

Discover & Reveal Zealandia's Takahē Highway

A summer scholarship research project composed with
Zealandia & Victoria University of Wellington.

Student:

Jacob Jenkins

Supervisors:

Jacqueline McIntosh

Bruno Marques

Maria Rodgers



ZEALANDIA™
TE MĀRA A TĀNE



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Setting the scene

Overall aim of this project

This project aims to improve not only Takahē habitat but improve the connection and relationship of us as humans and nature. For a period of time nature has been looked on as a green blanket that we can separate ourselves from. However we should be inclusive of nature. We as humans are part of the natural ecosystem. The birds, plants, insects, water and humans all fit together in this changing jigsaw puzzle that is 'life'. By trying to show that being part of nature and experiencing it is exciting and full of discoveries, this project aims to connect users intimately to our natural surroundings and to some of rarest and amazing birds that are only just holding on to being on this planet. Celebrating and implementing Te Ao Māori is also a key part of this project as the Indigenous outlook of nature and our inherent connection to it is highly inclusive and something to admire and highlight. The importance of these plants and birds is key to the ongoing learning humanity about our natural world and that this is possible anywhere, even in the middle of a capital city such as Wellington.

Design objectives

1. A sense of discovery. Whether that is through us a humans moving through space, seeing, smelling, touching etc. our surrounding environment or a sense of discovering one's self through the landscape as part of nature.

2. Highlighting the natural landscape and its features as a wayfinding machine through Zealandia and the Takahē Lawn. Integration of other wayfinding techniques also.

Are we creating moments of pause? Play? Stop? Moments along the wider journey connect towards the Takahē and Takahē site?

3. Full 100% Indigenous habitat of grasslands, wetlands and shrub-lands that create integrating spaces for Takahē and humans alike.

4. Implementation and recognition of Te Ao Māori. Understanding/inherent connection with our ecosystem and that we are part of the bigger system. Five key principles that best work with this project's aims and goals are:

Treasure †-----† t a o n g a †-----† T a

Genealogy, lineage †-----† w h a k a p a p a †-----† W h

Spirituality †-----† w a i r u a t a n g a †-----† W a

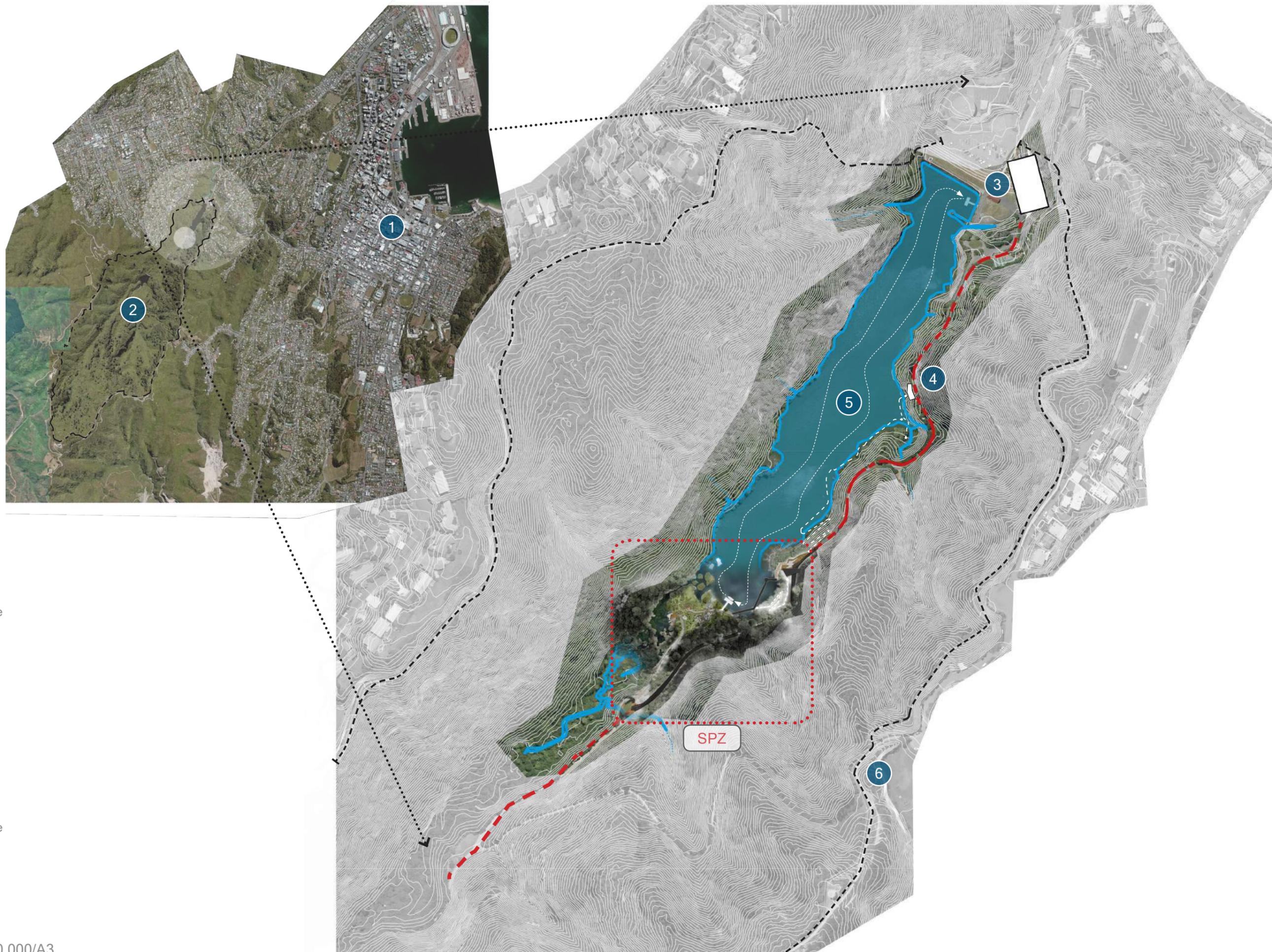
Guardianship †-----† k a i t i a k i t a n g a †-----† K a

K o †-----† k o t a h i t a n g a †-----† Unity

5. Creating connection, engagement, excitement, integrating and learning...

The existing Takahē Lawn lacks uniqueness. The lawn is anti-climatic. We want a space that is known as the 'Takahē Lawn' that fits into Zealandia and no else where in terms of design.

Overall Site Introduction

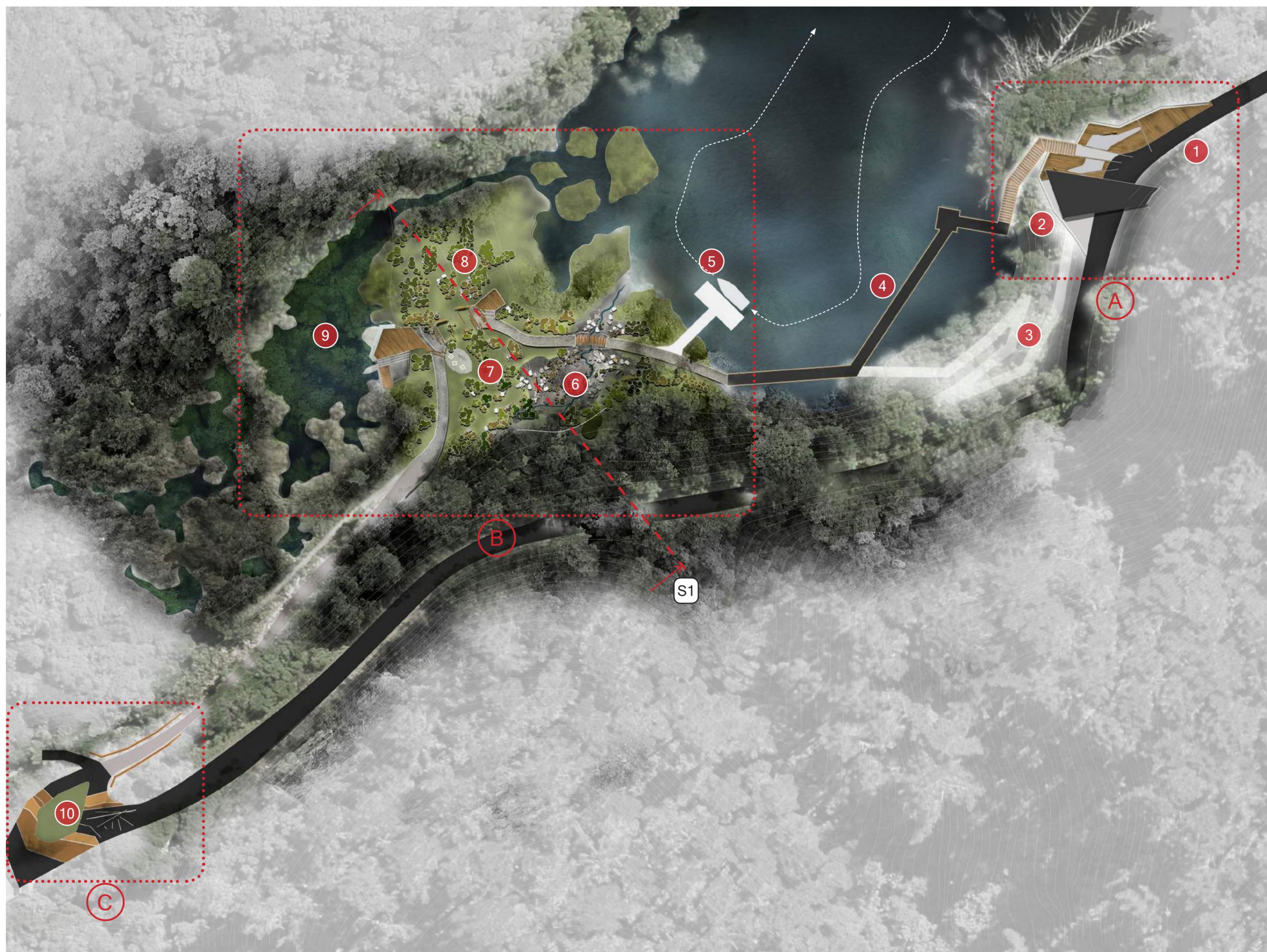


- 1 Wellington City
- 2 Zealandia
- 3 Zealandia Visitor centre
- 4 Main Loop Track
- 5 The Lower Lake
- 6 Zealandia boundary fence
- SPZ Takahē Highway Site Perimeter zone

Scale: 1:3000 & 1:40,000/A3

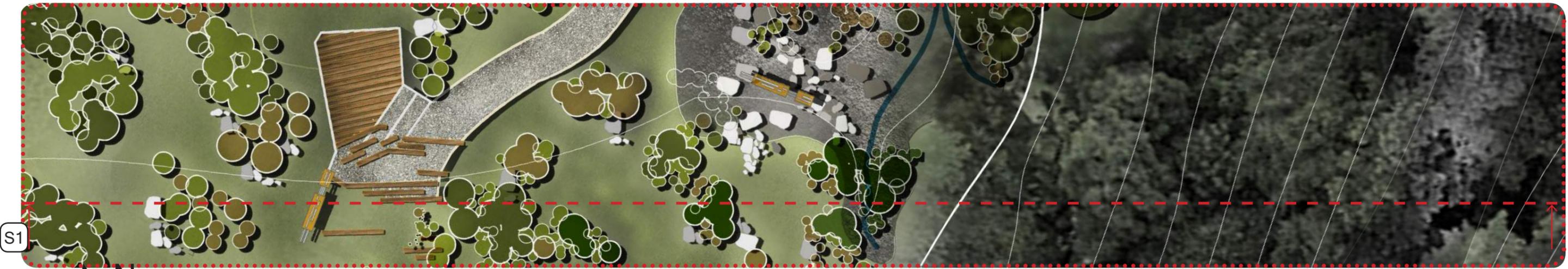
Takahē Highway Masterplan

- 1 Existing Loop Track
- 2 Proposed Northern Entrance
- 3 Alternative disabled access entrance (Conceptual)
- 4 Existing pontoon walkway
- 5 Boat Ramp/entrance to Takahē Highway
- 6 Recovery Stream/Dry swale
- 7 Takahē Highway - People, Takahē, flora
- 8 Takahē Reserve - Takahē zone only
- 9 Wetland/Repo immersion
- 10 Southern entrance (Conceptual)
- A Northern entrance zone, detailed
- B Takahē Highway zone, detailed
- C Southern entrance zone (Conceptual)
- S1 Overall site section (relation between proposed and existing loop track)



Scale: 1:500/A3

Takahē Highway
Overall site section



Scale: 1:200/A3

1

Northern Entrance

This section looks in detail at the first moment the user sees the site. The intention of the changes are to increase the excitement and anticipation if the visitor. The changes include an extension to the entrance, a change in materiality and a realignment of critical view ports to show the lake and site rather than hide it.

