

Field of Intimacy:

Explorations of interiority within the landscape.

By Michelle Hall

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“Just in front of me, water appeared from out of the darkness.

Water! ... An immense body of water! ... And what water! ... Black, stagnant, so perfectly smooth that not a ripple, not a bubble, marred its surface. No spring, no source. It had been there for thousands of years and remained there, caught unawares by the rock, spread out in a single, impassive sheet. ...”

*Gaston Bachelard; The Poetics of Space (1964)*¹

¹ (Bachelard 23)

Abstract

Interior Architecture cannot be bound by the confines of a building, it is not the catalyst of architectural intervention, in fact we can have interior experiences within the landscape. As a discipline Interior Architecture tends to be quite insular, struggling to connect to the exterior context of a design, whereas landscape architecture tends to be so involved with the context at the large scale, that the finer details and experiences of space can be lost. Generally, engineered systems tend to be internalized and designed without regard for the social. There is an interesting connection between landscape and interior architecture, with landscapes being able to generate their own sense of interiority.

I have defined “existential intimacy” to describe the haptic bodily experience of a space through which one gains an understanding of something bigger than themselves (whether it be a system, process, or just being more aware and connected with their direct surroundings). This research explores what happens when notions of “existential intimacy” are applied within a landscape. Water is used as an important device for establishing existential intimacy enhancing the ability to engage with larger systems.

By applying existential intimacy to the Wellington context of Mount Victoria and engaging with stormwater systems in the city, a field of intimacy is created connecting with water detention to allow more intensified experiential inhabitation of the green belt. Designing with a focus on existential intimacy, an expansiveness across scales is created, meaning that the design cannot lose context or detail, but is forced to engage with both, to create spaces which are both functional (in an engineered sense) and experiential.

What happens when notions of ‘existential intimacy’ are applied within the landscape?

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1.0 Background

Over the past 5 years my university career has been based in Interior Architecture. During this time I have come to find that there is a huge misconception both with the general public and also among other creative design disciplines as to what Interior “Architects” (or Spatial Designers) actually do. With most assuming that all I was learning was how to deal with soft furnishing within spaces. I became frustrated with this incomprehension and as a result began to crave the challenge of pushing the boundaries of interior architecture in an attempt to broaden the understanding of what it actually is.

To me interior architecture cannot solely be defined by the bounds of a building; it is not the catalyst of architectural intervention but rather the spaces in between. Interior architecture is much more about designing the intense heightened spatial experiences we have whether they are inside a building or out in the landscape.

As Charles Rice describes in *Bourgeois Inhabitations: Theory and the Historical Emergence of the Interior*, the “concept of the interior, along with a professional practice of interior decoration emerged historically from the beginning of the nineteenth century. ... [with] the interior [considered] as a condition ‘additional’ and ‘consciously distinct from architecture’, creating ‘its own professional identity’, and ... an antagonistic relationship with the profession of architecture”.¹ The meaning of the term interior has evolved “to mean both a space and a representation of a space”, with interior being “caught between being both a part of architecture, at the same time as it exists apart from architecture”². The work of Elizabeth Grosz aligns more with the approach and definition I will be working towards, with

“the body of the inhabiting subject [being seen] as a means of exploring the way space gathers around the surface of the body,

¹ (Rice 143,144)

² (Rice 145, 146)



Figures 1 - 3: *Shalekhet - Fallen Leaves*, by Menashe Kadishman (figure 1: (R.); Figure 2: (fiore-rosso, “Steel Faces - Ian Bramham [Daniel Libeskind’s Jewish Museum, Berlin]”); figure 3: (fiore-rosso, “Daniel Libeskind”))

instead of treating space as a vessel with a fixed and fixing function in identity formation”.³

This definition allows for a blurring of boundaries and thresholds, and starts to open up the idea that “the interior is only a selected exterior, and the exterior is a projected interior” and that the relations between interiors are “experienced as conceptual rather than as spatial entities”.⁴

When thinking of the spatial experiences that align these concepts of what interior can be, I began to realise that over the past few years of study I have become fascinated with a concept I think of as spatial intimacy.

The first experience I had of a space which had this sort of effect was in the spatial installation “Shalekhet - Fallen Leaves” by Menashe Kadishman in the Memory Void of the Jewish Museum Berlin which I saw as a teenager. This installation is constructed from over “10,000 open-mouthed faces coarsely cut from heavy, circular iron plates [which] cover the floor” in an extremely long, tall and narrow space, as seen in figures 1 - 3.⁵ The idea behind the exhibition is that the visitor is to walk the length of this space across the thousands of graphic iron faces. When I experienced the space myself something about the scale, lighting, proportion and sound of the space overwhelmed my senses and emotions preventing me from walking out into the space. It was in this space that I felt on an intensely personal and intimate level much more about the “irretrievable loss of the Jews murdered in Europe” during the Second World War than I did in reading the plaques on walls in all the surrounding exhibitions.⁶ As the description of the project states, “Kadishman’s sculptures evoke painful recollections of the innocent victims of yesterday, today, and tomorrow”.⁷ To this day, this space still holds a strong place in my memory and still gives me goose bumps.

3 (Rice 146)
 4 (Cache xvii; Hillier and Hanson 144)
 5 (Kadishman)
 6 (Kadishman)
 7 (Kadishman)



Figure 4: Fourth year Interior Architectural exploration within the Landscape (Author)

It is this temporal experience of spatial intimacy that opens up the possibilities of expanding the boundaries of what interior is. As Gaston Bachelard describes in *The Poetics of Space*, “outside and inside are both intimate – they are always ready to be reversed, to exchange their hostility ... Intimate space loses its clarity, while exterior spaces loses its void, void being the raw material of possibility of being.”⁸

During my fourth year of study I found the confidence to push Interior Architecture design projects out into contexts that are not ‘typical’ for interiors and began to try to deal with more complicated concepts of interesting spaces; particularly out into the landscape and dealing with stormwater, as can be seen in figure 4.

So when it came to choosing a topic for my Master’s Thesis I was drawn to the somewhat disparate concept of Resilience and how this traditionally Landscape and Urban based concept could apply to Interior Architecture.

There is an interesting connection between Landscape and Interior Architecture. As a discipline Interior Architecture tends to be quite introverted, often struggling to connect to the exterior context of a design and sometimes even to connect to the direct context of the building which houses the design. As a discipline Landscape Architecture tends to be so involved with the context on a large scale that the finer details and experiences of space can be lost. By combining the disciplines landscapes have the potential to generate their own sense of interiority. A further complexity is added when trying to engage with engineered systems. Generally engineered systems tend to be internalized and designed without regard for the social. It is the “practical connection between the large scale and the modification of human and nonhuman connections” that is extremely interesting in this discourse between the three disciplines, that also opens up many design possibilities in regard to this thesis.⁹

8 (Bachelard 218)
9 (Ghosn, Jazairy, and Ramos 124)

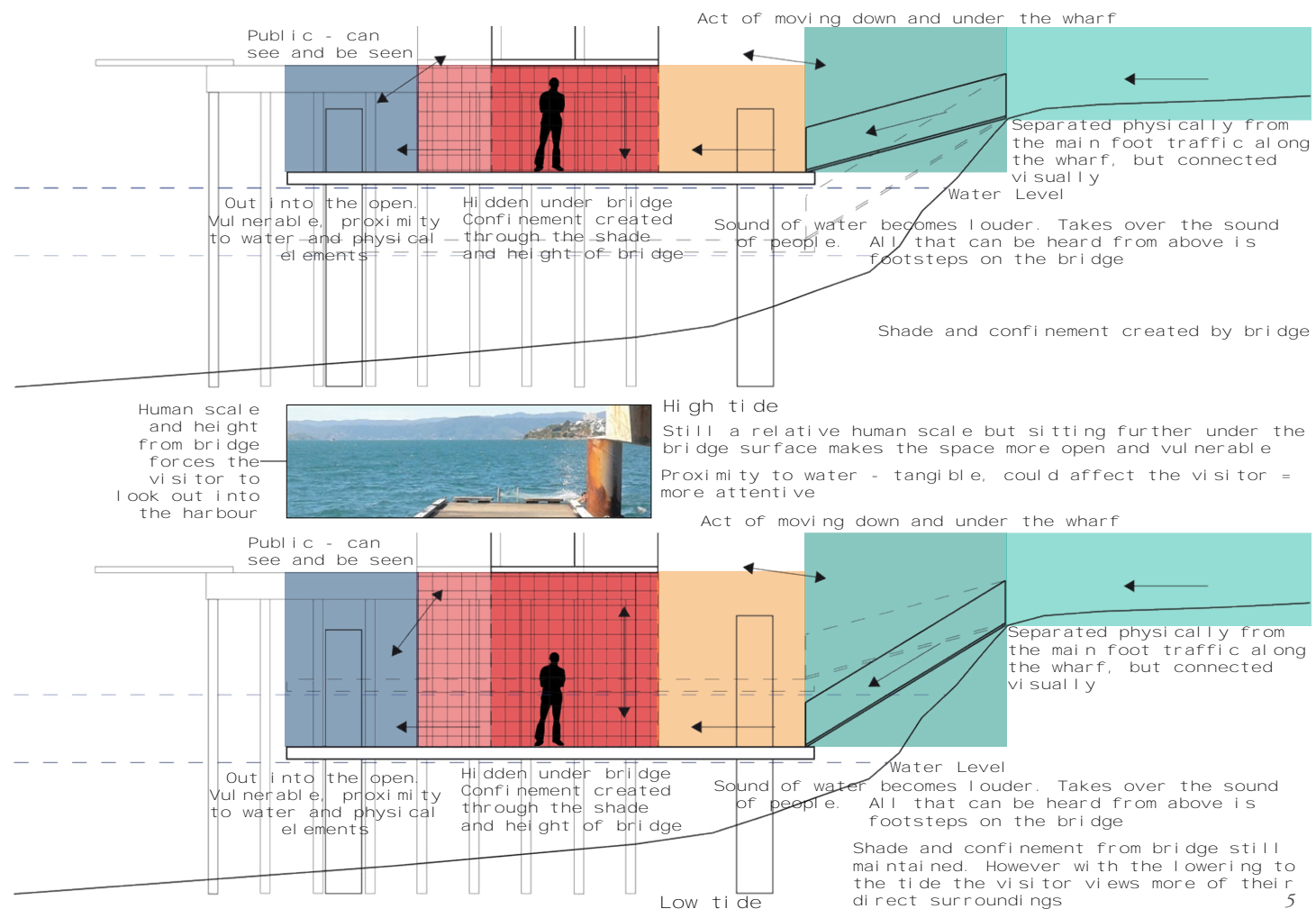


Figure 5: Explorative diagram of the existential intimacy qualities in the Jetty (Author)
 Figures 6 + 7: Jetty location maps (TerraMetrics)
 Figure 8: Jetty approach and entry (Author)

