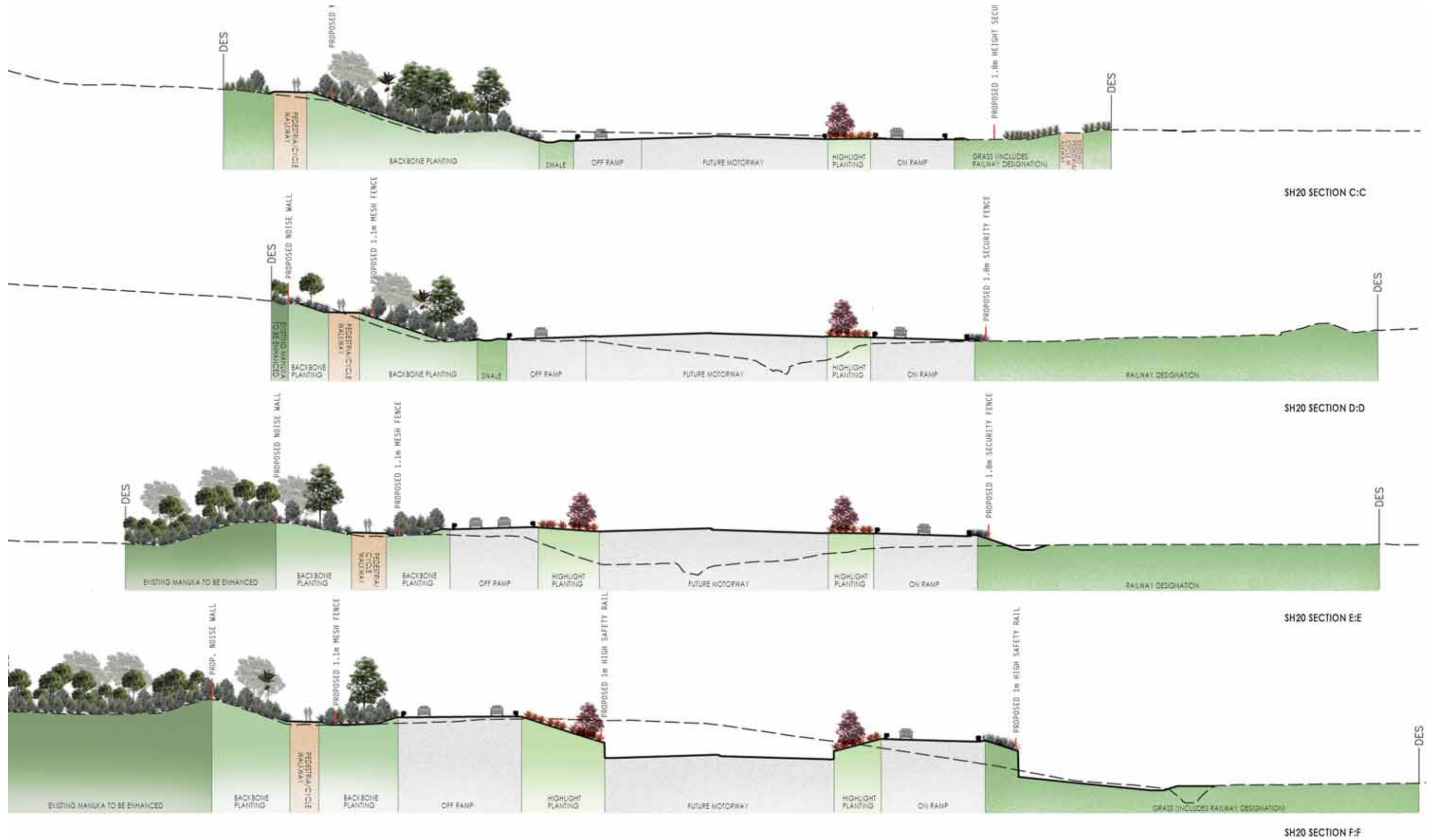


Figure C-10.85: Maoro Interchange proposed Sections C-C to F-F

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C10.2.3 Structures

- On and off ramps will be constructed from the Maoro Street overbridge
- The Maoro Street overbridge:
 - is designed as one of a pair with the Richardson Road bridge heralding the transition from the Mt Roskill section of the Volcanic Highway to the largely tunneled Waterview connection
 - has a barrier design that draws on the ideas of transition and 'shift' associated with the volcanic landscape, with angled panels reminiscent of fractures in the process of change
 - features a blade pier supporting the bridge, with double span and super tee design consistent with SH20 design and Richardson Road bridge
- Retaining walls faced with exposed, angular precast concrete panels reminiscent in their form and dark colour of basalt columns found locally by Oakley Creek
- The existing noise walls will be retrofitted to improve their appearance and reduce their visual dominance.