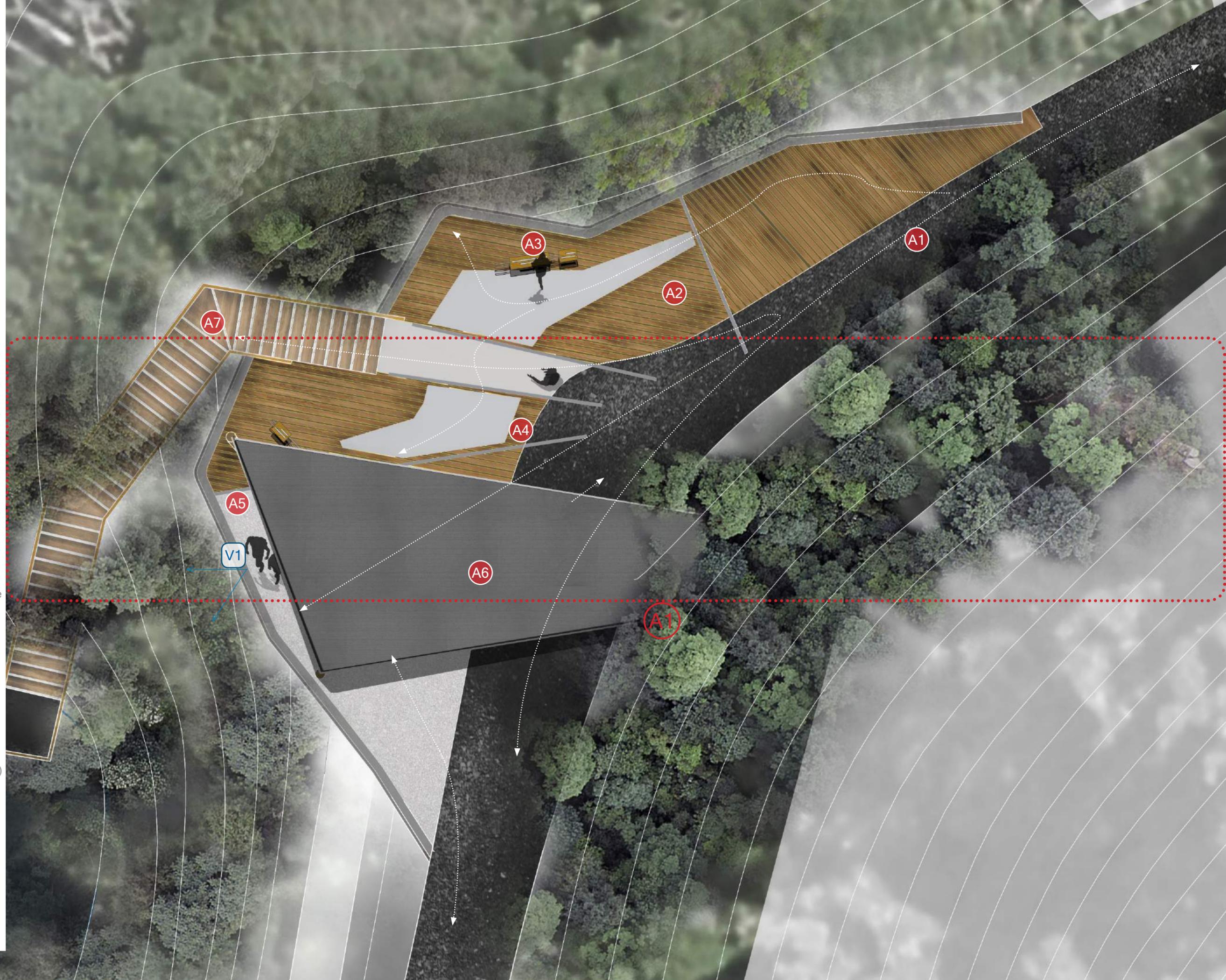
The new entrance aims to offer a pleasant and enjoyable experience for all people with or without disabilities. Shade, seating and views of the lake north and south are all achievable. (A disabled access route is at a conceptual level that would be an addition to this entrance design if plausible).

Northern Entrance: Plan

- A1** Main Loop Track & extension join
- A2** First moment on new extension, towards interactive map
- A3** North-west/Shag lookout view
- A4** Interactive map (Conceptual)
- A5** Takahē Highway lookout view/first opening moment of site
- A6** Collapsible shade sail for users to stand beneath (Conceptual)
- A7** Existing stairwell down to water pontoon/site
- A1** Section reference box (refer to pg.9)
- V1** Visitor Experience moment (refer to pg.10)



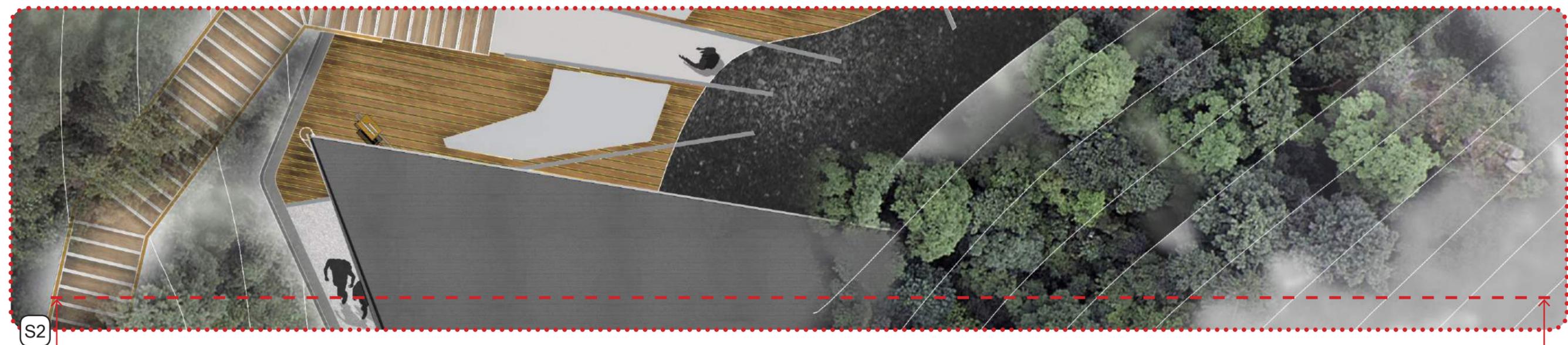
Scale: 1:100/A3



Northern entrance: Section

A1

S2 Extended surface area & change in material aim to hint at that there is something of interest to interact with.



Scale: 1:100/A3



Walking along the main track, the sounds of chirps and swooshes of birds can be heard... a Kaka swooping by, a Kereru swaying heavily amongst the branches. As one keeps walking something changes. One can start to hear the faint but definite sound of trickling water beyond your horizon. As you instinctively look up you can see a change in the environment. The track turns to a cohesive mixture of timber and glass with two posts angled out, summoning you towards them. The sound of the water gets louder, the sound of birds talking to one another somewhere seemingly below you echo. And then it is revealed. The edging of the lake and forested hill outline part to reveal a tussock dominated land buzzing with noise...

2/3

Takahē Highway

Recovery Stream

Wetland Immersion

The next stage of the site is the old lawn itself, now Takahē Highway.

A changing experience of grasses and tussocks dominating the nearby landscape, with the recovery stream piercing through. Children and Takahē together clamber and stand atop the biggest rocks overlooking their environment, the children looking for the Takahē, the Takahē searching for food...

A continuous ebb and flow of native vegetation and informal pathways allow people and birds to roam the same landscape with ease and enjoyment.

Takahē Highway: Plan

- B1** Boat Ramp/Entrance to Takahē Highway
- B2** Entrance via water pontoon. First moment within Takahē site
- B3** Recovery stream opening. First view of stream
- B4** Area of rest & immersion in stream area
- B5** Takahē Highway - Informal pathways for both People & Takahē
- B6** Lake lookout. Reflect back on the landscape & where you came from
- B7** Takahē Reserve/Forest edge
- B8** Colonial relics
- B9** Wetland/Repo viewing
- B10** Wetland/Repo immersion
- B11** Exiting moment towards main loop track
- B1** Section reference box (refer to pg. 13)
- B2** Planting composition examples (refer to pg. 14)
- B3** Planting composition examples (refer to pg. 15)
- V2** Visitor Experience moment (refer to pg. 16)
- V3** Visitor Experience moment (refer to pg. 17)
- V4** Visitor Experience moment (refer to pg. 18)



Scale: 1:200/A3



B1

S3 The proposal of the dry swale/stream adds a layer of discovery to the site, a lost component to this modified landscape. The stream impacts the user straight away as it is eye catching and one of the first elements seen. The arrangement of tussock-dominant planting then takes over with Takahē finding, seeking food and waiting to be found



S3

Scale: 1:100/A3

Takahē Highway: Planting composition

Various stages of the design incorporate planting in different ways. Each planting palette aims to create different experiences for the users whilst still meeting the needs of Takahē. (More information in Appendix 1)

B2

P1 Planting composition zone 1. Full sun.



Veronica parviflora, 7.5%, *Veronica stricta*, 10%, *Poa cita*, 57.5%, *Muehlenbeckia astonii*, 15%, *Austroderia toetoe*, 10%

The gentle ebb and flow of fluid and rigid elements. The light but crisp breeze swaying the grasses in a single motion against its rocky counterparts, the tall stems of toetoe acting as leaders and markers as one makes their way through an open and layered landscape. The rustling amongst the tussocks as you wander past gives a clue that something larger may be hiding here with you in this free flowing landscape...

P2 Planting composition zone 2. Stream side



Poa cita, 30%, *Carex virgata*, 15%, *Carex solandri*, 10%, *Austroderia toetoe*, 5%, *Gahnia setifolia*, 5%, *Phormium tenax* 35%

The high amounts of rocky outcrops and jumping stones lead to a changing landscape. The stream. Is it a dry river bed or gushing with water, weaving in and out of gaps among plants and substrates... Guarded by tall and imposing flax and toetoe make this space one of potential intimacy where you can be with the natural element of swaying plants and the trickling sound of water passing by... Takahē and children alike clamber on the biggest rocks in a uniformed pack manner...



Scale: 1:100/A3

Takahē Highway: Planting composition

Various stages of the design incorporate planting in different ways. Each planting palette aims to create different experiences for the users whilst still attaining to the needs of Takahē. (More information in Appendix 1)

B3

P3 Planting composition zone 3. Full/semi shade



Hypolepis rufobarbata, 25%, Blechnum discolor, 15%, Microlaena avenacea, 10%, Astelia solandri, 5%, Carex virgata, 25%, Blechnum penna-marina, 20%

Hiding within the forest valley fringe, rising ferns of all size and shapes form a new ground plane that offers nooks and crevasses to hide and nest amongst. Their weeping nature start to develop into more structured and upright grasses and sedges as one moves from the shade towards the light. All sorts of food sources are available to choose between; from the ripped up small roots of ferns to the long slender tillers of neighbouring grasses...

P4 Planting composition zone 4. Alternative full sun



Festuca multinodis, 20%, Austroderia toetoe, 15%, Phormium tenax, 25%, Poa cita, 35%, Carex flagellifera, 5%

A more structural planting layout of form and colour, pockets of green, brown and ochre weave together amongst a rocky outcrop. Standing at the back rise the tall and slender flax with their enriched red and yellow flower heads, immersed in the sound and motion of birdlife. Rustling can be heard within the flax as Takahē awaken from naps to feed on tillers in the rocky outcrop.



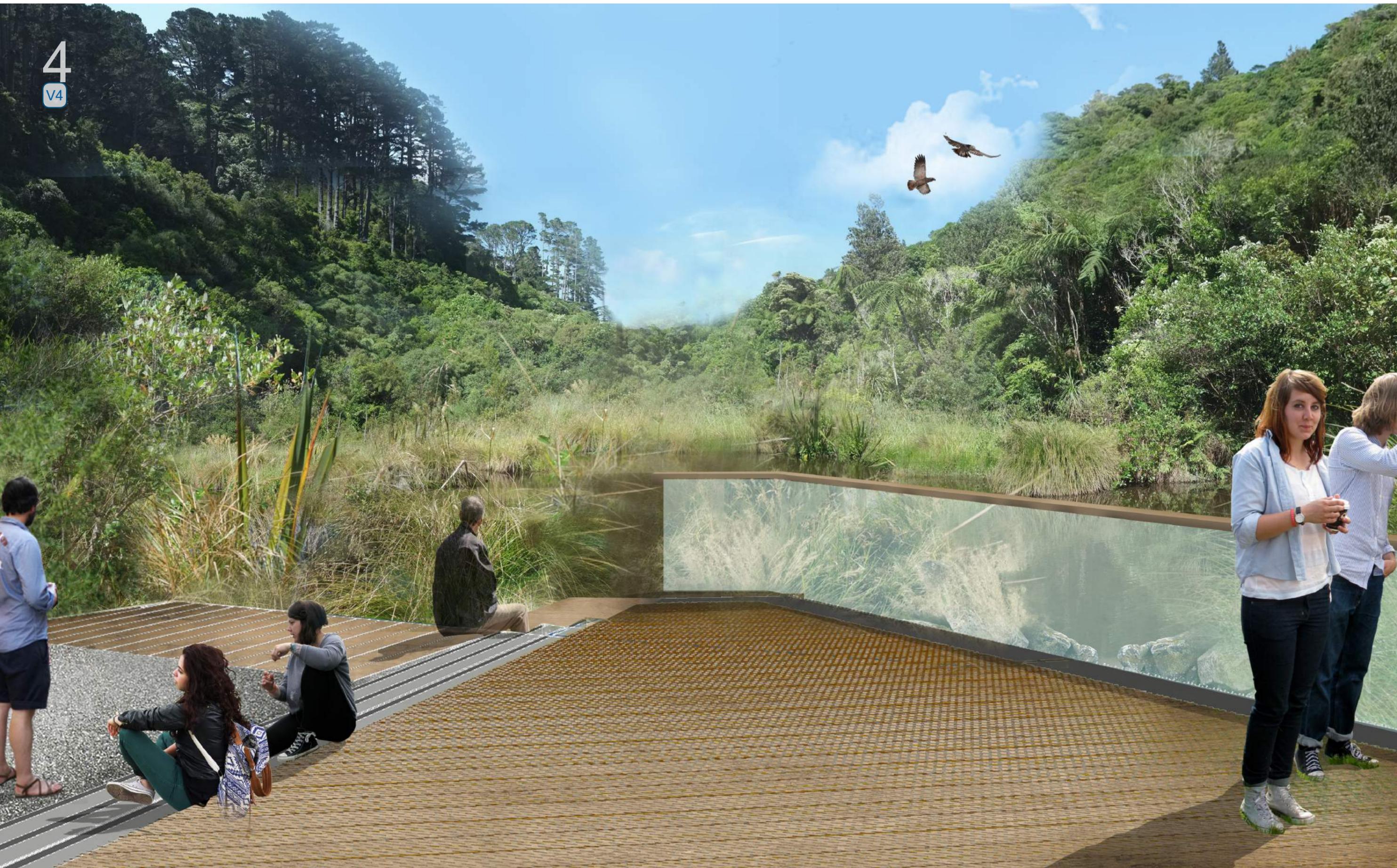
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The gate swings back past you as you arrive back on land after the pontoon walk over the lake. You hear the gentle purr of the boat leaving its ramp as you look around to a mosaic of tussocks, shrubs and rocky outcrops on the forest edge. As one walks forward, the gravel crunching softly but firmly, you start to make out the gravel bed you saw from above as plants and rockery form a stream bed, full of life and things to discover. You look up to see a fellow human looking at you with their finger up to their lips and pointing. Almost simultaneously you hear a large rustling noise closer than one would expect and out appears the star of show, wrestling with a tiller it has prized away from one of many tussocks...