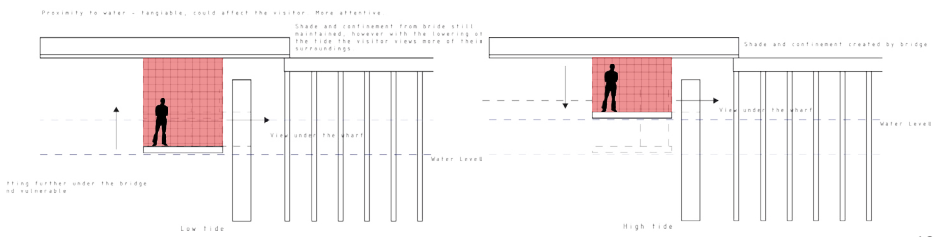
2.0 Positioning

2.1 Existential intimacy

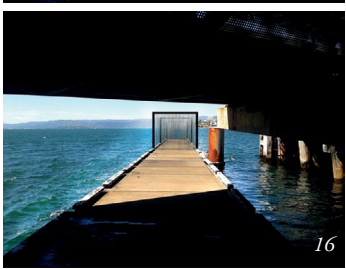
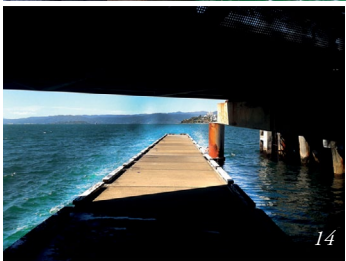
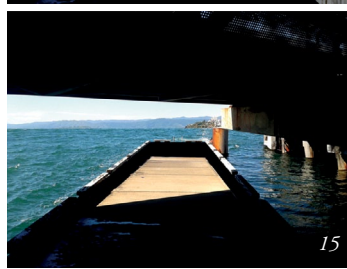
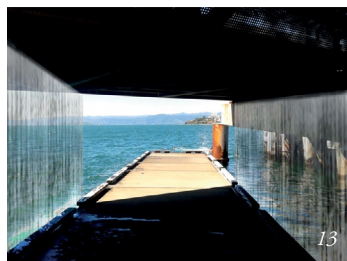
In beginning this research I had a basic view and simple term “*intimacy*” for the spatial experience I was excited by. It very quickly became clear that the word *intimacy* by itself is too simple and doesn’t encompass all of the spatial qualities I was trying to describe. Intimacy¹⁰ as a word is often understood as having some sort of romantic connotation and is often referenced as being about a relationship between two people. This general sense of the word does not describe the spatial experience I am attempting to create.

In an attempt to try to understand this spatial experience I visited a space along the Wellington waterfront in which I felt I had experienced the idea of *intimacy* I was trying to convey. This space is a floating jetty which sits below Taranaki Street Wharf, as can be seen in figures 6 and 7. In this space the visitor is physically isolated from the main thoroughfare above but visually maintains a connection. There is something about the proximity to the water and of being below the crowds of people that intensifies the experience within this space. The view under the wharf, confirming the nature of the edifice adds an important spatial quality as when on the wharf above it seamlessly merges with the ‘stable’ land. There is also something really amazing about the sound qualities in this space such as the echoes of the water lapping underneath the wharf; the muffled nature of the sound of people’s voices above; the sound of people’s footsteps on metal grating as they cross the bridge above; all overlaying the sound of the water lapping at the jetty. Within this space there are a number of important spatial zones, as seen in figure 5 and it is the movement through each of these zones that brings together the intense spatial experience. The spatial experience also changes during low and high tide, as when it is low tide the visitor sits further below the bridge and wharf above enhancing the isolation from the people above and intensifying the connection

¹⁰ Intimacy is defined as being “close familiarity or friendship”, “a cosy and private or relaxed atmosphere”, “euphemistic sexual intercourse” or a “closeness of observation or knowledge of a subject”.(Oxford University Press, “Intimacy”)



Figures 9 - 11: Views and direct surroundings on the Jetty (Author)
 Figure 12: Explorative diagram of the existential intimacy qualities in the Jetty (Author)
 Figures 13 - 16: Design forays with the addition of water (Author)



to the water. During high tide the connection to the people above is enhanced through closer physical proximity and clearer sound of the movement above. What is also interesting about this enhanced connection is that the closeness brings a more human scale while something about that scale and the spatial confinement forces the visitors view out into the bright open water. The diagrams in figures 5 and 12 seek to further detail and explain this experience.

Knowing that this connection to the water was one of the reasons why this space has the spatial experience I was wishing to emulate, I then attempted a few design forays with the addition of water or enhancing the connection to water in an attempt to see if this further intensified the spatial experience. These can be seen in figures 13 - 16. It became evident that the addition of water further intensified the focus outwards towards the water, and through lengthening or submerging the jetty the focus was drawn more into the space itself. From these tests and explorations I decided that this spatial quality had the ability to enhance a visitor's spatial awareness and connection to their environment, along with – in this space particularly – the ability to make them aware of the inner workings of the wharf. There was a connection to something more *existential* or *experiential*, these two words becoming a key aspect in defining the spatial experience.

The exercise of interrogating this space to articulate the spatial qualities which aligned to my idea of *existential intimacy* led me into diagramming the assemblage¹¹ of concepts, qualities and experiences which have come together to create this idea of existential intimacy (seen in figure 58).

Existential intimacy is about the spontaneous unconscious connection between process, people and space, which through powerful interactions the whole world is opened up for perception. The affect effectively harnesses and redirects the forces of the world into this context. The concept of existential intimacy is about more than just experiencing space. It is about the whole body and its ability

¹¹ Assemblage being “a collection or gathering of things or people” which come together to create a specific experience. (Oxford University Press, “Assemblage”). Further discussion of assemblage occurs in Affordances, Assemblage Thinking and Existential Intimacy

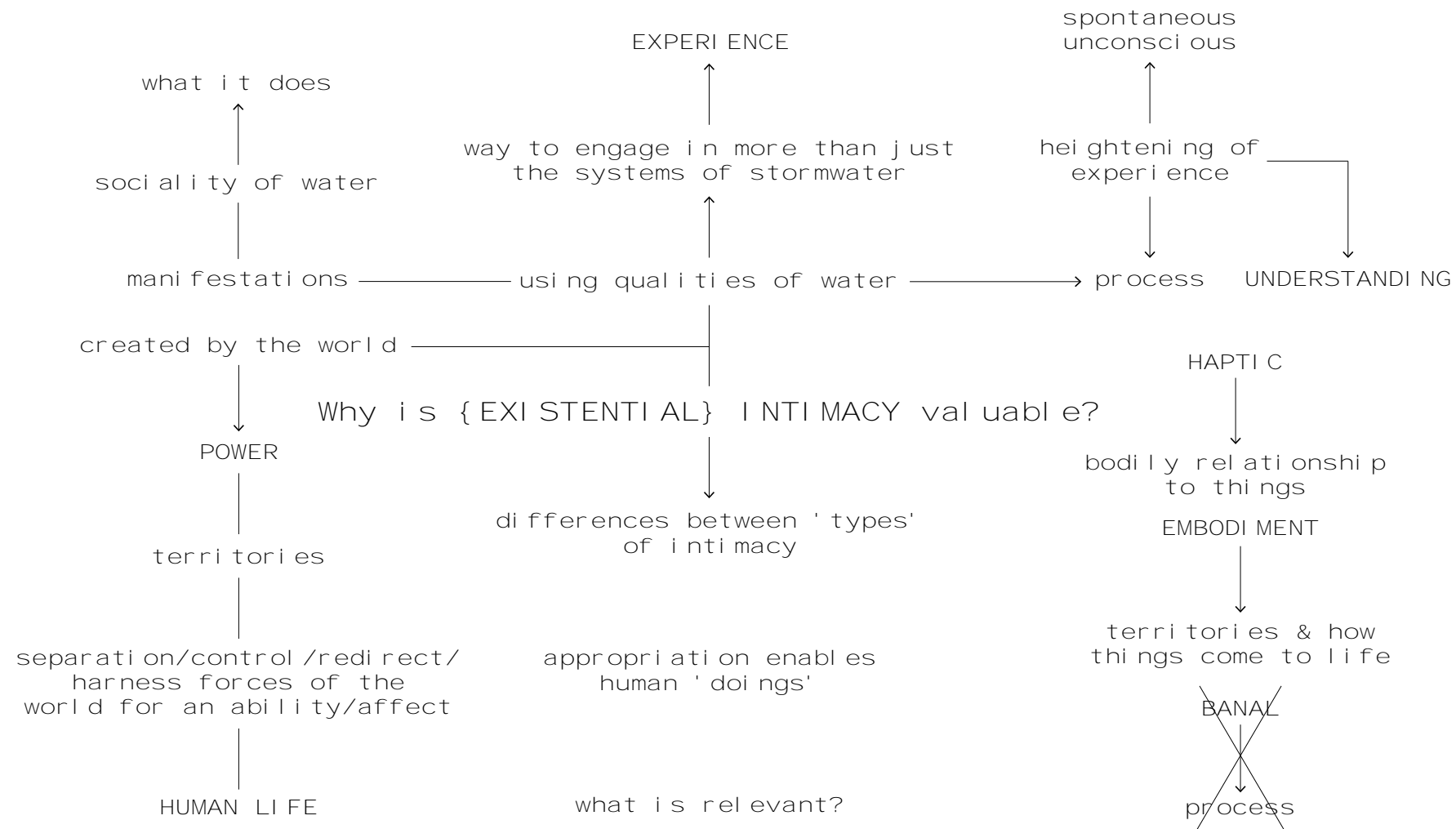
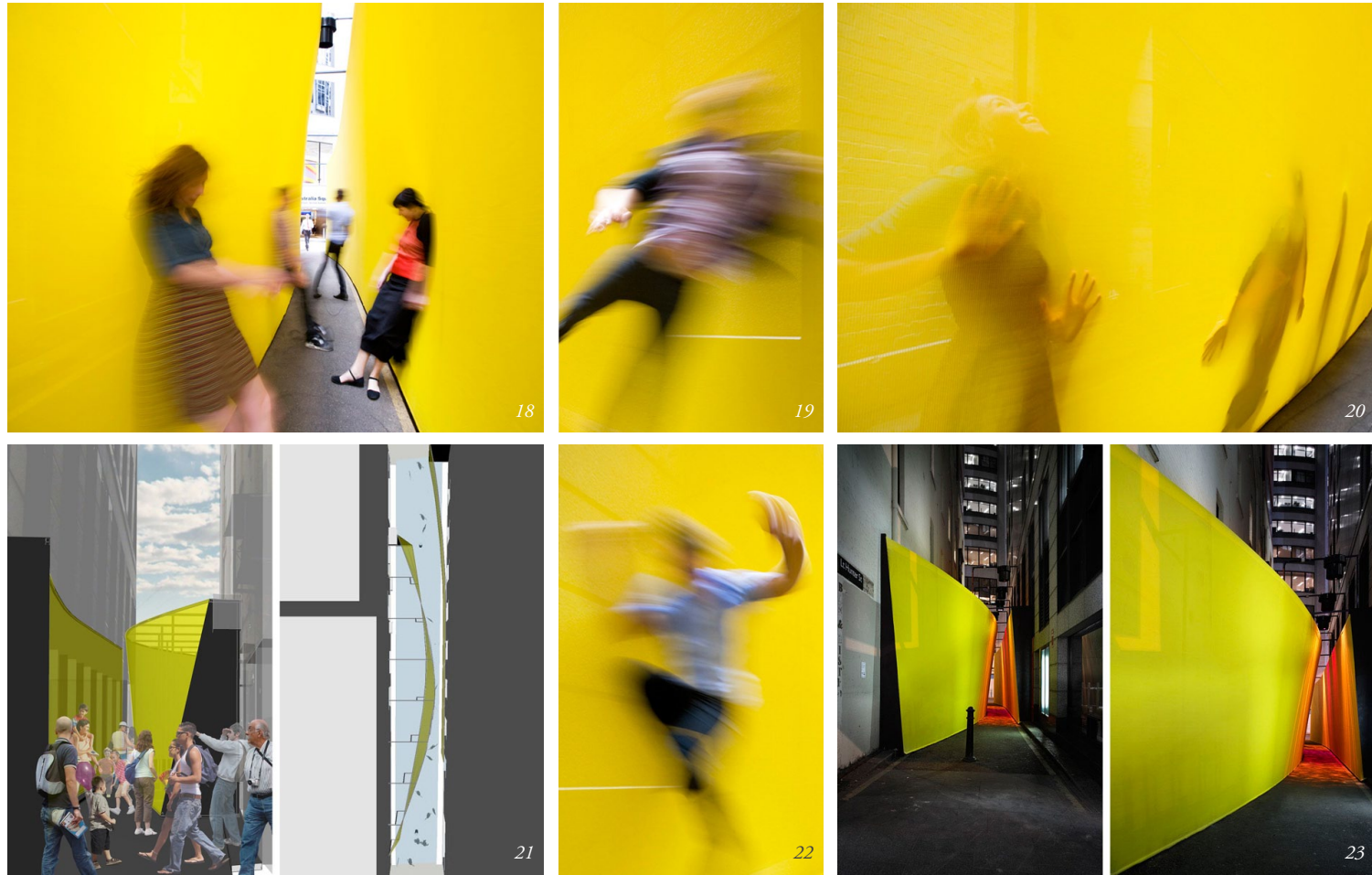