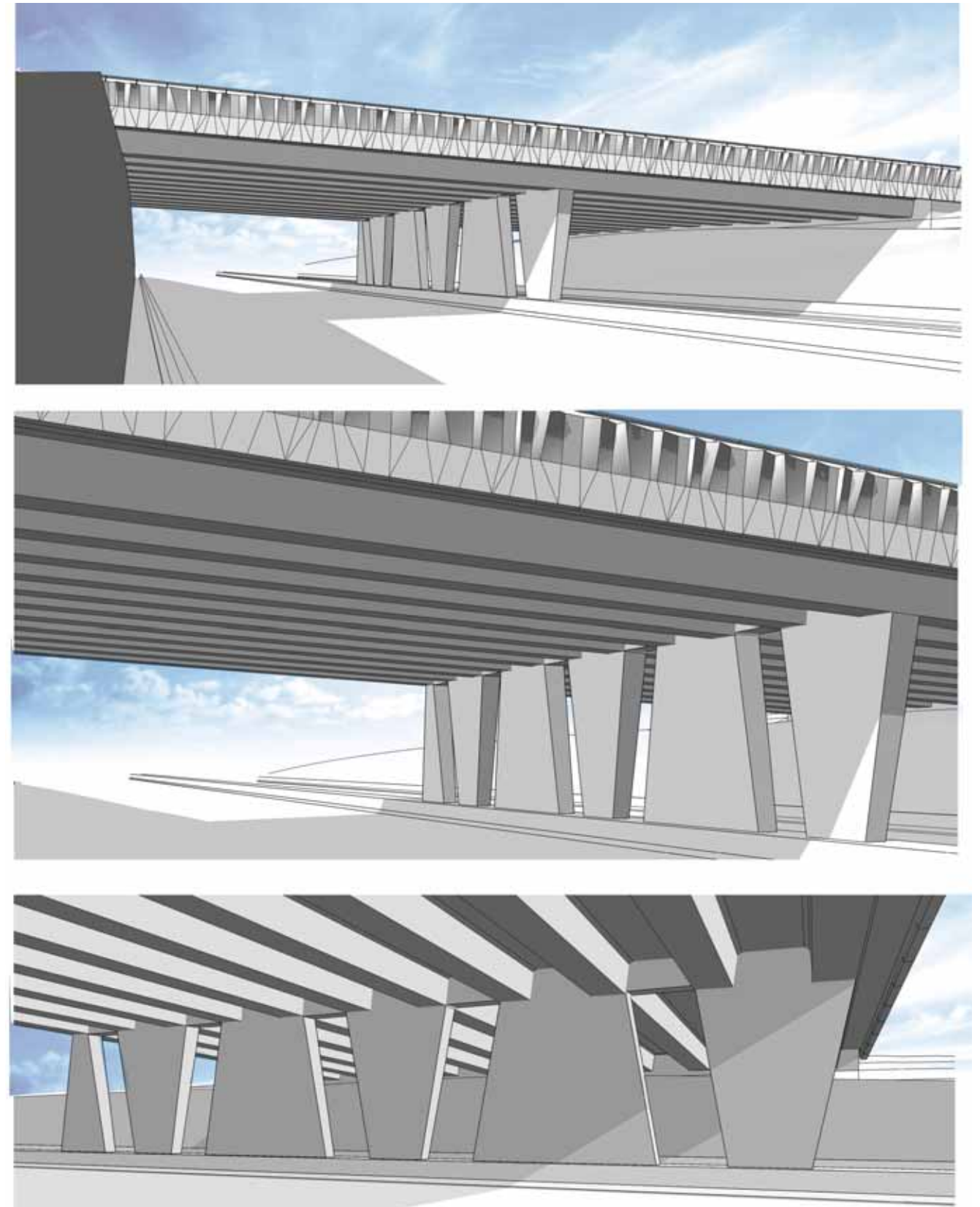


Figure C-10.86: Maoro Interchange – perspective views of Maoro Street overbridge

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Figure C-10.87: Maioro Interchange – perspective sketch, view looking north