Your first encounter with the Takahē has excited you so much you've raced through the site. In a instant you have passed the Recovery stream and are squeezed between a dense array of plants, small but human sized paths, gravel and grass to the left, and to the right the sweeping views of the lower lake, with a small platform where you can reflect on where you have come from and what you have travelled through to get here. Connecting these landscape moments together enables a reflection on th experiences of you and nature together,



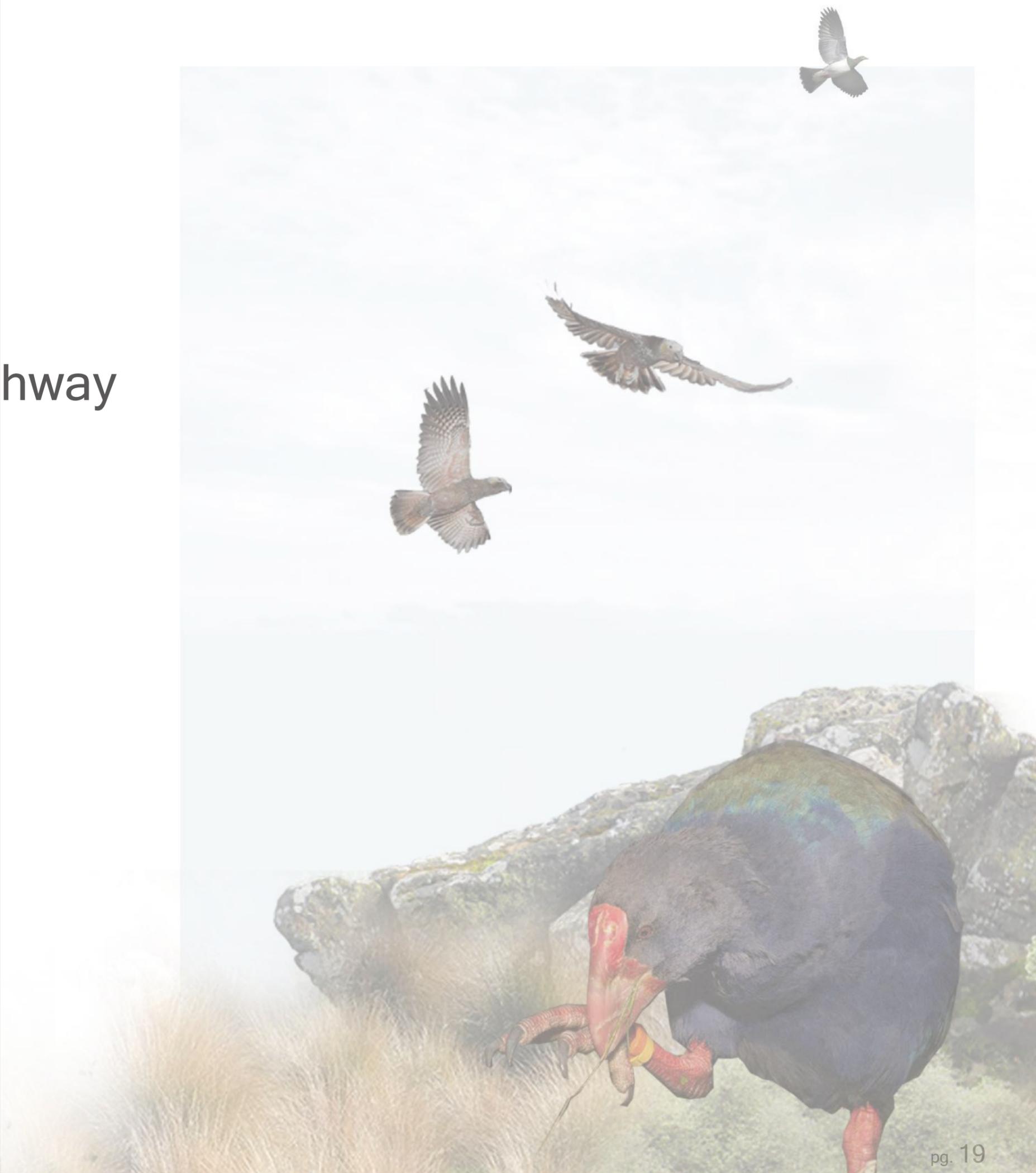
A transformation of space. From being in a bustling area of grasses and trees swaying in the breeze, birds chirping high above and the crackling and rustling of moving Takahē to this. A special moment of still water and complex vegetation that makes up the dynamic landscape that is Repo. Wetland.

You simply lean yourself against the guard rail and take it all in. A simple thing of beauty that was ironically made due to the modification of this landscape you now stand upon. Steps to the side take you further towards the water's edge that looks so inviting to sit by and immerse yourself further in that you can't resist it. It will be many minutes before you move on from this natural wonder...

Appendix 1

Zealandia's Takahē Highway

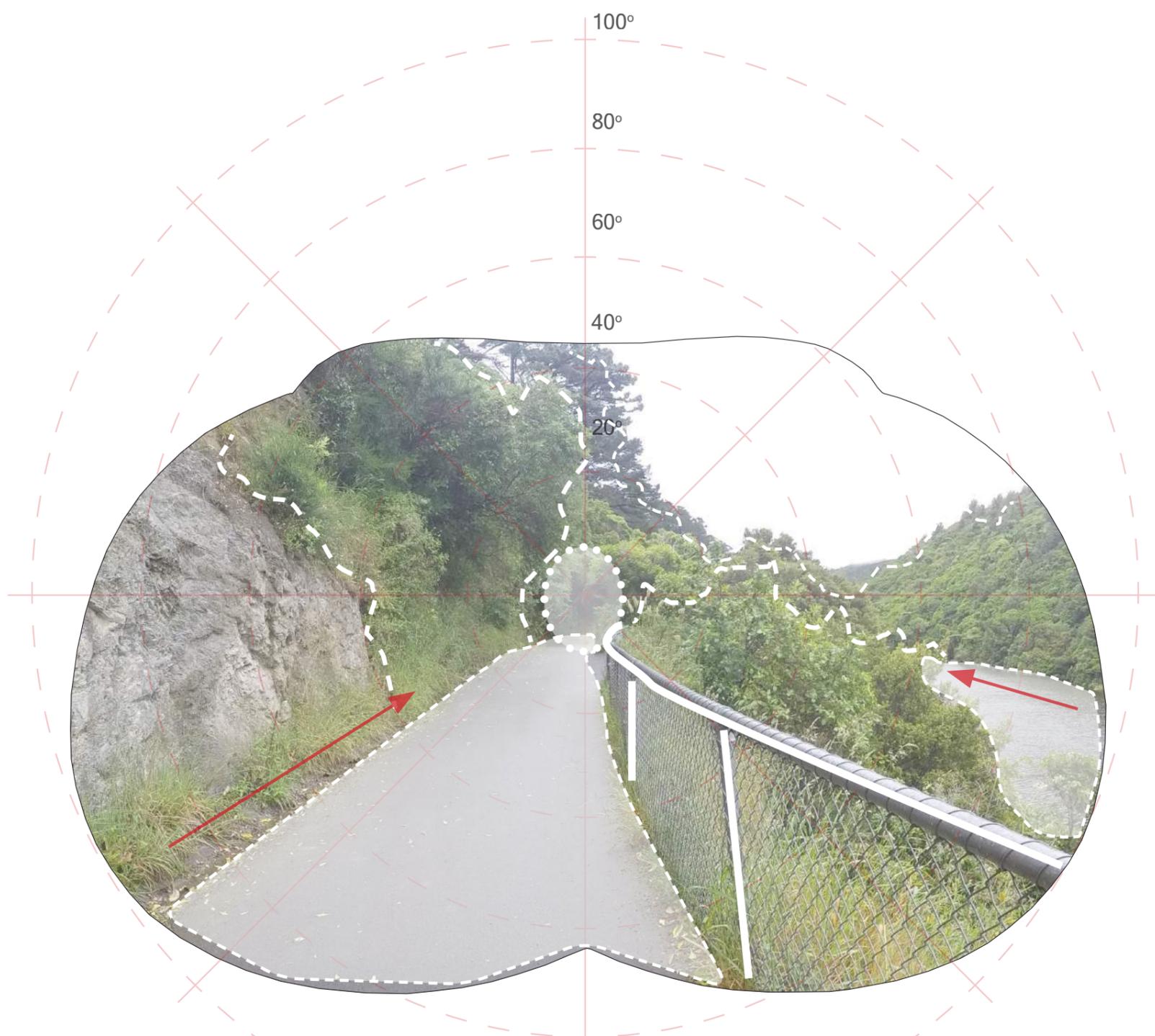
Site analysis work
(Entire site)



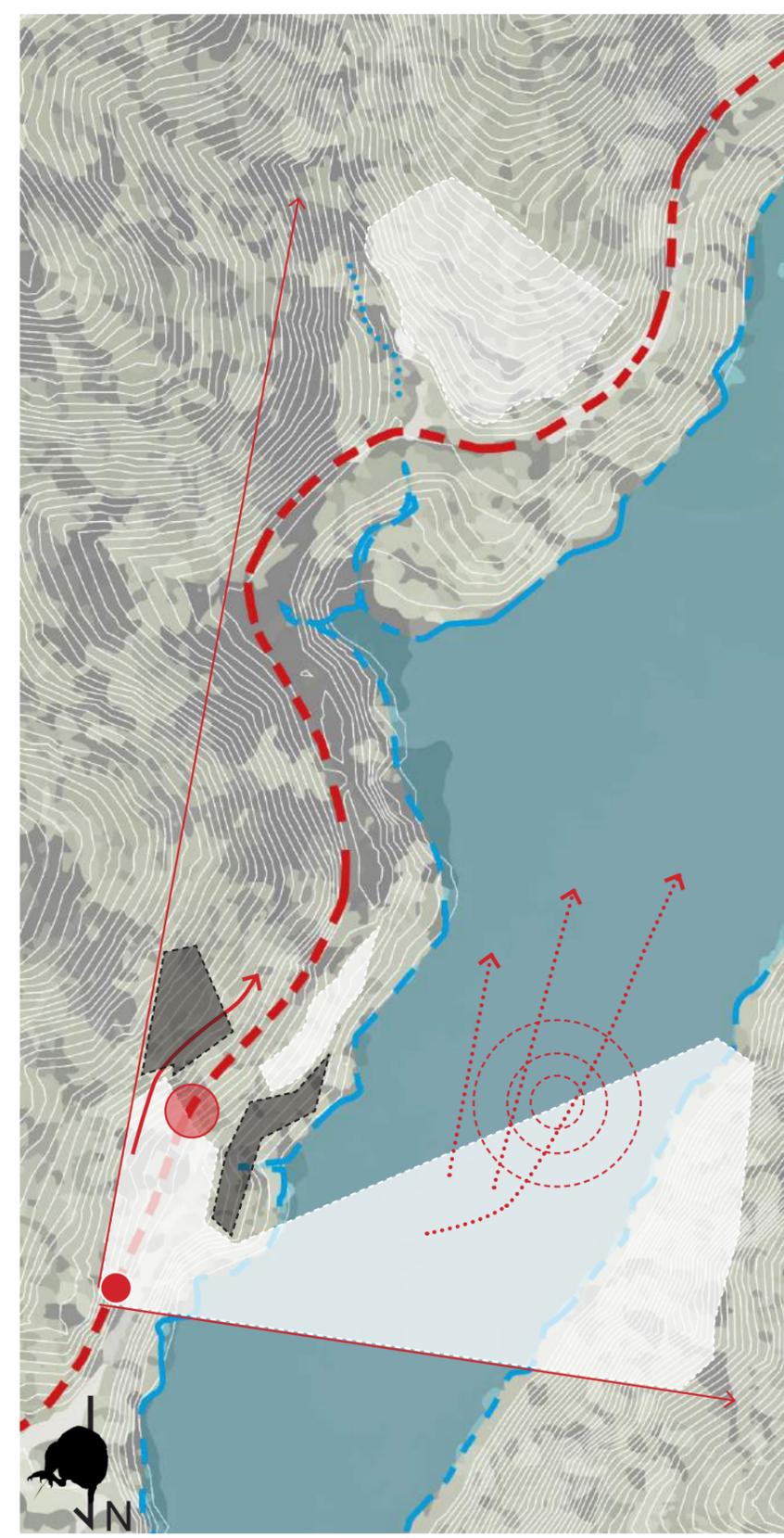
The wider site and loop track is key to the above proposal. It is not only the experience of the user in the site that is key, but the build up to it also. From the moment a user opens the gate into the sanctuary the experience has begun. What things are key that people tend to look at or sense?
What moments along the loop track are critical to bringing cohesion between the site and its connection to the wider landscape, the valley, the lake.