Figure 17: Why is existential intimacy valuable map (Author)

to sense and engage with space. An existentially intimate space maintains powerful interactions to connect the visitor to the entirety. I have defined “existential intimacy” to describe the haptic bodily experience of a space through which one gains an understanding of something bigger than themselves (whether it be a system, process, or just being more aware and connected with their direct surroundings).

Existential intimacy reflects a valuable spatial quality and experience as it redirects and controls the forces of the entire world to create an ability or affect which connects the visitor in an unexpected way to the existential qualities of human life and the environment. It creates haptic, bodily relationships to things and space which allows different spatial territories and their life forces to be experienced and embodied. It removes the banal aspect of processes and places and allows an individual to connect to these mundane things. Existential intimacy also allows a distinguishing between the different types of intimacy and how these allow different types of appropriation. Engaging water with existential intimacy creates an opening into how to deal with political and environmental issues rather than just spatial qualities while using the different manifestations of water to accentuate spatiality and heighten experience to give some sense understanding. Fundamentally, it creates a more meaningful connection between people, process and space, which results in a greater understanding of something bigger.



Figures 18 - 23: *The Meeting Place - Laneways: By George! Hidden Networks* (ASPECT Studios, Herbert & Mason, and Derlot Studio)

2.1.1 Spatial Example

The Meeting Place – Laneways: By George! Hidden Networks

The Meeting Place is a spatial installation in a Sydney laneway designed by ASPECT Studios, Herbert & Mason and Derlot Studio for the City of Sydney Council. It is described as “part architectural sculpture, part social experiment” with the idea that it would encourage interaction and participation between people, while “heightening the experience of moving through the urban surrounds of Little Hunter Street” in Sydney.¹² Using two, four metre high, bright yellow fabric walls that curve through the space “a point of tension toward the centre of the laneway” is created which forces “pedestrians to negotiate their way through the busy thoroughfare by acknowledging and communicating with others moving in the opposite direction”.¹³ There is a particular opacity to the bright yellow fabric which allows “for obscured views through to the remaining unused parts of the laneways” and the building facades, and “at night, the yellow fabric became a canvas for revealing movement of people within the space”.¹⁴ This spatial installation becomes important as it is dealing with a sense of intimacy that is often lost in the bustling streets of big cities, where interaction with the people around you is very limited. This space is dealing with a version of forced physical intimacy between people, rather than necessarily an explicit form of existential intimacy. However, one can argue that existential intimacy is present in this space due to the nature of the heightened awareness of people, space, scale and surroundings through the use of this installation - although it is not quite the type of existential intimacy that I am looking for.

12 (ASPECT Studios, Herbert & Mason, and Derlot Studio)
 13 (ASPECT Studios, Herbert & Mason, and Derlot Studio)
 14 (ASPECT Studios, Herbert & Mason, and Derlot Studio)

2.2 Existential Intimacy and the Senses

When considering the senses themselves, there is a large amount of discourse around as to how many finite senses there are and how they are linked. Traditionally, we understand that there are five classical senses – sight, sound, taste, touch and smell.

Michel Serres explains in *The Five Senses: A Philosophy of Mingled Bodies* that “Democritus, who explained sensation by the friction of atoms of different shapes and sizes, thought that all the senses were really only variations of the one sense of touch”.¹⁵ Aristotle distinguished four senses as he wanted to “correlate the senses with the four elements – vision with water, sound with air, smell with fire and touch with earth”, believing that taste was just a “modification’ of touch”, but he also suggested that there was existence of a “sixth, quasi-sense, the *sensus communis*” whose function was to “mediate between the other” senses.¹⁶ Serres goes on to explain that this “metasense” is strongly linked with the skin.¹⁷ Through the twentieth century, further senses were also differentiated such as “heat and weight”, which aligns back to “Socrates who, in Plato’s *Theaetetus*, observes that, in addition to the ordinarily-recognized senses ... ‘there are others besides, a great number which have names and an infinite number which have not’”.¹⁸ Serres understands the senses as “the principal means whereby the body mingles with the world and with itself” and regards the skin “as the ground or synopsis of all the senses” as it is “a variety of our mingled senses”.¹⁹

Psychologist James J Gibson “regards the senses as aggressively seeking mechanisms rather than mere passive receivers” and categorises “five sensory systems: visual system, auditory system, the taste-smell system, the basic-orienting system and the haptic system.”²⁰

15 (Serres 2)
16 (Serres 2)
17 (Serres 2)
18 (Serres 2)
19 (Serres 3)
20 (Pallasmaa 45)

In *Eyes of the Skin*, Juhani Pallasmaa talks about the body as being “the locus of perception, thought and consciousness” and the senses as “articulating, storing and processing sensory responses and thoughts”.²¹ When discussing the senses Pallasmaa suggests that “touch is the sensory mode which integrates our experiences of the world and of ourselves” with visual perceptions fused into this “haptic continuum of the self”.²² He sees all of the senses as being “extensions of the tactile sense” and “specialisations of skin tissue”, explaining that all sensory experiences are “modes of touching” which define the “interface between the skin and the environment” and that we can even “see by our skin” through its ability to distinguish a number of colours.²³ Pallasmaa discusses that the “eye is the organ of distance and separation, whereas touch is the sense of nearness, intimacy and affection” and that a detachment of the two could not “have any idea of distance, outness, or profundity, nor consequently of space or body”.²⁴ He goes on to explain that “vision is direction, whereas sound is omni-directional” and creates an “experience of interiority”, that the “most persistent memory of any space is often smell” with the body only needing “eight molecules of substance to trigger an impulse of smell in a nerve ending” while being able to “detect more than 10 000 different odours” and that “our skin traces temperature spaces with unerring precision” turning these sensations “into experiences of space and place”.²⁵

For existential intimacy to occur, all of the senses have to be addressed simultaneously in order to “help to fuse our image of self with the experience of the world.”²⁶ It is about pulling together the realms of multi-sensory experience to interact and translate “qualities of space, matter and scale”, bringing “the world into a most intimate contact with the body” which strengthens ones existential “sense of being in the world, and ... essentially a strengthened experience of self”.²⁷

21 (Pallasmaa 11)
22 (Pallasmaa 12)
23 (Pallasmaa 12, 45)
24 (Pallasmaa 45, 50)
25 (Pallasmaa 45, 53, 58, 62)
26 (Pallasmaa 12)
27 (Pallasmaa 45, 64)

2.3 Existential intimacy and Water

Water can be used as an important device for existential intimacy to occur enhancing the ability to engage with larger systems, spaces and more of the senses.

Michel Serres describes water as being “a sensorial base line ... an exceptional fluid in many ways and what is more, odourless, colourless, tasteless. Elusive and almost intangible, nearly translucent, still when nothing disturbs it, noiseless”, yet somehow water has “taste, colours and an aroma that tells us where it came from”.²⁸ Water has the ability to engage in multiple senses, enhancing spatial experiences and volumes. As Juhani Pallasmaa describes in *Eyes of the Skin*,

“anyone who has become entranced by the sound of dripping water in the darkness of a ruin can attest to the extraordinary capacity of the ear to carve a volume into the void of darkness. The space traced by the ear in the darkness becomes a cavity sculpted directly in the interior of the mind.”²⁹

It is this ability of water to cross all of the senses and create expansiveness that makes it such a central element when creating existential intimacy. Automatically, the connection with the sound of the dripping water in the example above connects with multiple senses and engages the imagination to create sense of space in the mind. Sound is not the only sense that is activated though; it is the “constant interaction of all sense modalities” that strengthens “one’s sense of reality” and the haptic nature of existential intimacy.³⁰

Juhani Pallasmaa, Steven Holl, and Alberto Pérez Gómez discuss water as being “a ‘phenomenal lens’ with powers of reflection, spatial

28 (Serres 169)

29 (Pallasmaa 54)

30 (Pallasmaa 44–45)



Figure 24: Exploration of the qualities and manifestations of water (Author)

reversal, refraction, and the transformation of rays of light” in *Questions of Perception*.³¹ They also explain that the balance between “the science of water and the exhilarating qualities of experience” are found in “the many states and transformative properties” of water, giving the example of reflections on the bottom of a still pool of water, in which “we can often see intense focal lines of sunlight projected by the crests of wavelets acting as lenses” which allows the “psychological power of reflections [to] overcome[s] the “science” of refraction.”³² It is not only the physical manifestations of water, but also the ability of water to transform “light through material [which] can present poetic tools for making spaces of exhilarating perceptions”.³³

Gaston Bachelard talks about the intimacy of water in *The Poetics of Space*, referring to water as a “space-substance” with the “mark of limitlessness”.³⁴ He describes the idea of reflections “in water [being] the first view that the universe has of itself”, heightening the beauty of the landscape, and views lakes or ponds as “the very eye of the landscape”, the “most beautiful and expressive feature ... looking into which the beholder measures the depth of his own nature”.³⁵

David Leatherbarrow adds to explain that water “exaggerates these qualities of shapeless territory”, and “has the virtue of unselfish willingness to sacrifice its present form for the shape of its next container ... The pressure it exerts substantiates shape”.³⁶ It is this flexibility of water that allows it to cross through many spaces, manifestations and create so many different experiences.