Western Ring Route ▶ Waterview Connection

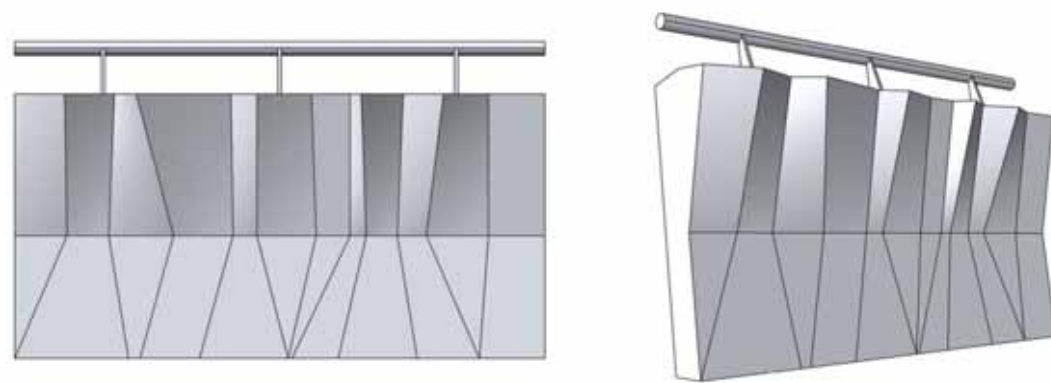
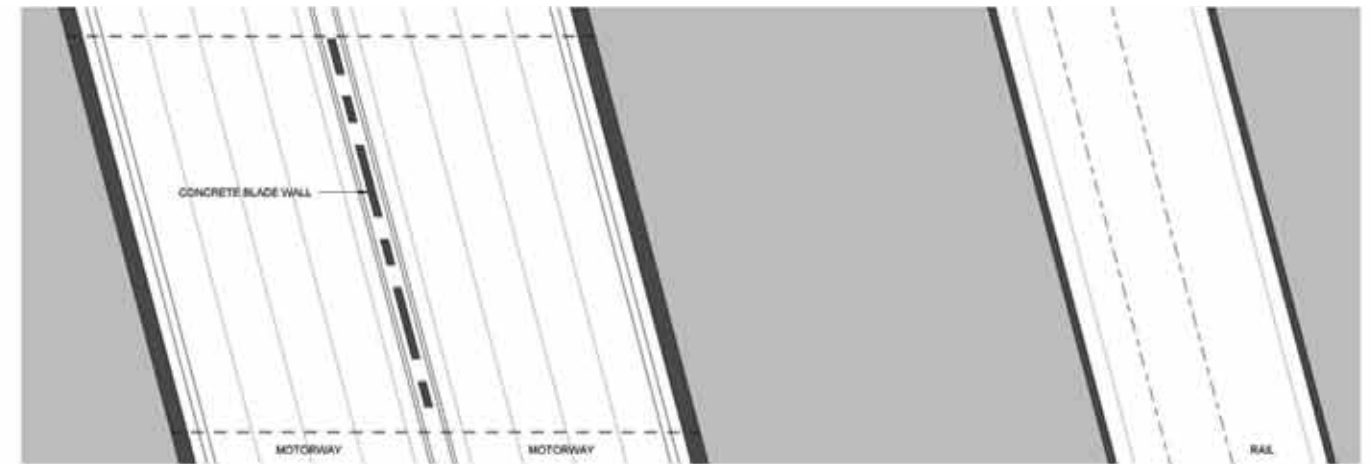