A method inspired by *Steffen Nijhuis (GIS-based landscape design research)* seeks to determine how people visually see space has helped understand the influences the wider landscape has on site. What is in focus, the depth of field etc. has been analysed. This section of the landscape has had more analysis than the actual site itself due to the lack of access to the site caused by the presence of a Takahē chick.

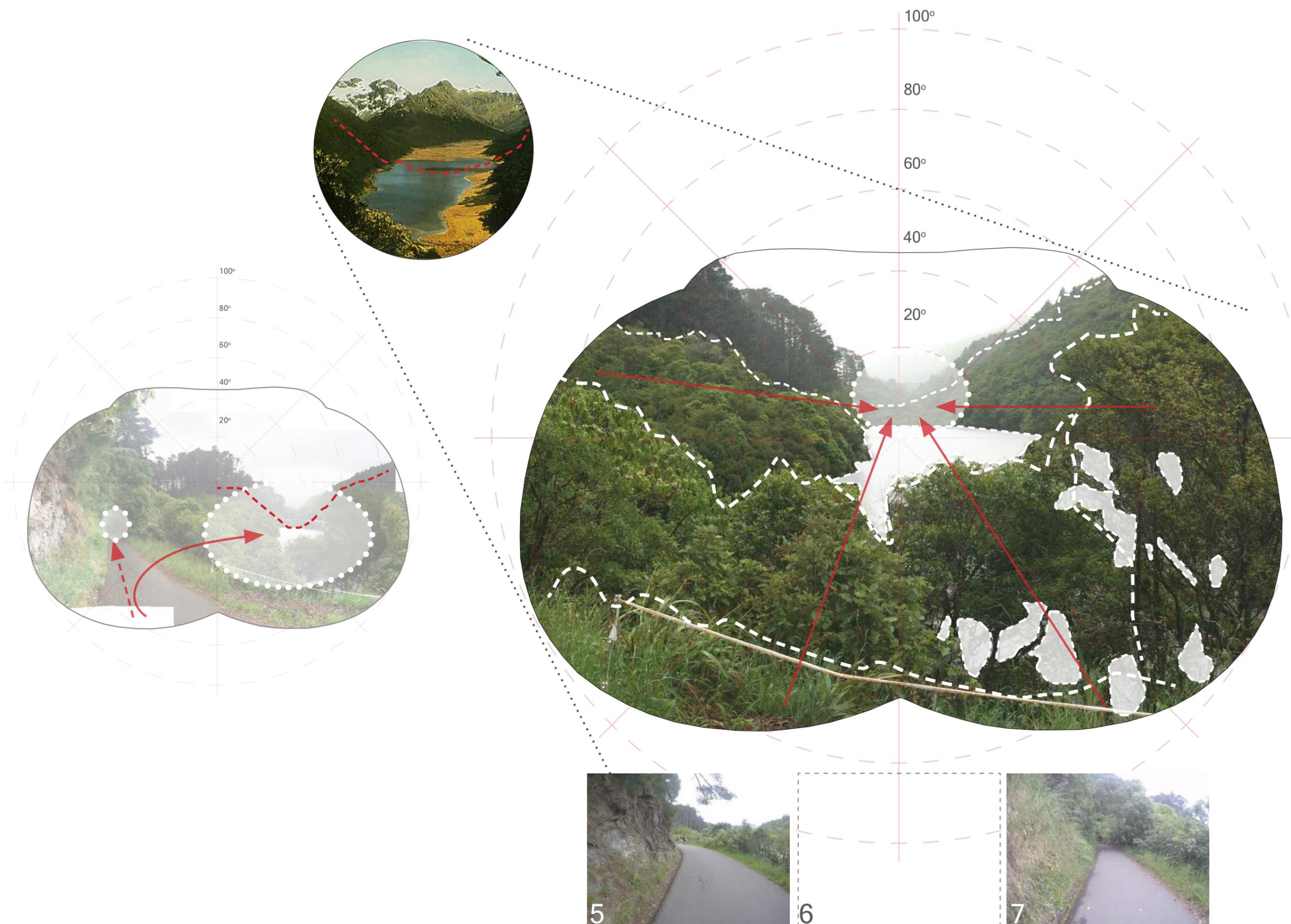
-  Driving visual directions(focus areas)
-  Focus areas
-  Leading point - i.e. what is round here, curiosity of what could be revealed
-  Impacting edges, change in depth
-  Photo point/view of user
-  Leading point - what is driving user to discover what is past this point
-  What can be seen and sensed - viewable elements
-  Hidden elements
-  What user is interested/point of interest but is not accessible
-  What user is interested/point of interest and accessible



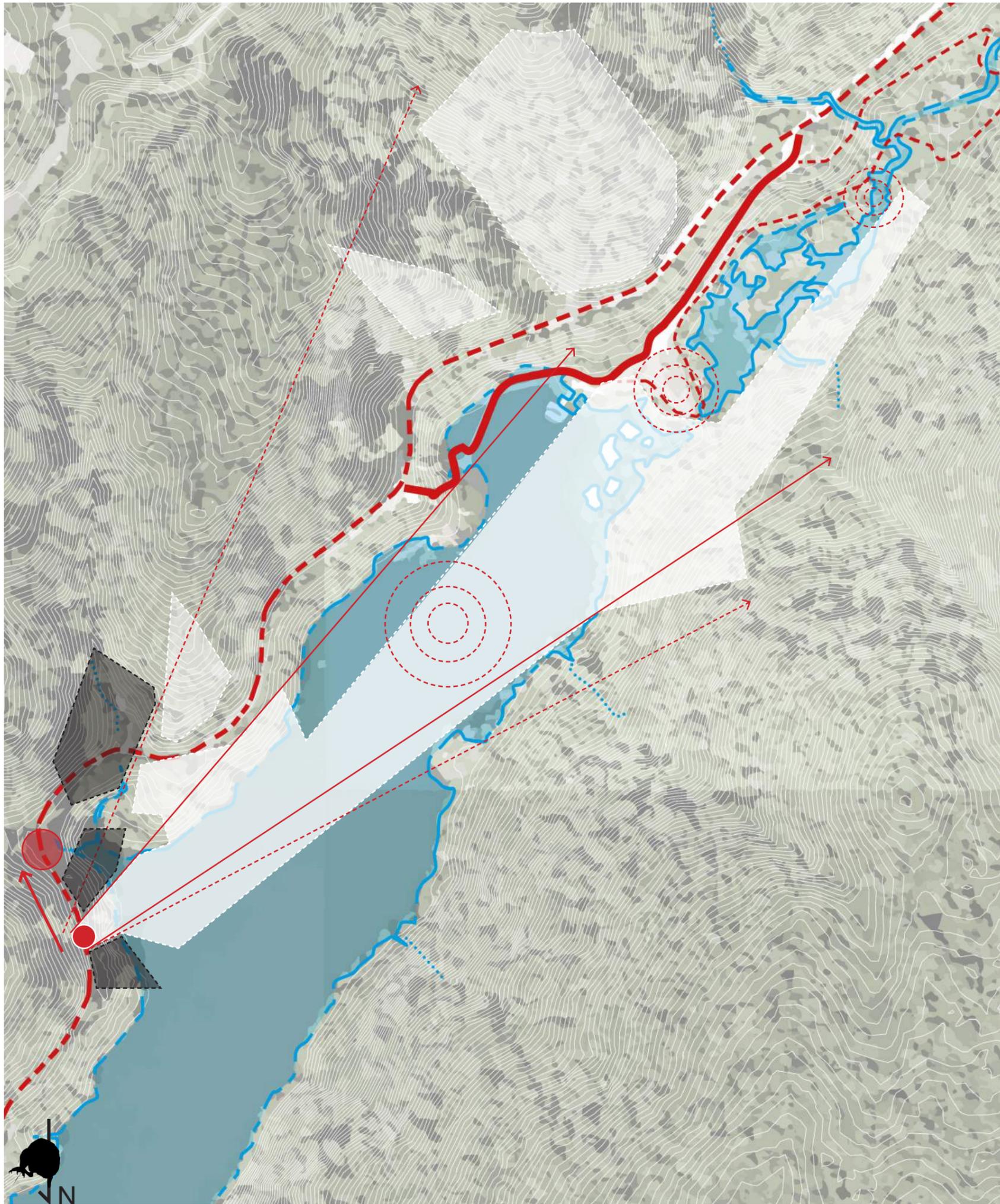
First moment of seeing the lake beside user along walkway. Both have leading points to where it can no longer be seen visually. The sensory part of you wants to find out what is further around the corner, even though you cannot physically access the lake.



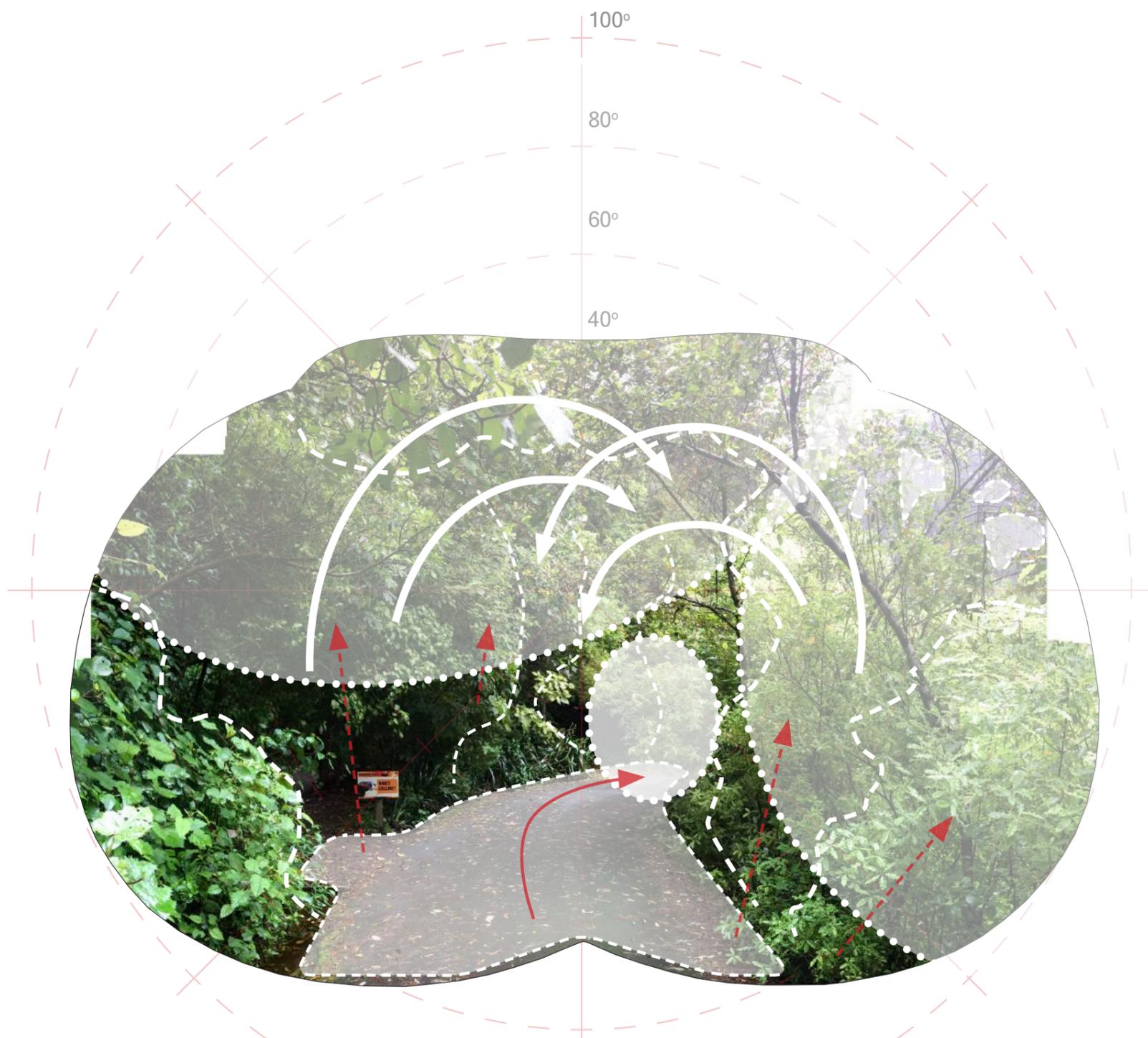
-  Driving visual directions(focus areas)
-  Focus areas
-  Leading point - i.e. what is round here, curiosity of what could be revealed
-  Impacting edges, change in depth
-  Photo point/view of user
-  Leading point - what is driving user to discover what is past this point
-  What can be seen and sensed - viewable elements
-  Hidden elements
-  What user is interested/point of interest but is not accessible
-  What user is interested/point of interest and accessible



The sweeping corner in the smaller initial image (above left) initially has the user's focus on the path. That changes quickly as the user re focuses on the angled viewport of the lake which tapers to the end of the vanishing point. The angle of vegetation and the hills all point towards the site. It is the first visual reference for the user of the site and that something of interest may be coming up ahead.