It is waters ability to change through so many different manifestations while still maintaining its identity that makes it such an exciting material or element to work with. Pallasmaa proposes the idea that natural materials “allow our vision to penetrate their surfaces and

31 (Holl, Pallasmaa, and Pérez Gómez 80)
32 (Holl, Pallasmaa, and Pérez Gómez 80)
33 (Holl, Pallasmaa, and Pérez Gómez 83)
34 (Bachelard 205)
35 (Bachelard 209–210)
36 (Leatherbarrow 173)

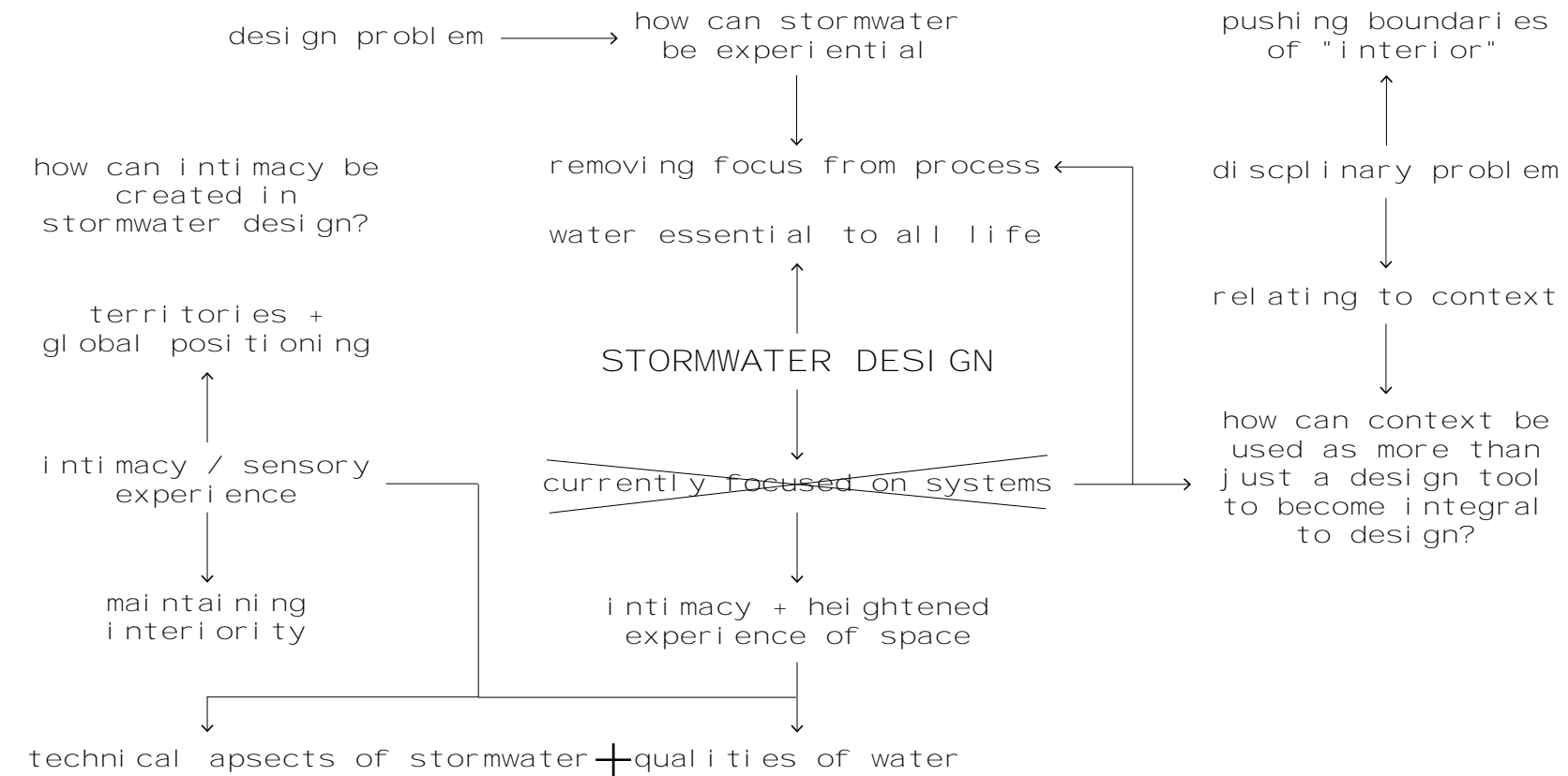


Figure 25: Analysis of stormwater and intimacy - connection through water (Author)

enable us to become convinced of the veracity of matter” with the “patina of wear add[ing] the enriching experience of time to the materials”, suggesting that current design and construction is weakened by a flat sense of materiality.³⁷

The versatility of water makes it an essential element in terms of existential intimacy and also when engaging with larger systems, such as the landscape and engineered systems like stormwater. By dealing with stormwater, the use of water as a device for existential intimacy has dual use – not only to deal with the stormwater but also to enhance the spatial experience. It creates an easy way into dealing with the politics that might surround such a design or proposal as “politics is always connected to spatial issues ... and design ... are all political in the sense that they represent an evolving issue”.³⁸ This further aids in connecting “humans and nonhumans” and reduces the “divide between nature and culture”.³⁹

³⁷ (Pallasmaa 34)

³⁸ (Ghosn, Jazairy, and Ramos 124)

³⁹ (Ghosn, Jazairy, and Ramos 132)



Figures 26 + 27: *Bridge*, by Michael Cross (Cross)

2.3.1 Spatial Examples

Bridge

Bridge by Michael Cross is a spatial installation in an old, abandoned church which is now used for art in Dilston Grove, south-east London.⁴⁰ The installation is a large pool of water (60 centimetres deep, 54 000 litres of water) which fills two thirds of the empty church.⁴¹ Within this pool of water “is a series of steps which rise up out of the water in front of you” as you walk across, and “disappear back underneath behind you as you go, leaving you stranded with only one step visible in front of you, and one behind”.⁴² When you reach the middle of the pool, the steps suddenly stop and “you find yourself totally isolated and cut off from the shore”.⁴³ This moment of being stuck, surrounded by water, is one of the key, powerful moments of this installation. For some visitors the moment of being out in the water brings “mixed feelings of peace, isolation, relaxation and fear”, whereas others found it terrifying and had to be escorted back to the side.⁴⁴ Returning the way you came, this abstract concept of a bridge becomes a tool in exploring the feelings of “fear and delight, anxiety and peace” while embodying a “strong sense of wonder and a desire to question, explore, challenge and change”.⁴⁵ There is something about very spiritual context of this installation which intensifies the spatial experience of being stranded in the water, and somewhat ironically, it is through the feeling of walking *on* water, that the visitor’s sensory perception is first shifted. The water is not deep, and one can tell that from the outside of the pool, but as soon as one is walking on the small steps as they pop up out of the water, the water seems much deeper and it is through this experience that the visitors fears begin to bubble to the surface.

40 (Cross)
 41 (Cross)
 42 (Cross)
 43 (Cross)
 44 (Cross)
 45 (Cross)



Figures 28 + 29: *Bridge*, by Michael Cross (Cross)

Perhaps if the steps were stationary this space would not have the same effect, but something about the way that they ripple the water as they move up and down, unsettles the experience. The artist explained that when the installation was going, they ended up deciding to make people wait outside the church as someone was walking in the installation as otherwise there was a “fair ground atmosphere” which ruined the intense spatial connection and spiritual experience intended.⁴⁶ The simple employment of water along with the moving steps really heightened this spatial experience and is a great example of existential intimacy.

⁴⁶ (Cross)



Figures 30 - 35: Rain Room by rAndom International (figures 30, 31 + 33: (rAndom International, Rain Room); figures 32, 34 + 35 (rAndom International, Rain Room by rAndom International at the Barbican))

Rain Room

Rain Room by Random International, is a 100m² spatial installation that has been housed at the Barbican in London and also at MoMA in New York.⁴⁷ The installation is simply described as a “field of falling water through which it is possible to walk ... without being drenched in the process”.⁴⁸ As you approach and enter the space (The Curve at the Barbican), “the sound of water and a suggestion of moisture fill the air”, yet you remain untouched by the water as the “carefully choreographed downpour ... responds to your movements and presence”.⁴⁹ A series of cameras and sensors installed around the room track where the visitor is, and stop the flow of water above them accordingly, creating a cocoon of dry space surrounded by a wall of water.⁵⁰ The water falls through a grated floor “where it is treated before being sent back up to the ceiling to fall again.”⁵¹ The act of being surrounded by rain yet not getting wet creates an intense spatial experience – light sources are scattered around the space but the pure focus of the installation is on the sound of the rain and the water falling through the space which creates “an intimate atmosphere of contemplation”.⁵² The intention of this installation is to “explore the behaviour of the viewer and the viewers: pushing people outside their comfort zones, extracting their base auto-responses and playing with intuition.”⁵³ This installation truly encompasses existential intimacy as the body senses and expects rain to touch it, yet through the technology and the installation, does not get wet. This throws out the general expectation of the space and enlivens the experience.

47 (rAndom International, *Rain Room*)
 48 (rAndom International, *Rain Room*)
 49 (rAndom International, *Rain Room*)
 50 (rAndom International, *Rain Room by rAndom International at the Barbican*)
 51 (rAndom International, *Rain Room by rAndom International at the Barbican*)
 52 (rAndom International, *Rain Room by rAndom International at the Barbican*)
 53 (rAndom International, *Rain Room by rAndom International at the Barbican*)

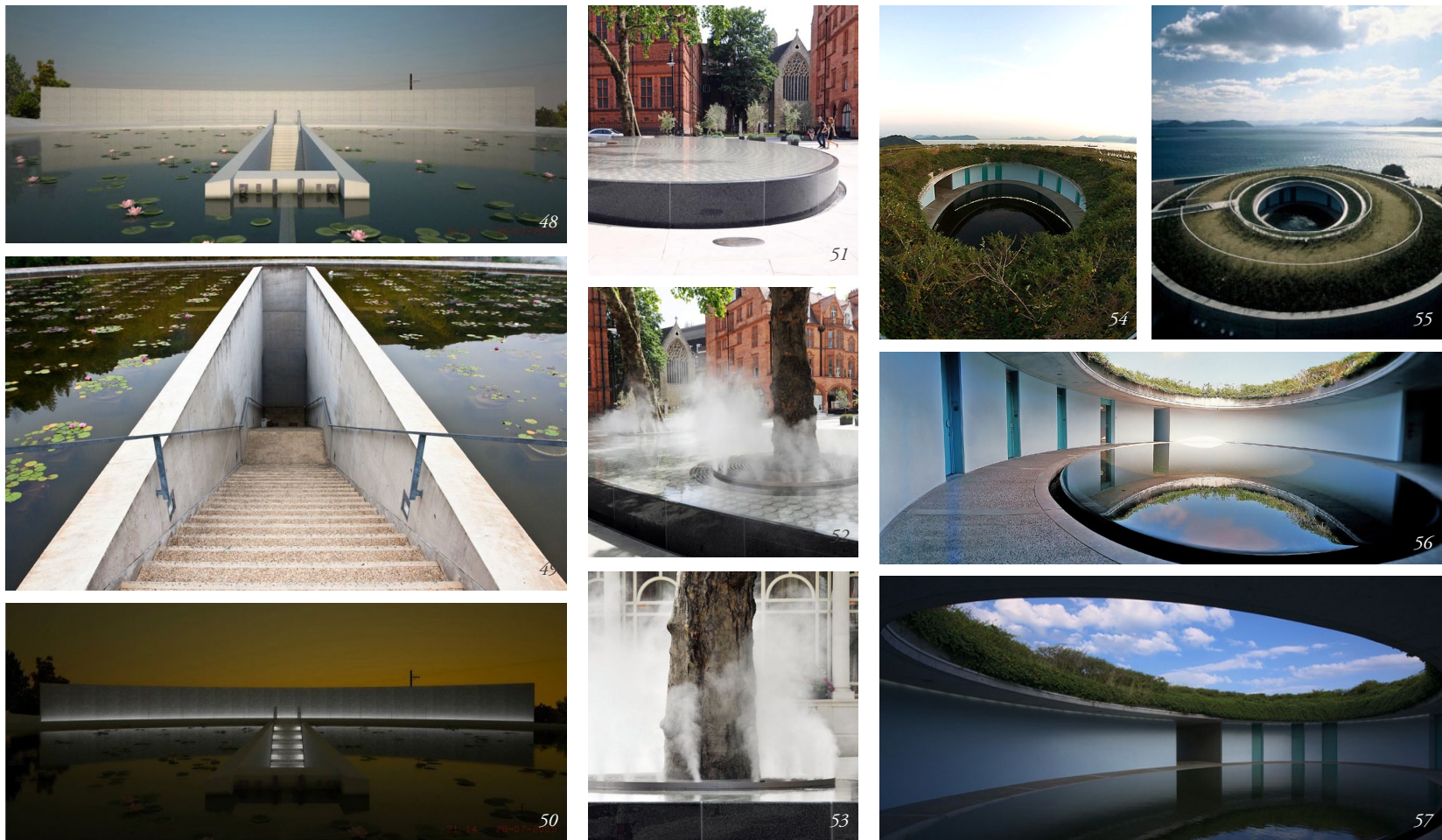


Figures 36 - 47: Moses Bridge by RO&AD Architects (figures 36 - 38: (RO&AD architecten); figures 39 - 47: (RO&AD))