Figure C-10.88: Richardson Road bridge barrier

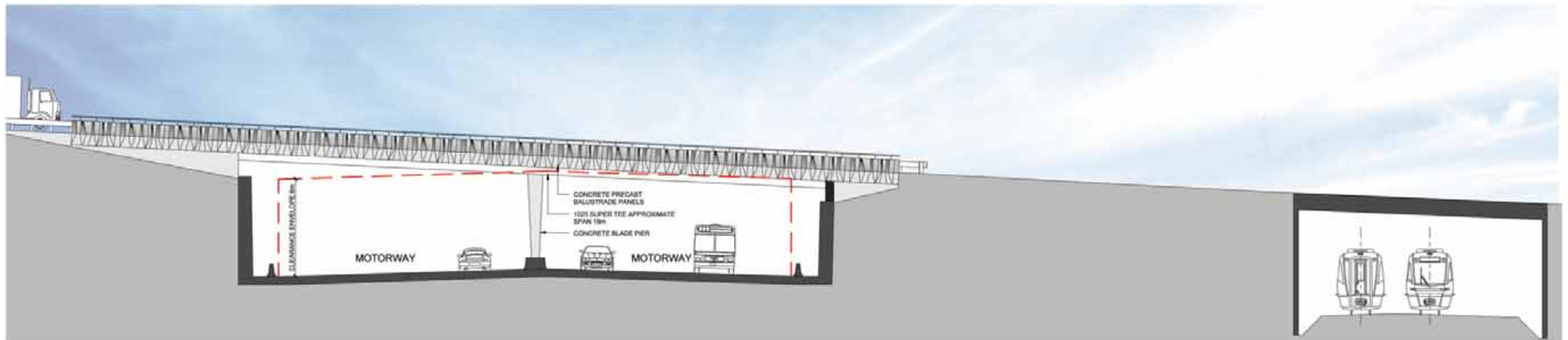
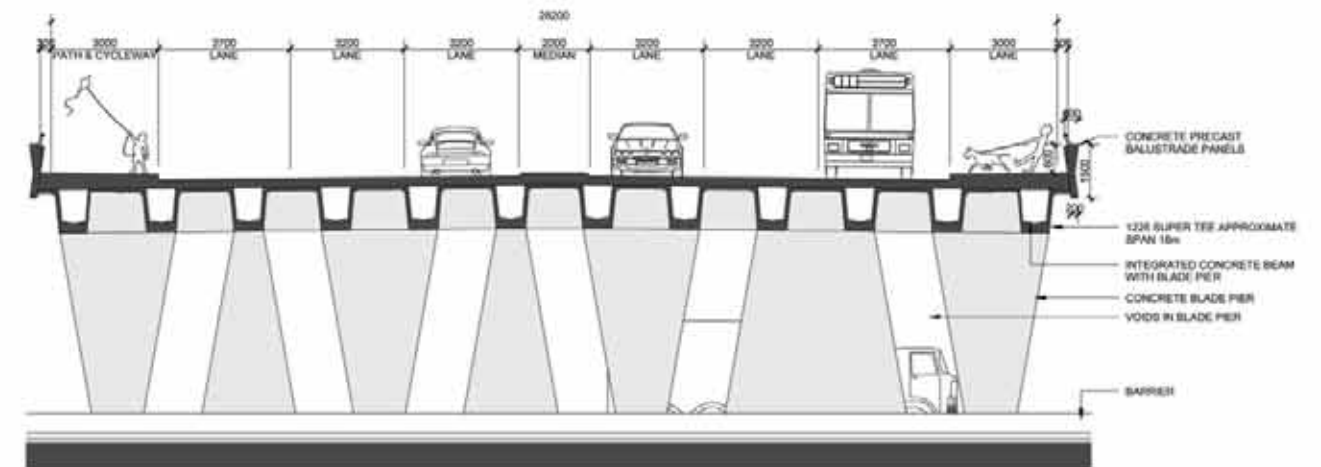