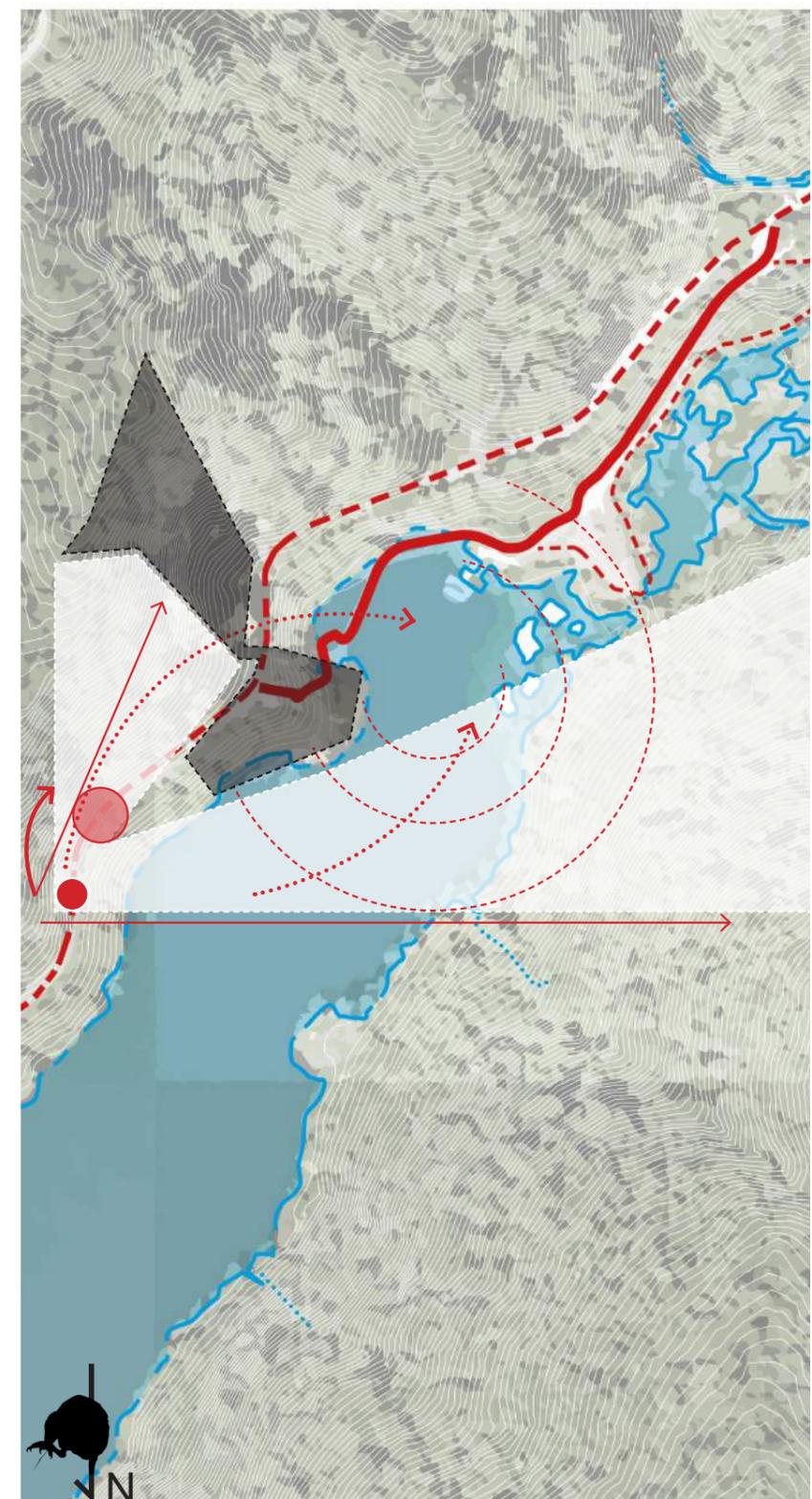
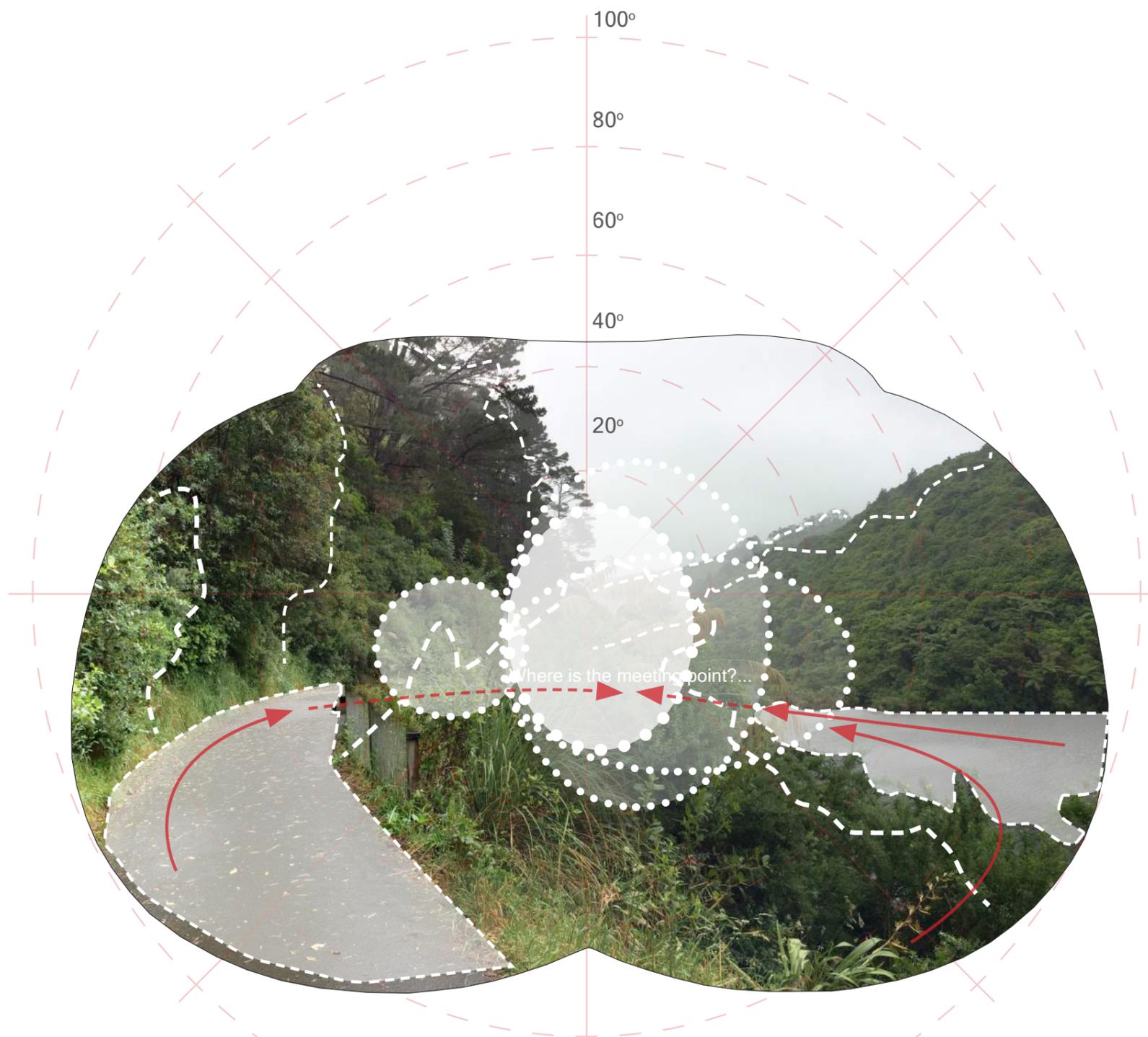


-  Driving visual directions(focus areas)
-  Focus areas
-  Leading point - i.e. what is round here, curiosity of what could be revealed
-  Impacting edges, change in depth
-  Photo point/view of user
-  Leading point - what is driving user to discover what is past this point
-  What can be seen and sensed - viewable elements
-  Hidden elements
-  What user is interested/point of interest but is not accessible
-  What user is interested/point of interest and accessible



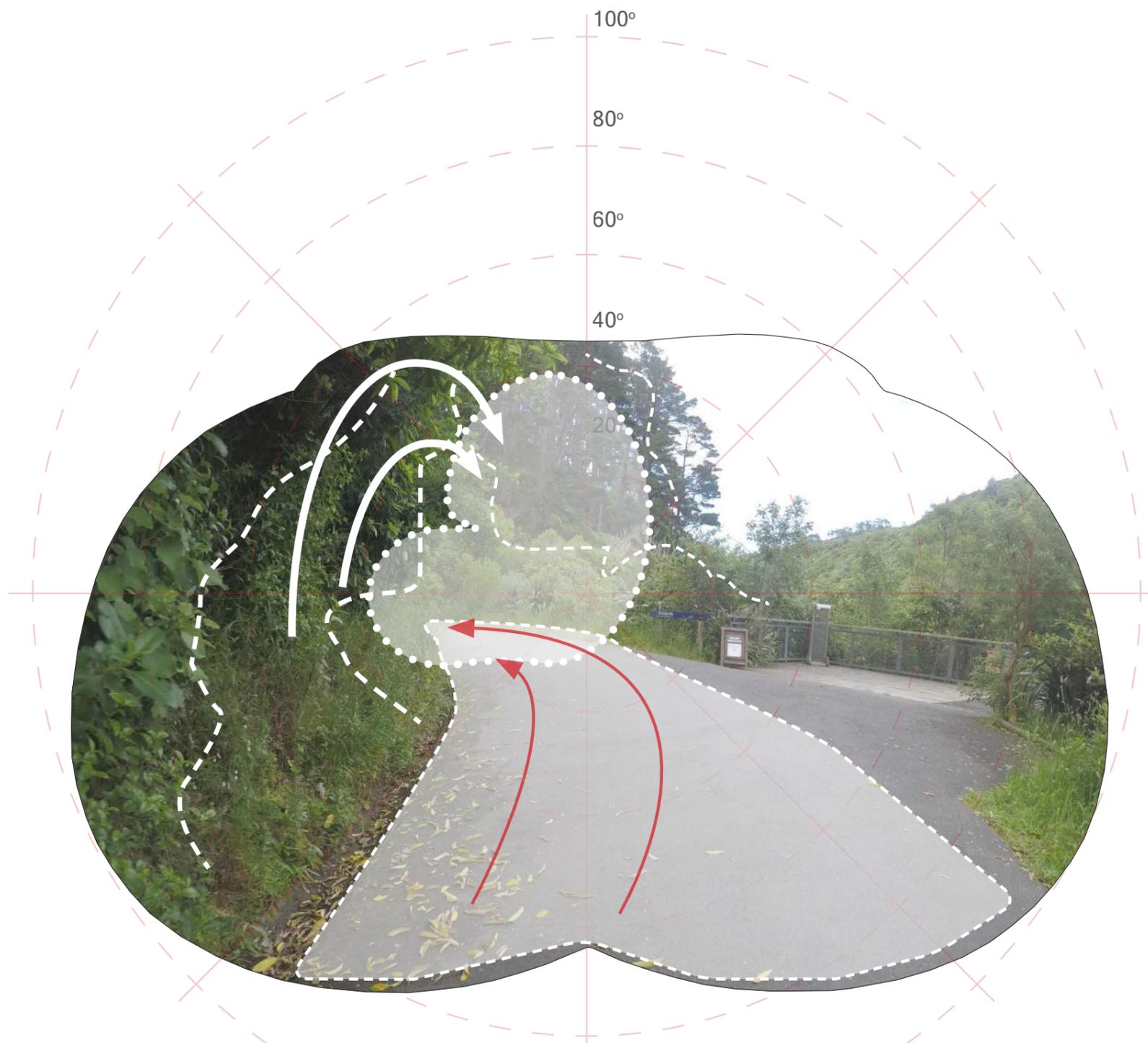
In contrast to the view before, this part of the track becomes completely enclosed, vibrating with colour, noise and pockets of the outer landscape realm you were recently viewing and experiencing. The closeness of plants and birds really accentuates the tightness this space offers and that contrasts from the openness of the lake. The continuous curving path movement helps focus to stay on the closeness of things rather than further ahead.

-  Driving visual directions (focus areas)
-  Focus areas
-  Leading point - i.e. what is round here, curiosity of what could be revealed
-  Impacting edges, change in depth
-  Photo point/view of user
-  Leading point - what is driving user to discover what is past this point
-  What can be seen and sensed - viewable elements
-  Hidden elements
-  What user is interested/point of interest but is not accessible
-  What user is interested/point of interest and accessible



Quite similar to the first moment of seeing and experiencing the walkway alongside the lake, both here have leading points to where it can no longer be seen visually, but this time you can sense the two coming together. A mixture of the directionality of the lake and the upcoming path, as well as the previous experience and newfound knowledge from the previous lake view means the user can sense that something is coming even though you don't know what it is yet...

-  Driving visual directions(focus areas)
-  Focus areas
-  Leading point - i.e. what is round here, curiosity of what could be revealed
-  Impacting edges, change in depth
-  Photo point/view of user
-  Leading point - what is driving user to discover what is past this point
-  What can be seen and sensed - viewable elements
-  Hidden elements
-  What user is interested/point of interest but is not accessible
-  What user is interested/point of interest and accessible
-  Site entry point



All the work achieved through experiencing the walkway before has built to a point where something needs to happen. Critical view-ports are unfortunately blocked by vegetation. What happened to the lake? Where is the site that the user previously in the big open moment? The build up comes to nothing. The user actually becomes more focussed on what is around the corner.