Moses Bridge

The Moses Bridge by RO&AD Architects is a sunken bridge located in a historic fort, Fort de Roovere, in Halsteren, The Netherlands.⁵⁴ The bridge was created as the 17th century defence-line of The West Brabant Water Line consisting of earthen fortresses and walls that linked and protected cities and villages “with inundation areas⁵⁵ in the south-west of the Netherlands ... fell into disrepair in the 19th century”, and as it was restored, “an access bridge across the moat of one of the fortresses” was needed.⁵⁶ The bridge was designed to sit invisibly in this newly recreational fort, to lie “like a trench in the fortress and the moat, shaped to blend in with the outlines of the landscape” with the water and ground coming all the way up to its edge.⁵⁷ It is the act of being lead below the surface of the water, yet staying dry while crossing the moat that encompasses existential intimacy. This shift in perception of how water normally behaves in this situation allows a more meaningful connection to be made. It is not often that one can be at the same level as the water and experience it in such a way. The direct path that creates this movement downwards is also important as it is perhaps this movement down into the land that emphasizes the experience and existential intimacy of the intervention. The approach is also very important as when the bridge is empty, it is nearly invisible, but when people are crossing, the visitor only sees a dissected portion of people floating across the water.

54 (RO&AD architecten)
 55 “inundation zones were flooded with water too deep for enemy advance on foot but shallow enough to rule out use of boats” (RO&AD)
 56 (RO&AD architecten; RO&AD)
 57 (RO&AD architecten)



Figures 48 - 50: *The Water Temple*, by Tadao Ando (figures 48 + 50: (Ando, *Water Temple*); figure 49: (Ando, *Water Temple - Shingonshu Honpukuji*))
 Figures 51 - 53: *Silence*, by Tadao Ando + Blair Associates (Ando and Blair Associates)
 Figures 54 - 57: *Benesse House Museum*, by Tadao Ando (figures 54 + 56: (Ando, *Benesse House Oval*); figure 55: (Ando, *Benesse House Museum*); figure 57: (Ando, *Benesse House Museum*))

Tadao Ando

Tadao Ando is a Japanese architect who utilises the manifestations and existential qualities of water to enhance his designed spaces and buildings. In *The Water Temple*, in Awaji Island, Japan, Ando uses a large pool of water to act as a reflective rooftop while also acting as a cleansing ritual as one enters the temple through the threshold of the water.⁵⁸ By incorporating this element in this spiritual context the water becomes more than just a pond, it becomes a part of the ritual of the temple. In the spatial installation *Silence* in a square in London, Ando uses the manifestation of steam to shift visitor's perceptions of the large pond of water.⁵⁹ The pond steams around the trees every 15 minutes for 15 seconds, creating a haze across the space and releasing moisture into the air.⁶⁰ The steam dances with the light to cast shadows around the pond and square, and transforms an otherwise stagnant pond of water. In the *Benesse House Museum* in Naoshima, Kagawa, Japan, Ando uses a circular shaped space along with a circular pond sitting within it, to reflect the sky and the traditionally *exterior* spaces into this courtyard, in effect, transforming the space and making it feel more expansive.⁶¹ In the context of the art museum, the pond becomes a blank canvas transformed by the reflections cast into it from outside space. Ando's use of water is often in pond or pool form, but the way this pond or pool is incorporated into spaces with the manifestations of water as well as the important context of the design, makes every single design more meaningful and enhances the spatial qualities.

58 (Tadao Ando Architect & Associates)
 59 (Ando and Blair Associates)
 60 (Ando and Blair Associates)
 61 (Tadao Ando Architect & Associates)

outcomes, “They need to be perceived”.⁶⁸ Affordances are “neither physical nor phenomenal” and are “properties taken with reference to the observer.”⁶⁹ They are more about “*how* an animal lives than to *where* it lives” and do not change if the needs of the observer or animal change.⁷⁰

The concept of an assemblage is defined as being “a collection or gathering of things or people” which come together to create a specific experience, object or space.⁷¹ Assemblages are important for this research as they talk about the combination of elements which come together to create existential intimacy or other spatial experiences. This concept will be used again as a basis for how the selected spaces are explained in terms of their existential intimacy power.

68 (Gibson 143)
69 (Gibson 143)
70 (Gibson 128, 138–139)
71 (Oxford University Press, “Assemblage”)

2.5 Representing Existential Intimacy

How does one represent such an intangible spatial experience, the “unanalysable architecture of the senses”?⁷² It is not an experience that can be sketched out simply as it represents so many different elements – how do you draw taste, temperature, sound, etc. without simply describing it in words? As Holl, Pallasmaa and Pérez Gómez explain, design “is not an experience that words translate later. Like the poem itself, it is its figure as presence, which constitutes the means and end of the experience”, the temporal dimension is fundamental to engage with all of our sensory perceptions.⁷³ Typically, Interior Architecture is based around viewing space in the perspective, visualising in three or four dimensions and primarily in digital form, whereas Landscape is based more in large scale plans and sections, again usually digital but there also some interaction with the hand. It is an interesting interface between representations and also disciplines, as how does one tackle the large scale while also interacting with the details? The concept of existential intimacy becomes an important tool to do this.

Interestingly, as the design process unfolded throughout this thesis, I found myself using digital representations only as an aid when creating images and explorations by hand. As Pallasmaa explains,

“computer imaging tends to flatten our magnificent, multi-sensory, simultaneous and synchronic capacities by turning the design process into a passive visual manipulation, a retinal journey”

by creating distance between the object and designer, “whereas drawing by hand as well as working with models put the designer in a haptic contact with the object, or space.”⁷⁴

72 (Pallasmaa 7)
73 (Holl, Pallasmaa, and Pérez Gómez 8, 23, 41)
74 (Pallasmaa 14)

When considering the concept of viewing space in perspective, just how that perspective is represented becomes particularly important in order to enhance the concept of existential intimacy. Pallasmaa describes an interesting concept regarding peripheral and unfocused vision, suggesting that “a remarkable factor in the experience of enveloping spatiality, interiority and hapticity is the deliberate suppression of sharp focused vision”, proposing that “the very essence of the lived experience is moulded by” this unfocused vision and the “unconscious haptic imagery”.⁷⁵ Pallasmaa states that “focused vision confronts us with the world whereas peripheral vision envelops us into the flesh of the world” by allowing us to experience the existential “preconscious perceptual realm” integrating us with space rather than pushing us out of space as focused vision does.⁷⁶ He also believes that we close off “the distancing sense of vision” during overpowering emotional experiences, and because of this “deep shadows and darkness are essential” as they “make depth and distance ambiguous, and invite unconscious peripheral vision and tactile fantasy.”⁷⁷

It is important to try to articulate the other sensory elements in the spatial experiences as “the isolation of the eye outside its natural interaction with other sense modalities ... fragments the innate complexity, comprehensiveness” and reinforces “a sense of detachment and alienation” as “an architectural work is not experienced as a collection of isolated visual pictures, but in its fully embodied material and spiritual presence.”⁷⁸ The challenge becomes more about creating “a new dynamic conception of both image and architecture” through creating “movement” and “time images” that “belong to a dynamic rather than static geography” which attempts to reproduce the world.⁷⁹ It is the act of creating an innovative “flow of time” which allows the representation of the experience of space to be meaningful rather than represented in a way in which nobody ever sees them.⁸⁰

75 (Pallasmaa 14)
76 (Pallasmaa 14–15)
77 (Pallasmaa 50)
78 (Pallasmaa 43, 48)
79 (Cache ix, xvii)
80 (Ghosn, Jazairy, and Ramos 127–128)

When designing with a focus on existential intimacy an expansiveness across scales is created, meaning that the design cannot lose context or detail but is forced to engage with both to create spaces which are both functional (in an engineered and practical sense) and experiential. The challenge of representing these spatial concepts will be tested and attempted by using the discussed techniques in a way that articulates and expresses the spatial identity and existential intimacy of place.

2.6 Existential Intimacy, Interior, Landscape and Engineered Infrastructure

Existential intimacy acts as a powerful catalyst to bring together usually disparate concepts in the case of this research, interior, landscape and engineered infrastructure. Engineered infrastructure and landscape often have a connection when trying to make infrastructural systems inhabitable, but there is often times a missed opportunity to create the most meaningful dialogue which is where the specialisation of interior becomes important. As a discipline however interior tends to not relate to site and context very well often completely ignoring it to create a temporally isolated design which is where the integration with landscape becomes important as landscape is obsessed with site and context often times losing the details through this large scale focus. Often engineered infrastructure is so focused on the functional aspect that it misses the ability to integrate into meaningful experience and often attempts to make the interaction with the functional side meaningful are unsuccessful. In the case of this research specifically, stormwater infrastructure has been chosen to be focused on particularly due to the spatial qualities of water and its ability to transform space and experience as explained above. Stormwater also becomes an important piece of infrastructure as it one that is literally connected to the world – rain falls in cities which then drains into stormwater culverts which flow out into the ocean – an element which connects the entire world. The use of stormwater also makes the design practical and problem solving firmly rooting a spatial installation as a necessity.