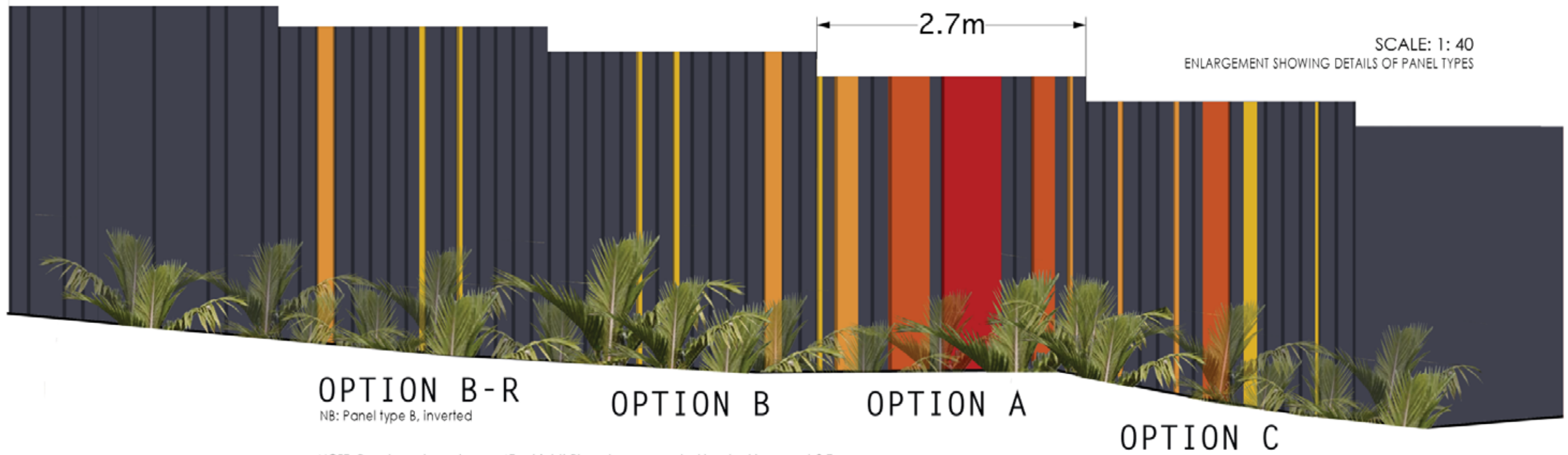
Figure C-10.89: Richardson Road bridge— plan, elevation and part section

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CHANGE IN LEVEL TO BE ACHIEVED USING A STEPPED ARRANGEMENT, IN 100MM INTERVALS - NO FALL BETWEEN PANELS LESS THAN 100MM OR MORE THAN 400MM EXCEPT IN SPECIFIC INSTANCES, REFER ENGINEER'S LONG SECTIONS



INDICATIVE LONG SECTION SHOWING SPACING AND TYPICAL RHYTHM OF PANEL TYPES. NB NOISE WALL 3 IS EXAMPLE SHOWN
Refer also sheet I-5700-006 for cladding details and engineers drawing set for long sections of each noise wall



SCALE: 1: 40
ENLARGEMENT SHOWING DETAILS OF PANEL TYPES

OPTION B-R
NB: Panel type B, inverted

OPTION B

OPTION A

OPTION C

NOTE: Panels are based on an 'Ezyshield' Ply system, supported by steel beams at 2.7m centres, without any need for intermediate noggings or cap rails. 'Back' of fence to be painted Resene 'Nero' and planted with Ficus to adjacent residential property boundaries, and double clad with this ply/batten arrangement where fronting public areas. Refer engineer's details for locations.