Site area

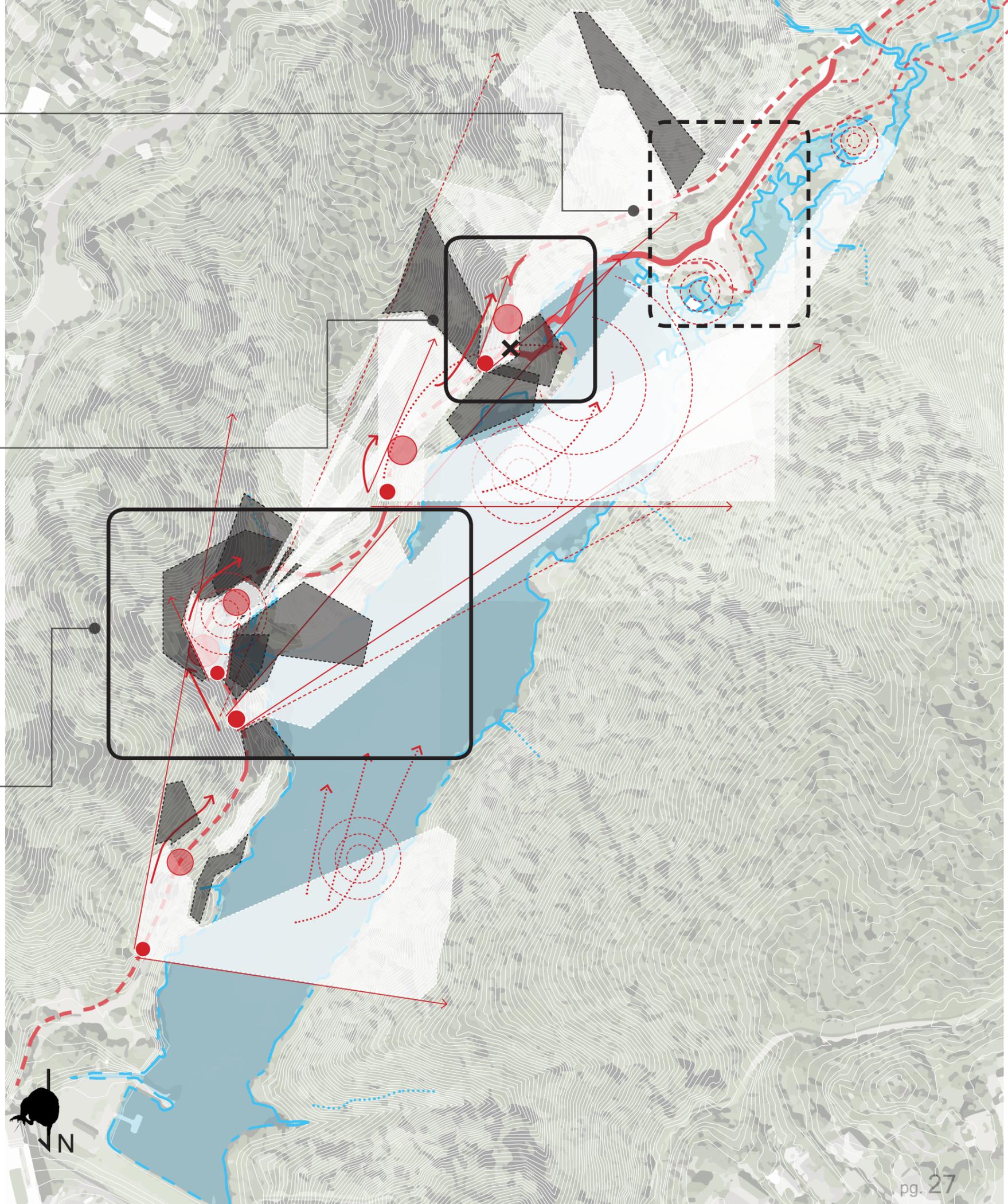
The site boundaries are hugely influenced by what comes before it (the Main Loop track) and how the site's excitement and discovery can be affected. Key changes to the area of low success is critical to enhancing the connection of the larger landscape moments and the site itself so that a steadily growing experience for users starts to climax at the entry point and continues into the site itself.

Area of low success

This section where the proposal entrance begins, is in fact the least successful component of the wider loop track. All the work achieved through experiencing the walkway before has built to a point where something needs to happen. Something that seals the deal, almost affectual. However the opposite occurs. Critical viewpoints are blocked by vegetation the build up comes to nothing and the user actually becomes more focussed on what is around the corner. This probably affects the flow-rate of people and the senses of the user exploring.
(Photos 16-18)

Area of high success

This section of the wider walkway has a very changeable but successful movement to it that grabs all senses of the user. From starting at the sweeping corner that reveals the lake and a direct linear view to the proposed site, open and exposed to a enclosure of dense vegetation wrapping around you as you hear the intensity of bird noises and creatures chirping This area of the walkway sets up a mental image that the view you see is probably a point of interest that is coming up and thus you are always looking out for it again after this experience...
(Photos 6-11)

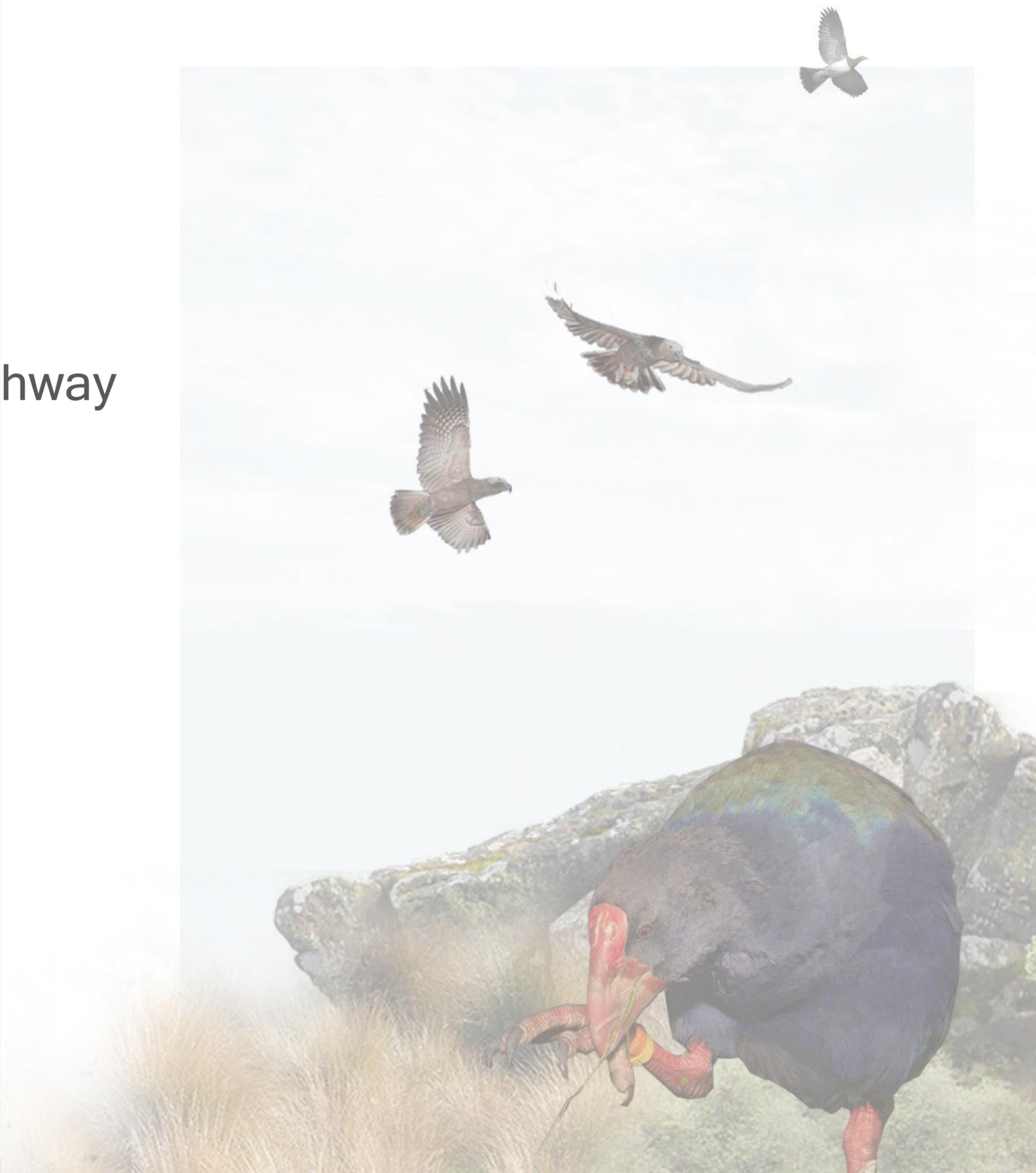


- Photo point/view of user
- Leading point - what is driving user to discover what is past this point
- What can be seen and sensed - viewable elements
- Hidden elements
- What user is interested/ point of interest but is not accessible
- What user is interested/point of interest and accessible
- Sensory area of interest, not physically able to reach it but highly influential
- Site entry point

Appendix 2

Zealandia's Takahē Highway

Planting bed size & placement plan



Planting as seen in the main design documentation varies in species, size and shape. This section shows the plants chosen from the Zealandia list (and extra approved plants) and their approximate placement in reference to their conditions. (Aesthetic combinations of these plants can be found on pages 14-15 within the design chapter). There is also a planting bed placements plan with subsequent area size, along with existing objects that can be key reference points to work from if staking out these areas is required.

Planting is spilt into site conditions
Those conditions are:

1 - FULL SUN

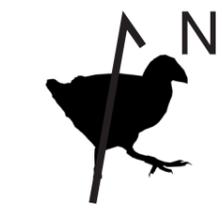
2 - SEMI SHADE/SHADE

3 - STREAM/WETLAND

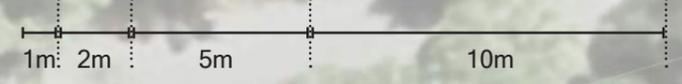
Planting bed areas (black) & Existing structures (Red)

PB - Planting Bed

PB1	10.3m ²
PB2	13.1m ²
PB3	7.7m ²
PB4	1.6m ²
PB5	1.45m ²
PB6	0.6m ²
PB7	0.4m ²
PB8	4.5m ²
PB9	5.9m ²
PB10	0.8m ²
PB11	3.8m ²
PB12	2.9m ²
PB13	13.1m ²
PB14	12.9m ²
PB15	5.4m ²
PB16	1.3m ²
PB17	5.0m ²
PB18	20.2m ²
PB19	4.6m ²
PB20	2.8m ²
PB21	5.4m ²
PB22	4.1m ²
PB23	3.9m ²
PB24	3.8m ²
PB25	8.0m ²
PB26	1.6m ²
PB27	5.6m ²
PB28	6.0m ²
PB29	11.6m ²
PB30	8.6m ²
PB31	10.5m ²
PB32	8.6m ²
PB33	3.6m ²
PB34	2.7m ²
PB35	4.2m ²
PB36	3.1m ²
PB37	7.1m ²
PB38	2.4m ²
PB39	17.7m ²
PB40	1.5m ²
PB41	1.5m ²
PB42	11.1m ²
PB43	1.0m ²
PB44	16.3m ²
PB45	5.7m ²
PB46	5.5m ²
PB47	5.7m ²
PB48	9.4m ²
PB49	16.8m ²
PB50	20.0m ²
PB51	7.8m ²
PB52	28.6m ²



Scale: 1:200/A3



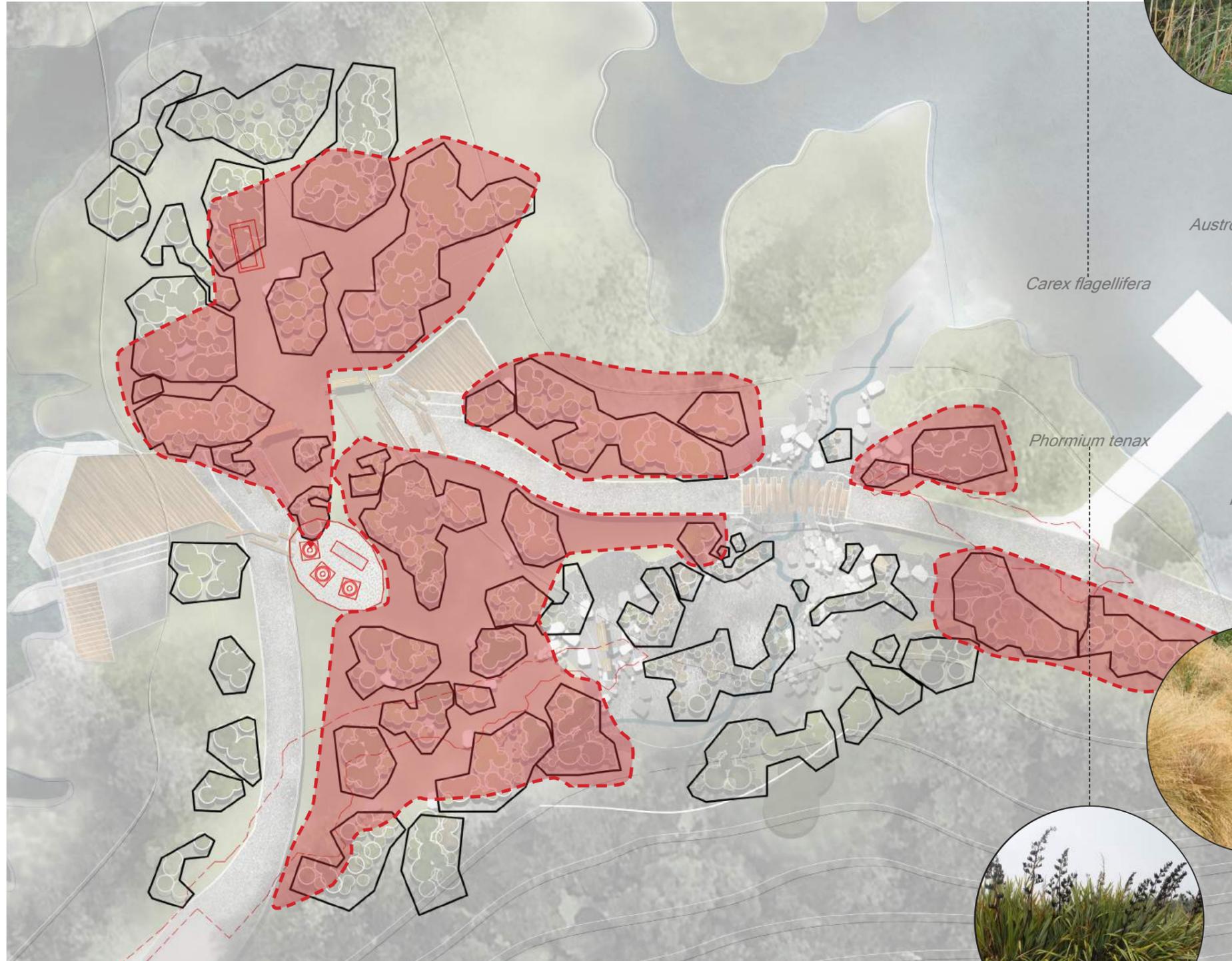
Planting Favoured condition - FULL SUN

Most likely implementation area:

Takahē Highway,
Recovery stream,
Takahē Reserve.