Pallasmaa illuminates well that “architecture, as with all art, is fundamentally confronted with questions of human existence in space”, it is “deeply engaged in the metaphysical questions of the self and the world, interiority and exteriority, time and duration, life and death”.⁸¹ Buildings and cities provide “the horizon for the understanding and confronting of the human existential condition” and to be existential have to relate to the body “the city and my body supplement and define each other”.⁸² “The percept of the body and the

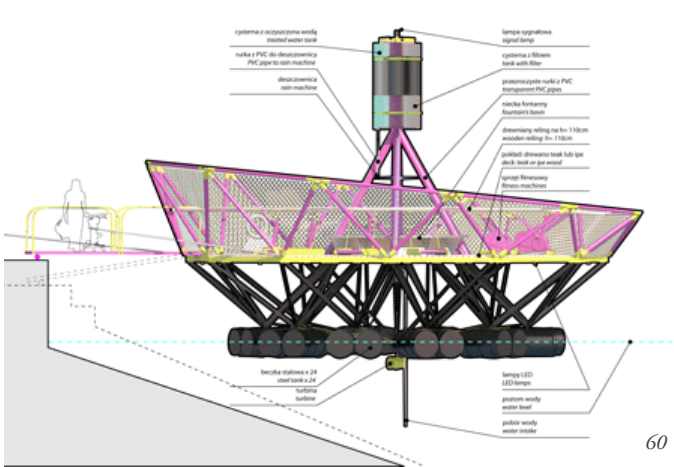
81 (Pallasmaa 19)

82 (Pallasmaa 13, 43)

image of the world turn into one single continuous existential experience”.⁸³ Buildings and cities act as “instruments and museums of time” enabling us to “participate in time cycles that surpass individual life” with their own individual echo.⁸⁴ He suggests that “architecture is essentially an extension of nature into the man-made realm” which “presents the drama of construction silenced into matter, space and light”.⁸⁵

The articulation and testing of this spatial experience makes sense within the landscape and the city as Pallasmaa suggests that “a walk through a forest is invigorating and healing due to the constant interaction of all sense modalities” in essence a “polyphony of the senses” a concept which is central to existential intimacy as the desire is to engage with all of the senses to bring “the world into a most intimate contact with the body.”⁸⁶ It is also this context which allows the spatial experience to become encompassing of the whole world as one is not contained within a building. It is through the integration of the technical and the poetic, the large scale of infrastructure and landscape with the human scale and existential connections that has the potential to unveil “a fuller sense of landscape” and place.⁸⁷ The transformation of day-to-day experiences brings means that “intimate space loses its clarity, while exterior space loses its void”, merging and entwining interior and exterior, creating an expansiveness of experience.⁸⁸

83 (Pallasmaa 44)
84 (Pallasmaa 55–56)
85 (Pallasmaa 44–45, 55)
86 (Pallasmaa 44, 64)
87 (Leatherbarrow 172)
88 (Bachelard 218)



Figures 59 - 61: Synchronicity Island, by Jakub Szczęsny (Szczęsny)

2.6.1 Spatial Examples

Synchronicity Island

Synchronicity Island is a floating island designed by Jakub Szczęsny to sit on a river in Warsaw.⁸⁹ The island, powered by exercise machines, is designed to clean and purify the polluted water in the river by kinetically pumping it through four filters and tanks connected to the exercise equipment, through to a fountain in the islands centre which returns the water back into the river.⁹⁰ The notion of this design is to show “the efficiency of human action in the process of purifying the waters” of the river.⁹¹ Although the concept of using kinetic energy to clean water is interesting the articulation of the design is not successful. The use of materiality and colour results in a potentially meaningful experience feeling crass and childlike. The concept has huge potential to connect people to understanding their interactions with the water in the river and how they may be able to make it healthier, but ultimately, the essence is lost through the gimmicky form and articulation of the design.

89 (Szczęsny)
90 (Szczęsny)
91 (Szczęsny)

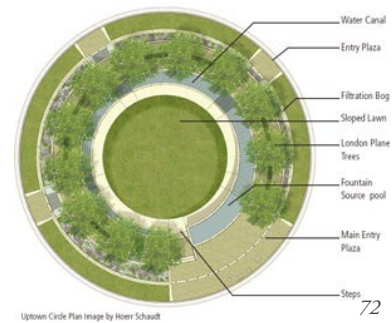


Figures 62 - 70: Waitangi Park, by Wraight Athfield Landscape + Architecture (Author)

Waitangi Park

Waitangi Park designed by Wraight Athfield Landscape + Architecture, is a local Wellington design that I was easily able to access to interrogate its existential intimacy.⁹² Waitangi Park is a multiuse space designed on the Wellington waterfront to “improve water quality” and contribute to the visual appeal of the waterfront.⁹³ Through the daylighting of the Waitangi Stream, an opportunity was created to treat the water from this stream through a public space, integrating the process into day-to-day life. Although a successful public space, which does in fact allow other certain types of intimacy (such as areas for people to congregate) there is a missed opportunity within Waitangi Park for visitors to understand the context of the stormwater being cleaned around them, with most people being completely unaware that it is occurring. When visiting if you are in fact aware of the water treatment happening it does become an extremely interesting space to traverse but it struggles to connect to visitors on an existential level.

92 (Wraight Athfield Landscape + Architecture)
 93 (Wraight Athfield Landscape + Architecture)



Figures 71 - 73: *The Circle*, by Hoerr Schaudt Landscape Architects (figures 71 + 73: (Hoerr Schaudt Landscape Architects, *The Circle in Uptown Normal*); figure 72: (Hoerr Schaudt Landscape Architects, *The Circle*))

The Circle

The Circle is a roundabout in Illinois, designed by Hoerr Schaudt Landscape Architects.⁹⁴ The roundabout is designed to be multi-functional and sustainable by cleaning and re-circulating stormwater “into a public fountain”, managing and improving traffic while providing “community green space”.⁹⁵ Although a clever use of usually wasted and uninhabited space, this design also lacks the existential connection to the context of the water treatment and what that means for the local context. It provides a public forum that could be enhanced to create a more meaningful connection to the water and by being surrounded by the traffic circulating the roundabout, an existential moment could occur, but has ultimately been missed.

⁹⁴ (Hoerr Schaudt Landscape Architects)

⁹⁵ (Hoerr Schaudt Landscape Architects)

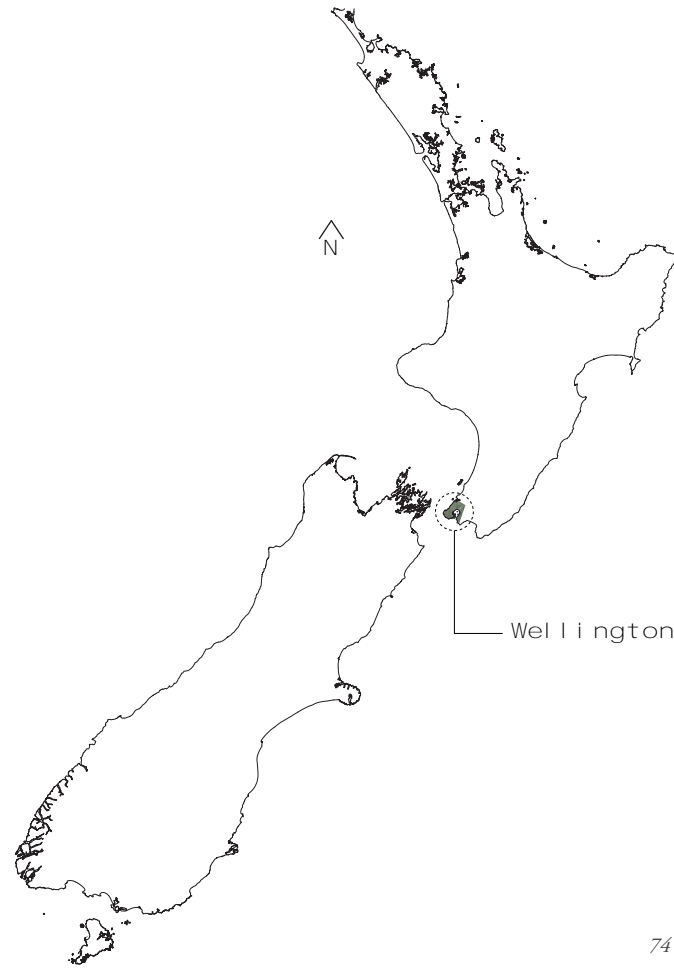


Figure 74: New Zealand map locating Wellington (Author; Koordinates Ltd.; TerraMetrics and Google)

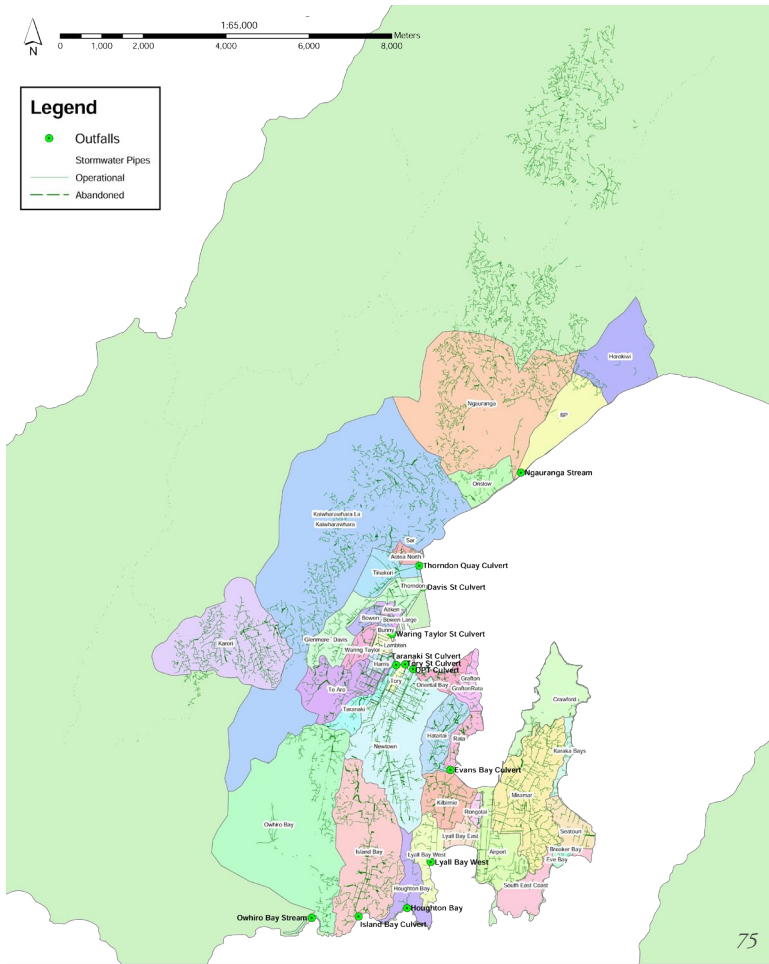


Figure 75: Wellington stormwater catchment map with outfalls (Wellington City Council 66)

3.0 Design Investigation

3.1 Site

Due to my limited knowledge of landscape and stormwater design it became important for a local context and site to be chosen for this research and design exploration. Wellington city is located at the bottom of the North Island of New Zealand (as seen in figure 74), with around “200 hours of sunshine a year” and temperatures between 19°C to 24°C in summer, and 6°C to 9°C in Winter.⁹⁶ Wellington enjoys plenty of rain with a 55% daily chance of rain throughout the winter months and, is a very windy city due to its location relative to the Cook Strait and surrounding hills.⁹⁷ I began by looking at Wellington as a whole and came to understand how the city was broken up into 42 different catchments, seen in figure 75.⁹⁸ When comparing the different catchments I took into account the size of the catchment area, interesting locations within the catchment area that had potential for existentially intimate designs, and the relationship between the different catchments. In the end I chose the Newtown catchment as its large area meant that it provided many different areas and opportunities for development and testing of designs particularly a large number of public and green spaces, as can be seen in figure 76. The Newtown catchment, covering 442 hectares encompasses the Wellington Zoo along with the city side of Mount Victoria, some of Mount Cook, and Waitangi Park and Clyde Quay Wharf along the waterfront.⁹⁹