Figure C-10.90: Maioro Interchange – noise wall concept: elevations

Western Ring Route ▶ Waterview Connection

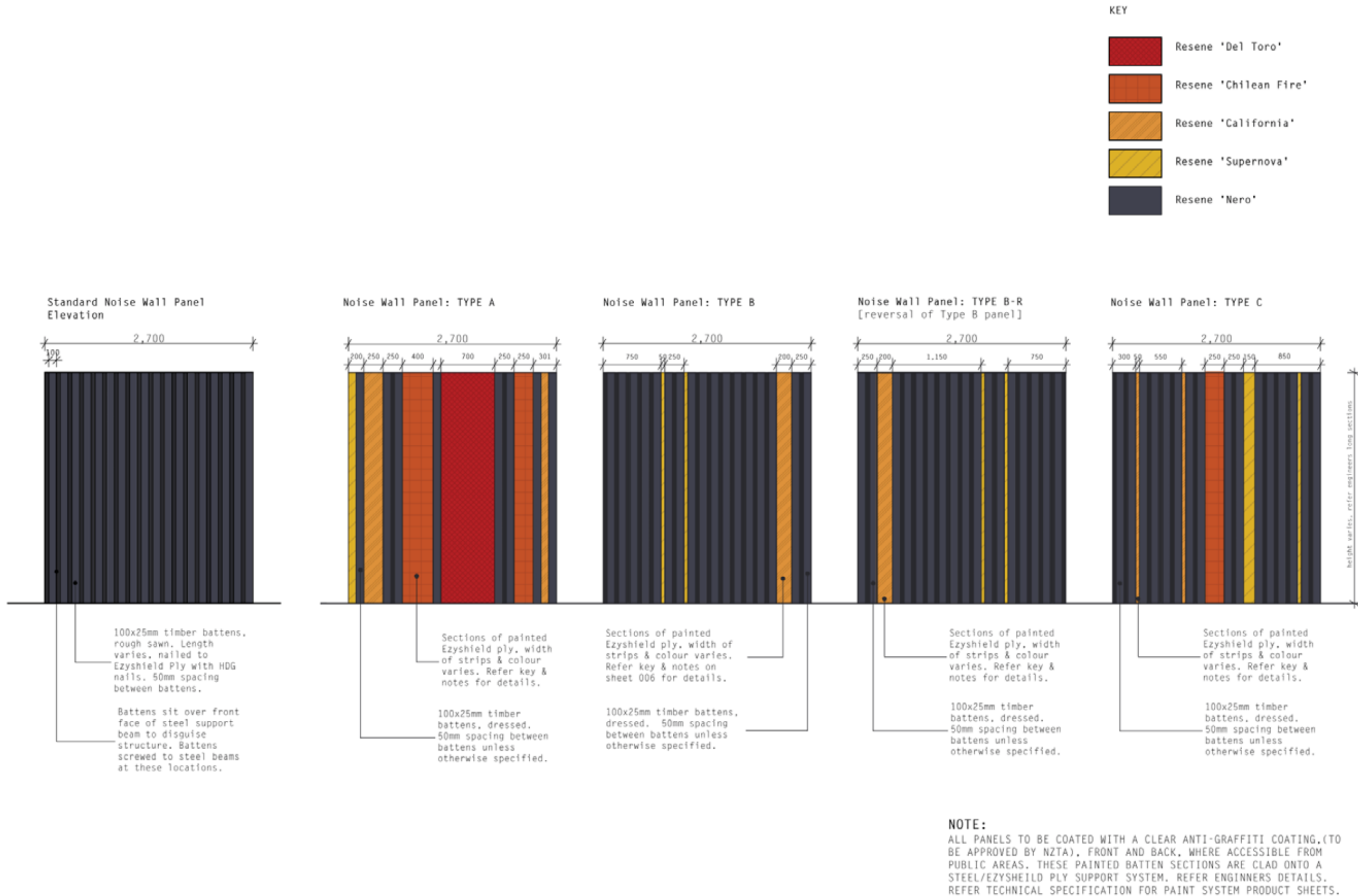


Figure C-10.91: Maioro Interchange – noise wall panel types

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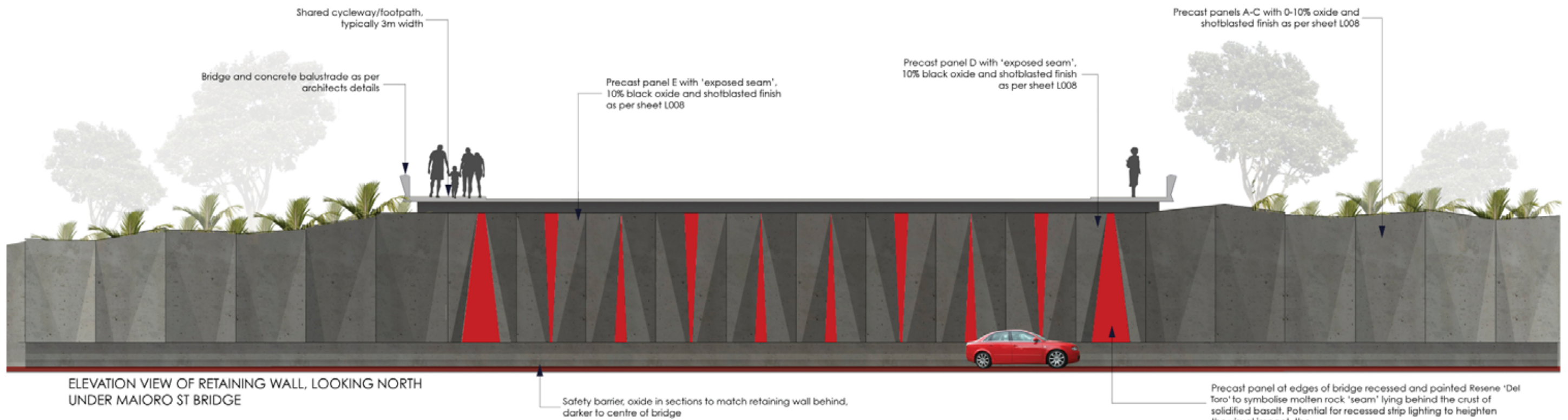