● Plants Outside Zealandia list and approved currently

☾ Semi shade only



Carex flagellifera



Austroderia toetoe



Austroderia fulvida



Festuca multinodis



Muehlenbeckia astonii



Poa cita

Poa anceps



Veronica parviflora



Veronica stricta



Phormium tenax

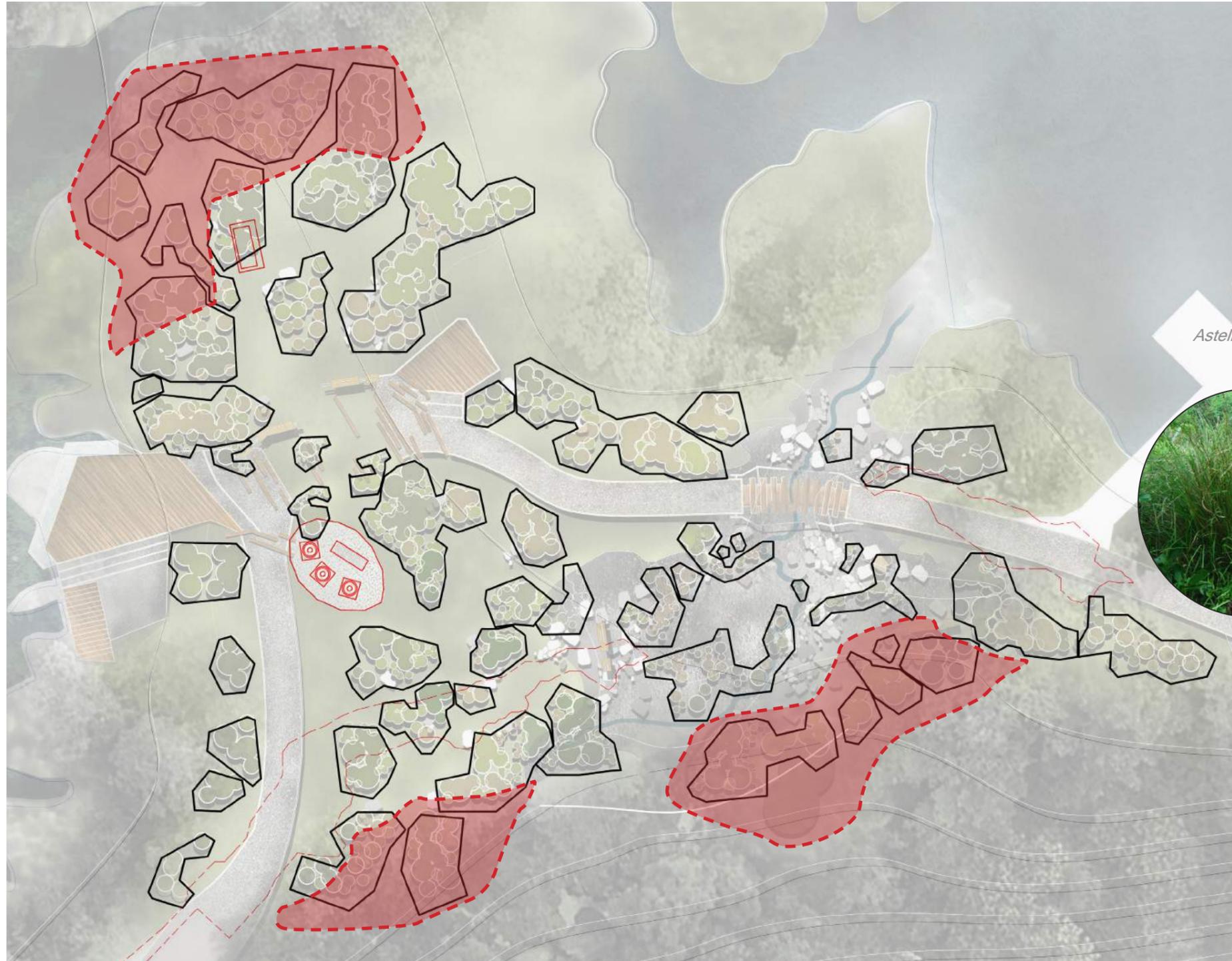
Planting Favoured condition - SEMI SHADE/SHADE

Most likely implementation area:

Takahē Reserve,
Existing forest edges,
Dense vegetated areas.

● Plants Outside Zealandia list and approved currently

☾ Semi shade only



Astelia solandri

Blechnum penna-marina

Astelia fragrans

Blechnum discolor



Carex virgata

Hypolepis rufobarbata

Hypolepis ambigua

Microlaena avenacea

Planting Favoured condition - STREAM

Most likely implementation area:

Recovery stream,
Lake fringes.

● Plants Outside Zealandia list and approved currently

☾ Semi shade only



Austroderia toetoe



Austroderia fulvida



Carex solandri



Carex virgata



Gahina setifolia



Poa cita

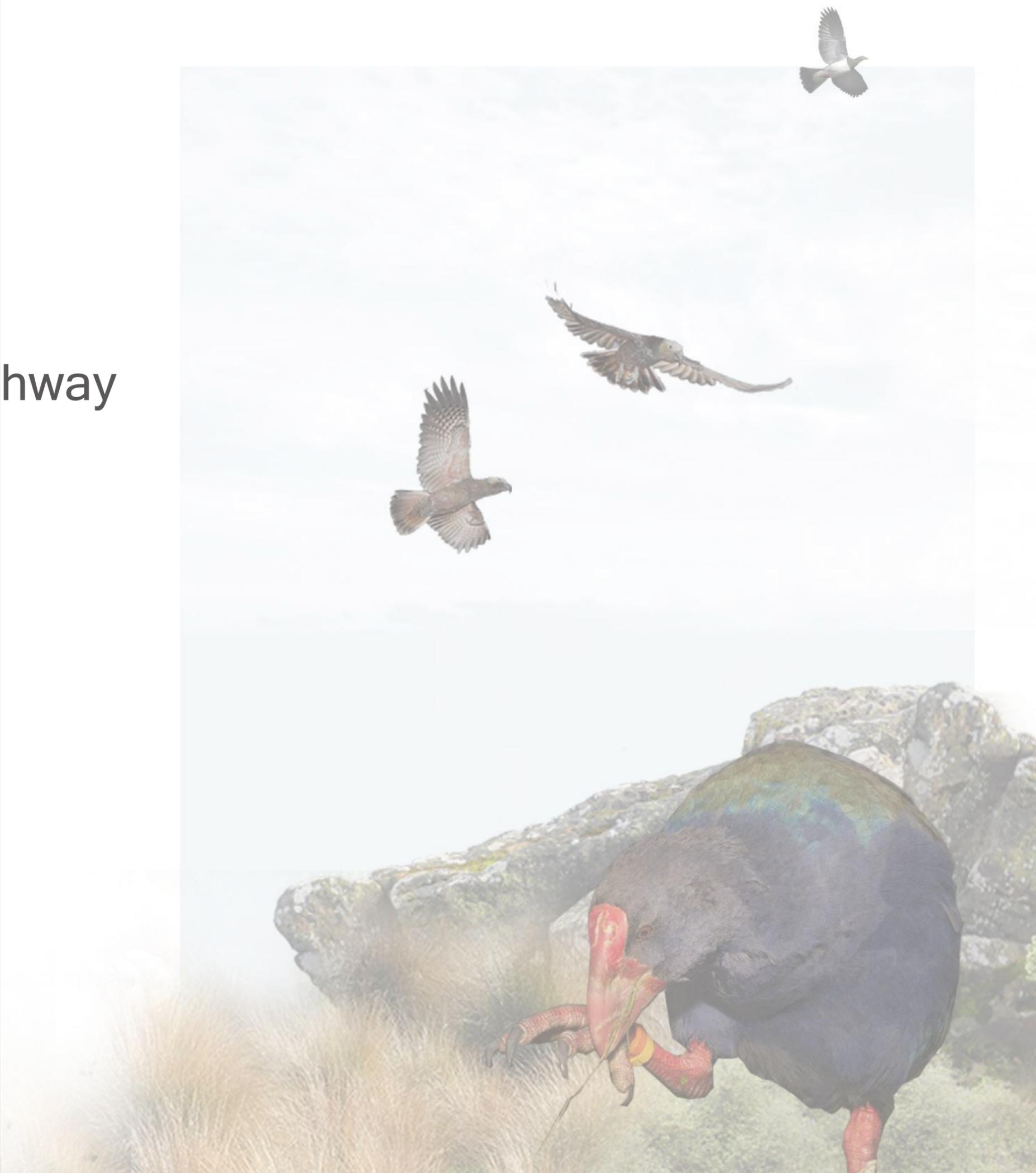


Phormium tenax

Appendix 3

Zealandia's Takahē Highway

Wayfinding ideas
(Conceptual)



Wayfinding has the potential to make the experience of, and the journey through the site, more engaging and exciting for the visitor. Discovery elements such as finding the Takahē or the wetland, engaging with planting, how the Takahē engage with their surroundings and how people engage and interact with all of the above. Interactive methods of touching things, picking them up or moving them about to help show something etc...

A few ideas were played about with on a conceptual level. Their implementation could be more or less anywhere on site where deemed most successful or engaging.