96 (Positively Wellington Tourism)
 97 (Positively Wellington Tourism)
 98 (Wellington City Council, “Assessment of Water & Sanitary Services (2005)” 61)
 99 (Wellington City Council, “Assessment of Water & Sanitary Services (2005)” 73)



Figure 76: Wellington map locating the Newtown Catchment (Author; Koordinates Ltd.; TerraMetrics and Google)

3.1.1 Stormwater Issues in Wellington

In today’s uncertain context of looming climate change and natural disasters in Wellington where “the only main road out of the city”, government house, the main shipping terminal and 80 per cent of the water supply are situated right over a major fault line provision of water supply and runoff after a natural disaster will be a critical issue.¹⁰⁰ In the early years of the settlement of Wellington a city which is “tightly wedged between a steep cliff and a waterfront built on shaky ground”, water was mainly obtained from urban streams, springs, shallow wells or rainwater tanks. In an attempt to improve the health of the city these have been culverted and led into stormwater drains.¹⁰¹

The Wellington stormwater network consists of nearly 650 kilometres of pipes between one and 130 years old, which convey “almost 80 million cubic metres of rain from kerbs, channels, roofs, and commercial and household drains to the streams and marine environment each year.”¹⁰² It is estimated that around “80% of the stormwater pipes are between 40 and 60 years old”. With the Wellington City Council requiring a 50-year return standard¹⁰³ of these pipes it is somewhat shocking to learn that around 90% of the network currently does not meet this design standard yet the council claims that “the pipe network is generally in moderate to good condition”.¹⁰⁴

Flooding of properties, buildings and land, along with “pollution of receiving waters and the environment from contaminants in stormwater” are key issues for the Wellington City Council when analysing the current state of the stormwater system.¹⁰⁵ With the

100 (Allan and Bryant 43)
 101 (Allan and Bryant 43; Wellington City Council, “History of Water Network”)
 102 (Capacity Infrastructure Services Ltd. 5, 21)
 103 A 50-year return means that “property-flooding events are limited to a rain or storm event that could be reasonably expected once in 50 years.”(Capacity Infrastructure Services Ltd. 27)
 104 (Capacity Infrastructure Services Ltd. 21–22)
 105 (Capacity Infrastructure Services Ltd. 9)

amount of impervious surfaces intensifying with the increasing population and rise of development the amount of surface run-off during storm events also increases resulting in “increased pressure on undersized pipes” in turn causing “overland flood-flow and general flooding”.¹⁰⁶ While the current stormwater system is becoming increasingly inadequate in coping with storm events it is predicted that due to climate change the frequency of these large storms will only increase adversely impacting on the flooding problem.¹⁰⁷ Storm events are not the only issue facing the stormwater system with climate change also predicting sea level rise. Storm water outlets already become drowned at high and storm tides especially areas such as Kilbirnie, Miramar, Seatoun and some parts of the CBD.¹⁰⁸

The receiving waters quality is a big issue also with road runoff containing “contaminants from vehicles [such as] (zinc, copper and alumiosilicates from types and brakes of vehicles and sulphur from the fuel)” as well as being “heavily influenced by surrounding landuse ... and activities “resulting in the Wellington and Porirua Harbours containing ecotoxic¹⁰⁹ contaminants “at concentrations that exceed guidelines for aquatic life.”¹¹⁰ Inflow and infiltration between the stormwater and wastewater networks also affects the stormwater discharge quality, with this being a significant problem in “older areas of the city, especially in the CBD (central business district) through to Hospital Road in Newtown.”¹¹¹

106 (Capacity Infrastructure Services Ltd. 26)
107 (Capacity Infrastructure Services Ltd. 26)
108 (Capacity Infrastructure Services Ltd. 26)
109 “Ecotoxic contaminants are substances that are capable of causing ill health, injury or death to any living organism – such as heavy metals, polycyclic aromatic hydrocarbons, organochlorine pesticides and antifouling compounds. Carried in stormwater, ecotoxic contaminants can bind with sediment and accumulate where the sediment settles, on the seabed or the bed of a freshwater body, particularly in low energy aquatic receiving environments (Wellington City Council, “WCC Code of Practice for Land Development” 18–19)
110 (Part C Wellington City Council, “WCC Code of Practice for Land Development” 18)
111 (Capacity Infrastructure Services Ltd. 25)

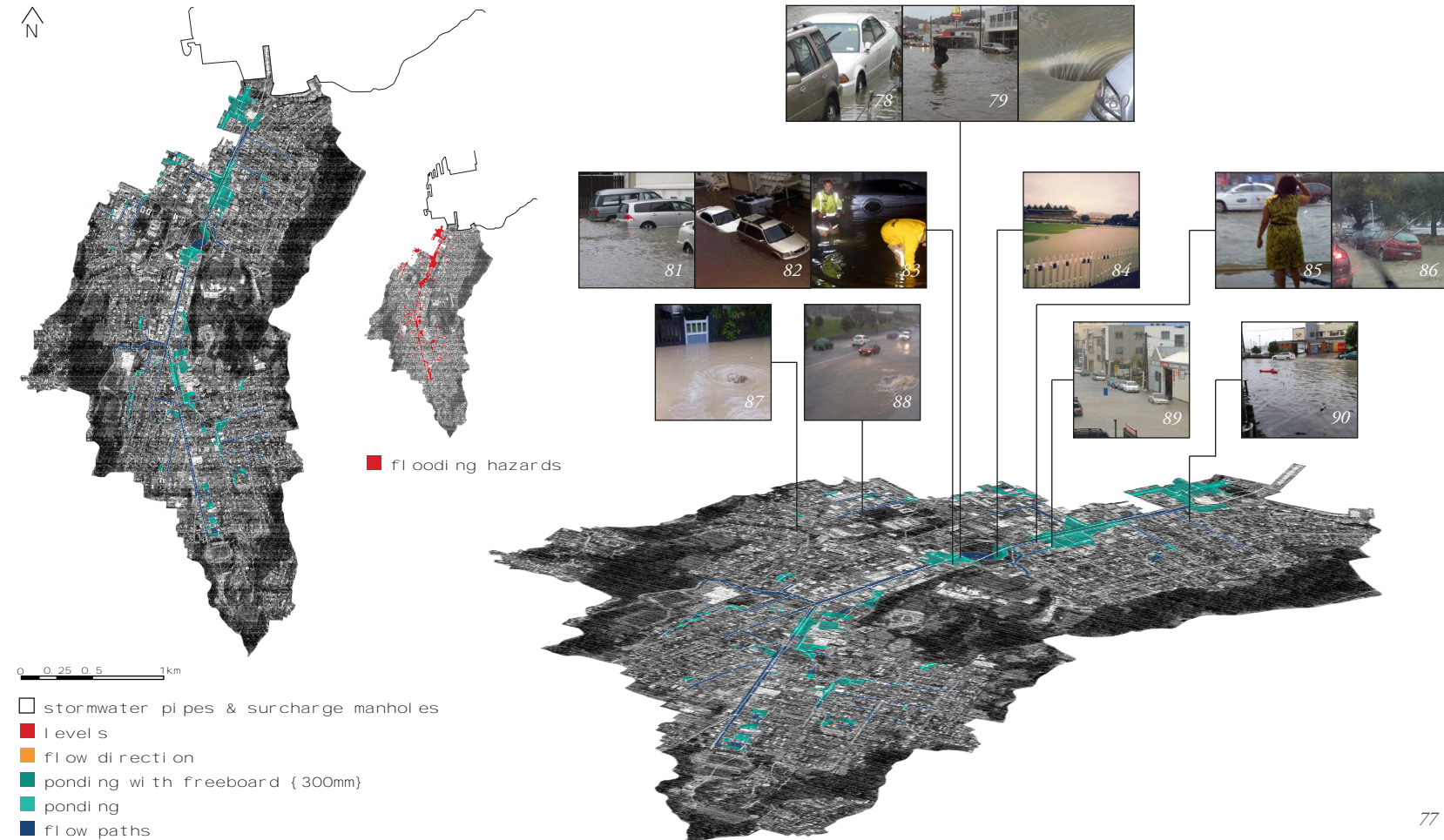


Figure 77: Ponding and flooding in the Newtown Catchment [1 in 50 year storm event] (Author; Koordinates Ltd.; TerraMetrics and Google)
 Figures 78 - 90: Contextual images of a flooding event in May 2013 (Figures 78, 80, 81 + 86 (iWitness); Figures 79, 82, 83, 84, 87 + 90 (Wellington Reporters); Figures 85, 88 + 89 ("Flights Departing Wellington Airport Delayed by High Winds"))

3.1.2 Flooding versus Water Quality

While it would be fascinating to deal with both the quantity and quality of the stormwater, my limited knowledge of stormwater infrastructure and landscape architecture meant that this would not be feasible. Instead, I chose to focus purely on the quantity aspect. Figure 77 shows the ponding and flooding hazards based on a one in 50 year storm event in the chosen Newtown catchment, along with the flow paths and directions and the ponding with a freeboard¹¹² of 300mm.¹¹³ Alongside this map are contextual photos from a storm event in the beginning of May 2013, when a considerable amount of flooding occurred throughout the Newtown catchment articulating the current stress the stormwater system is under. Through analysing this flood hazard data alongside another flood hazard study from SKM of the neighbouring Taranaki catchment it became clear that controlling the stormwater in the upper areas of a catchment could be a way of mitigating the flooding happening in the lower catchment while also in fact having an impact on the quality of the stormwater outflows. The council suggests that “permeable or porous paving, and retention and detention devices may be effective means for controlling peak flows of road runoff” by capturing the runoff and releasing “it at slow rates to filter out contaminants at source” allowing “suspended solids to settle, and in some instances, runoff to be absorbed (infiltrate) through to the ground, thereby reducing the risk of flooding.”¹¹⁴ Using these concepts seems a far more practical and interesting solution to flooding, rather than attempting to flood proof the city by using “partial flood bypassing in pressure pipes, raising houses or disestablishing floodable areas” or relying on “stormwater pumping stations”, and means that the water cycle¹¹⁵ in the city can be returned as closely

¹¹² A freeboard margin allows some variance in the flooding data to allow for the difficulty in predicting the actual flooding behaviour during a storm event. Using “modelled top water levels plus a freeboard allowance make up the given plan levels designated as recommended building levels”(SKM 10)
¹¹³ (Wellington City Council, “Assessment of Water & Sanitary Services (2005)” 73)
¹¹⁴ (Capacity Infrastructure Services Ltd. 19)
¹¹⁵ A natural water cycles operates through “precipitation, infiltration, surface runoff, and evaporation”, however, urban areas disturb this cycle with the water being polluted, unable to “infiltrate the ground due to paved surfaces, and is rapidly collected and discharged to the public draining systems leaving no time for evaporation”, impacting negatively on “groundwater recharge, water supplies, the qualitative and quantitative states of receiving rivers, and urban climate.”(Hoyer et al. 9)

to natural as possible.¹¹⁶

¹¹⁶ (Capacity Infrastructure Services Ltd. 26)