Figure C-10.92: Maioro Interchange – retaining wall concepts: elevation and perspectives

Western Ring Route ▶ Waterview Connection

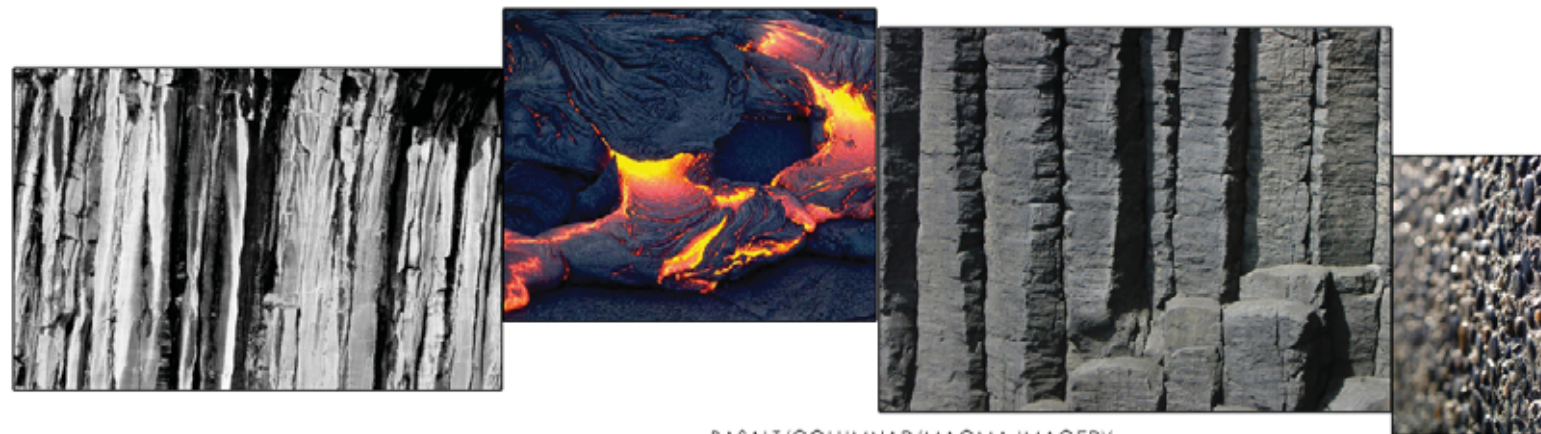
ABUTMENT PANELS AT OUTER EXTENT OF BRIDGE

ABUTMENT PANELS BENEATH BRIDGE (UTILISE SAME MOULD, FLIPPED 180 DEGREES ALTERNATING)

RETAINING PANELS ON SLOPING APPROACH TO BRIDGE - THREE DISCRETE MOULDS IN RHYTHMIC PATTERN AS SHOWN ON ELEVATION AND PERSEPECTIVES (SHEET L-007)



NOTE: REFER TO CIVIL DRAWINGS FOR DIMENSIONS AND CONSTRUCTION DETAILS OF ALL PANELS, AND LONG SECTIONS OF EACH OF THE RETAINING WALLS



BASALT/COLUMNAR/MAGMA IMAGERY

NOTES:

OXIDE TO BE ADDED INCREMENTALLY TO RETAINING WALLS, TO GRADE DARKER AS RETAINING WALL APPROACHES BRIDGE OR TUNNEL PORTAL. GRADE RUNS FROM 0% OXIDE AT BEGINNING OF RETAINING WALL TO 10% BLACK OXIDE UNDER BRIDGE OR AT PORTAL ENTRY.

SURFACE TO BE SHOTBLASTED TO REDUCE IMPERFECTIONS IN CASTING PROCESS, HIDE FIXINGS AND ADD TEXTURE. TESTS TO BE CARRIED OUT TO DETERMINE MOST COST EFFECTIVE AND PRACTICAL PROCESS THAT ALSO RETAINS THE ANGLED LINES OF THE CONCEPT.

DESIGN OF SAFETY FENCES TO BE VISUALLY INTEGRATED WITH WALL DESIGN

THESE MOLDS ARE TO BE RELATIVELY THIN FACING PANELS WHICH CAN BE APPLIED OVER MOST STRUCTURAL RETAINING TYPES, INCLUDING DIAPHRAGM, SHOTCRETE OR MSE.

Figure C-10.93: Maioro Interchange – retaining wall panels