C2 Sector 2 Whau River

Sector 2 works include widening of the motorway across the Whau River crossing, and on reclaimed land near Rosebank Domain. Additional reclamation is proposed to enable improved stormwater treatment, with the additional benefit of relocating the northwestern cycleway further away from the vehicle traffic.

C1.2.1 Existing situation

Sector 2 includes the enlargement of the existing Whau River Bridge to accommodate additional lanes. A separate dedicated cycle/pedestrian bridge is to also be constructed alongside the enlarged Whau River Bridge.

Movement and connectivity

- Local road stops at raceway; off-road cycleway continues westwards.

Landscape, planting, views

- Transition between harbour and peninsular landscape areas
- Views from the mainline to surrounding areas are not promoted due to crossfall, but views to CBD skyline are available from slower eastbound traffic lanes and elevated cycleway.

Urban form

- Residential development to the south along the Whau River, with Te Atatu Boat Club occupying a large area of the foreshore with Bridge Avenue Reserve
- Rosebank Domain is used for vehicle racing, with some buildings and areas of open ground used for spectating.

Structures

- Whau Bridge ramps up towards Te Atatu
- Bridge has a narrow cycle lane immediately adjacent to vehicle lanes and with steel edge barriers
- Pier layout and deck elevation of bridge enables boat passage, boat moorings immediately to south.
Figure C-2.5: Whau River existing plan
Figure C.2.6: Whau River concept plan
C2.1.2 Design concept

Movement and connectivity
- Motorway is widened with an additional lane in each direction and continuous bus shoulders
- Cycleway is separated from the road on a new bridge (Fig C-2.7 to 10).

Landscape, planting, views
- Land reclamation enables inclusion of grassed filter strips for stormwater in the clear zone area
- Saltmarsh species are to be planted into the new ‘rip-rap’ boulders forming the coastal armour on the southern edge of the motorway, as soon as areas of armour are completed to minimise establishment of weed species. In cases where additional boulder armour needs to be provided as part of the contract, for example due to settlement, additional plantings should be provided in the same manner
- Coastal harbour species planted in strategic location on northern edge of motorway
- Strength of existing open views into Waitemata Harbour and southern extent of the Whau River retained through planting and clear zone strategy
- Raised cycleway on retaining wall arrangement at Rosebank Domain gives exposure to views for cyclists, and varies the route experience (refer Figure C-2.11).

Urban form
- No direct change to urban form.

Structures
- New separated cycle and pedestrian bridge: form, colour and detailing consistent with other cycleway bridges to support a ‘whole route’ cycle experience
- Vehicle bridge widened; concrete safety barriers with metal rail above 800mm high (Figure C-2.10)
- New bridge piers align with existing piers to maintain boating channel below. Cycleway bridge may have fewer piers than vehicle bridge
- Retaining wall west of the on-ramp up to 5.5m high, cycleway on top. Wall is bored pile with concrete panels; concrete vehicle barrier at base. Panels complement the horizontal landscape; subtle pattern seeks not to compete with landscape and relates to panels in use on SH18.

Figure C-2.7: Concept sketch of future bridge separation at Whau River (View 3)
Figure C-2.8: Engineering arrangement proposals, Whau River bridges
Figure C-2.9: Concept design, pedestrian and cycle bridge
Figure C-2.10: Proposed vehicle safety barrier
Figure C-2.11: Visualisation of view at Rosebank Domain (View 4)