1 - Rangiora (*Brachyglottis repanda*) leaf

2 - Takahē tillers

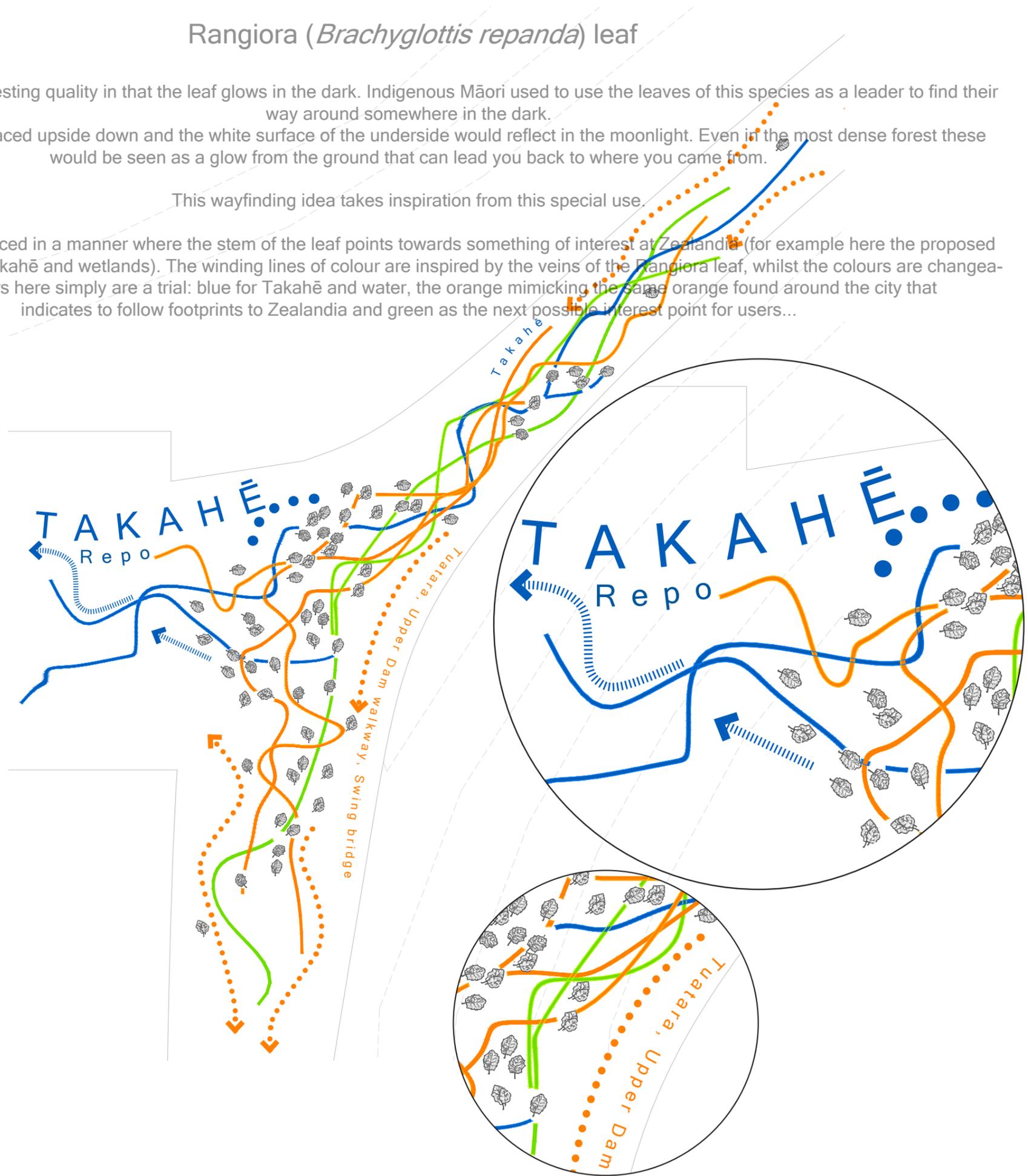
Rangiora (*Brachyglottis repanda*) leaf

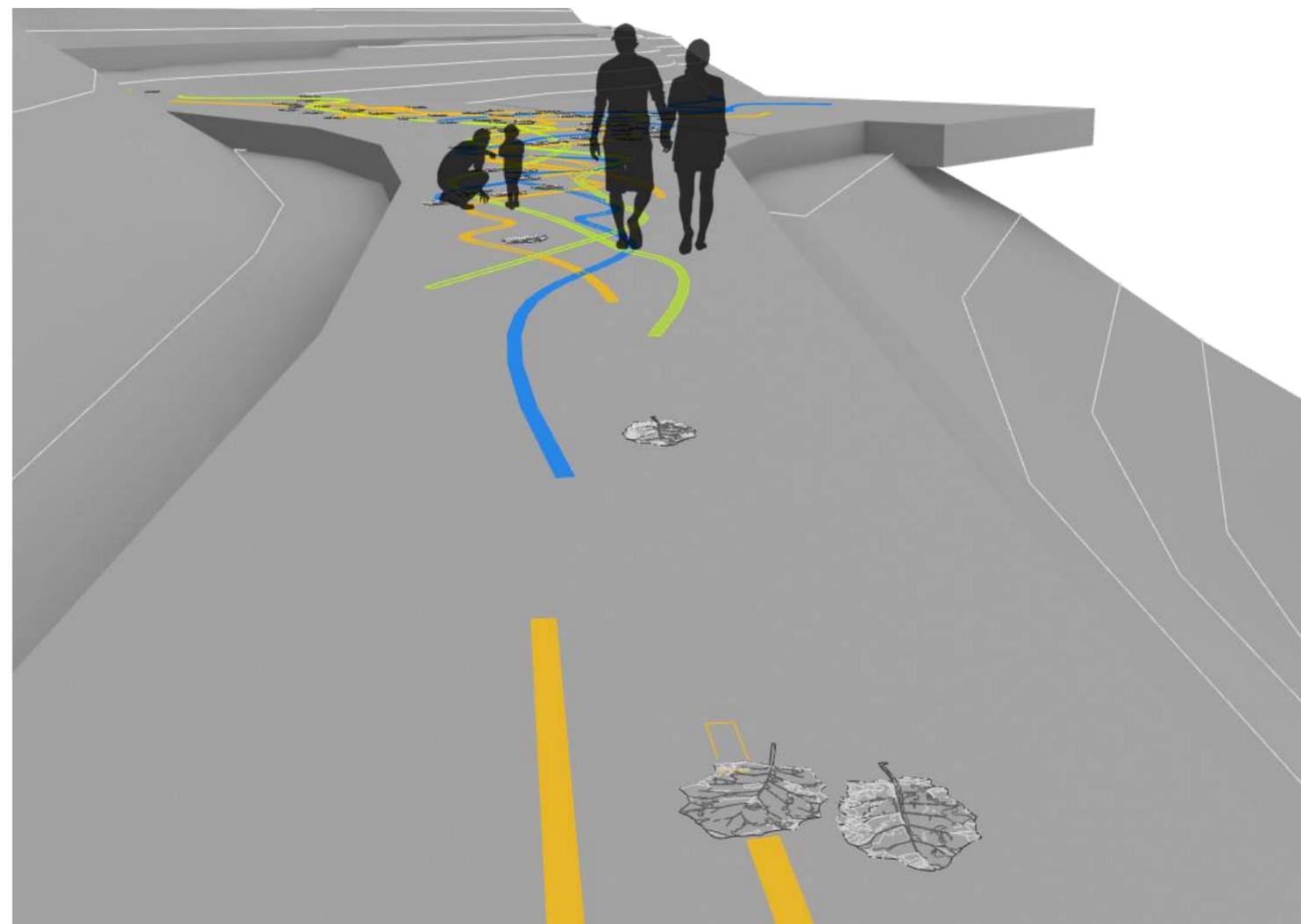
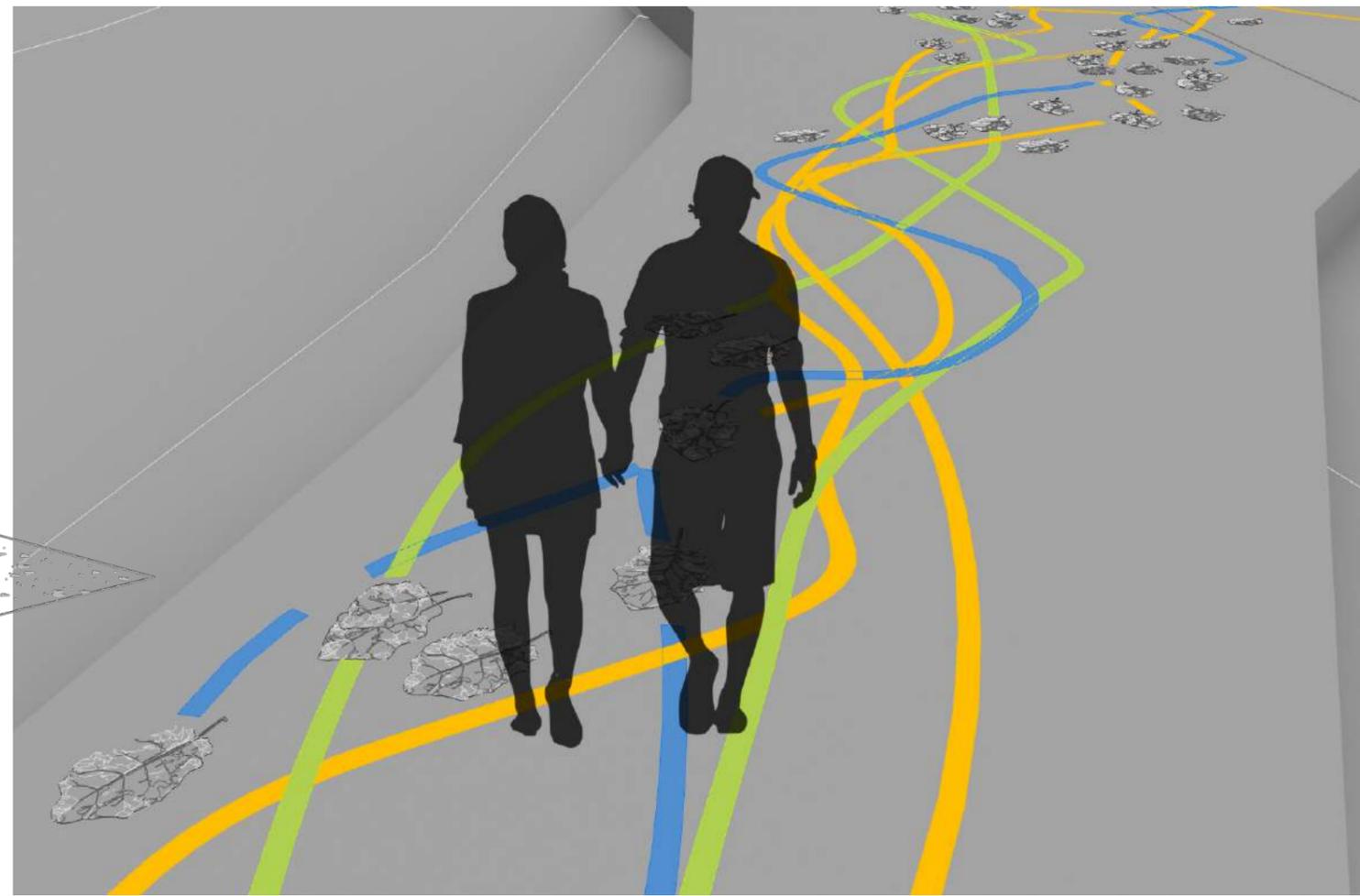
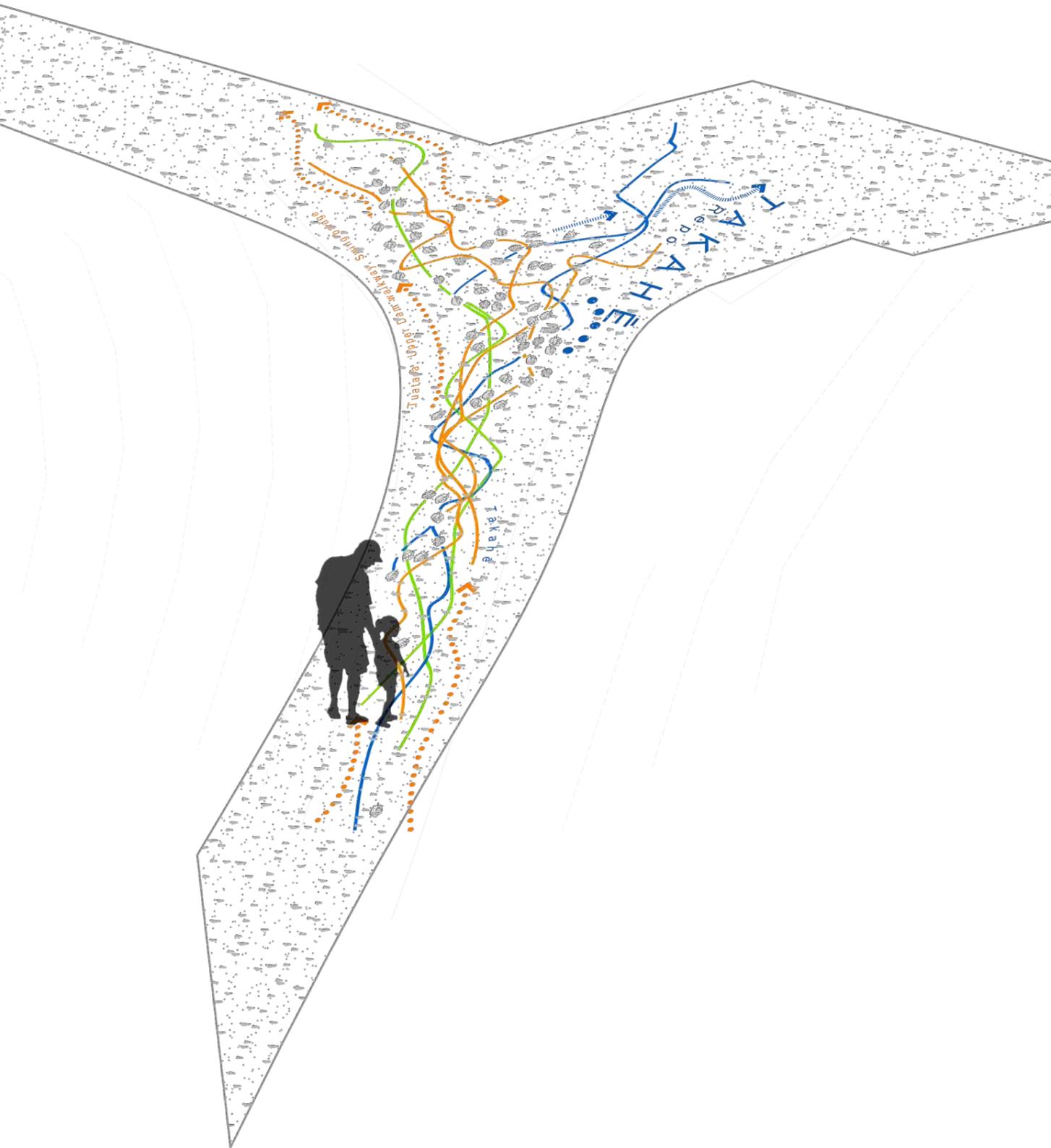


Rangiora has an interesting quality in that the leaf glows in the dark. Indigenous Māori used to use the leaves of this species as a leader to find their way around somewhere in the dark. The leaf would be placed upside down and the white surface of the underside would reflect in the moonlight. Even in the most dense forest these would be seen as a glow from the ground that can lead you back to where you came from.

This wayfinding idea takes inspiration from this special use.

The leaves can be placed in a manner where the stem of the leaf points towards something of interest at Zealandia (for example here the proposed new entrance to the Takahē and wetlands). The winding lines of colour are inspired by the veins of the Rangiora leaf, whilst the colours are changeable. The colours here simply are a trial: blue for Takahē and water, the orange mimicking the same orange found around the city that indicates to follow footprints to Zealandia and green as the next possible interest point for users...







Takahē tillers

Takahē specialised eating habits involve for the most part eating the tillers off tussocks and grasses. As they munch through these tillers the discarded components (most of the tiller!) are dropped to the ground. As they eat all day this trail of tillers grows and moves as the Takahē feeds around the site. It is a good sign of whether Takahē are nearby. If followed it may lead to the rustling of the Takahē

This wayfinding idea takes inspiration from this use.

A few patterns based on discarded tillers have been created that could be etched or made to stand out along certain paths where Takahē are often located. As these tillers are a new material and shape they would catch users gaze.

The introduction of these elements in carefully placed locations can lead to something of interest that people will come across (something to focus on for example)

One idea played with is the tillers leading to some form of discovery or learning element, such as forming a sign with an image of the Takahē that tells the user about them (maybe facts, how to search for the birds using their discarded tillers etc...)