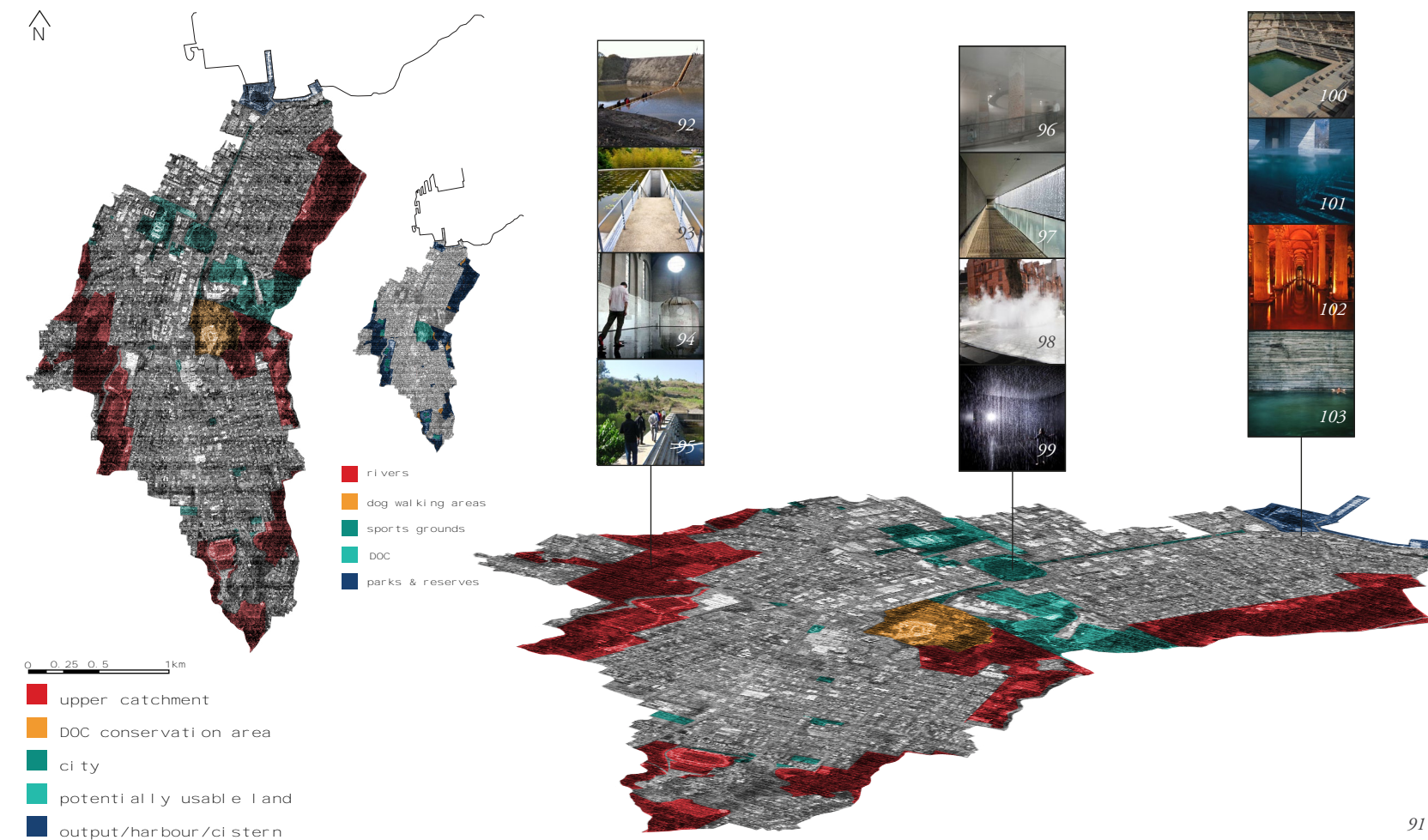


Figure 91: Available plots of land separated into different spatial exploration zones (Author; Koordinates Ltd.; TerraMetrics and Google)
 Figures 92 - 103: Contextual images of the sense of each zone (Figure 92: Moses Bridge (RO&AD); Figure 93: The Water Temple (Ando); Figure 94: Bridge (Cross); Figure 95: Check Dam (Design Impact); Figure 96 Cloudscapes (Etherington, "Cloudscapes by Tetsuo Kondo Architects and Transolar"); Figure 97: Sayamaike Historical Museum (arcspace); Figure 98: Silence (Ando and Blair Associates); Figure 99: Rain Room (rAndom International); Figure 100: Stepped Tank at Hampi (Buchmann); Figure 101: The Therme Vals (ArchDaily); Figure 102: The Basilica Cistern (Destination 360); Figure 103: The Therme Vals (Chang Hanway))

3.1.3 Newtown Catchment and Mount Victoria

Initially, I believed that I could tackle the entire catchment in a design sense when selecting potential areas for developing this design investigation in the Newtown catchment. I separated all of the available areas into 4 categories – the upper catchment, the city/middle catchment, the output/lower catchment and Department of Conservation areas (which would in practice be unusable). I then associated the different areas with different design qualities with the upper catchment being linked to water detention, the middle catchment being linked to the different manifestations of water and temporal spatial experiences, and the lower catchment/output being linked to the concept of an underground cistern to store treated water, as can be seen in figure 91. It quickly became apparent that although each of these spaces and qualities had huge potential, it was unrealistic to tackle such a large area and the implementation of all of these qualities through these spaces might not work for this project. This led me to reassess which areas I was going to tackle and how all of these spatial qualities might be involved in the design of a more specific area.

After analysing the Newtown catchment for some time, I decided to approach Mount Victoria as a site to explore the qualities of existential intimacy. After already identifying Mount Victoria as a site to test water detention, the design output began to become more aligned to the original concept of creating existential intimacy in relation to stormwater design.



Figure 104: Wellington Town Belt (Wellington City Archives, “Town Belt [general File] Part 7”)

Figures 105 - 111: Views of Mount Victoria over the years (Figure 105: (Wellington City Archives, Elevated View of Te Aro and Mount Victoria); Figure 106: (Wellington City Archives, Reclamation at Te Aro); Figure 107: (Wellington City Archives, Wellington from Kelburn Hills); Figure 108: (Wellington City Archives, Elevated View of Te Aro to Mount Victoria, from the Terrace); Figure 109: (Wellington City Archives, Wellington City, Looking towards Mount Victoria from Central Business District); Figure 110: Mount Victoria from Kelburn (Author); Figure 111: Mount Victoria from Newlands (Author))

3.1.4 Mount Victoria and the Green Belt

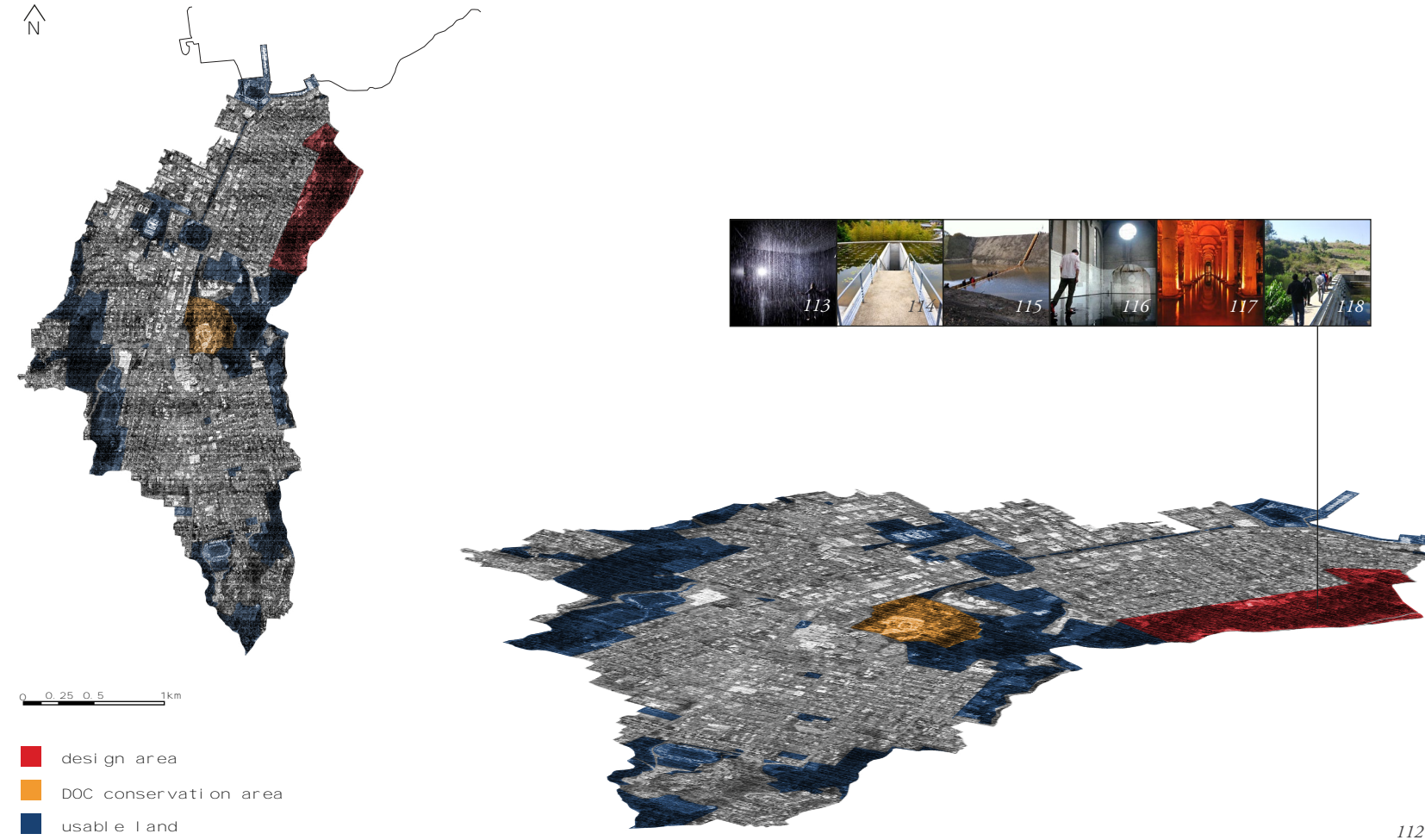
Mount Victoria lies within the Wellington town belt, a green belt comprising of 393 hectares (in between 1987-1990), shrinking from the 615 hectares that was planned and set aside by the town planners in Britain and the New Zealand Company in 1839.¹¹⁷ The town belt itself cradles Wellington in a horseshoe shape, stretching around the CBD from Wailestone, Northland and Thorndon, back down through Newtown and Berhampore, and around to Oriental Bay (see figure 104). In 1873, a “Deed of Conveyance ... formally vested the belt in the city” stating that the town belt was “to be forever hereafter used and appropriated as public recreation ground for the inhabitants of the City of Wellington”, a sentiment that has been strongly maintained by the people of Wellington.¹¹⁸

Mount Victoria has long held an important visual and recreational position in the Wellington CBD with the series of historic photos from figure 105 to figure 111 (dated from 1863 through to today) showing the prominence of Mt Victoria in the city’s skyline. It is also interesting to note the development of the planting and ecology of Mount Victoria through this time also, as it developed from being planted only in grass, through to low shrubs and trees and then onto the large pine, eucalyptus and native plantings of today.

When visiting Mount Victoria and walking through its many winding walkways it is quite an amazing space. Making you feel isolated from the city while still being so connected through the bursts of traffic noise that cut through the birds and the wind and also a visual connection where the trees open up. The interface between the city and Mount Victoria is somewhat troubled however, with most pathways and entrances not giving any sign of the extraordinary spaces that are hidden behind the façade of trees. When I visited Mount Victoria and began to search for sites that might work with this concept of existential intimacy it became really clear that there was already a large element of spaces containing existential intimacy, but that mostly the space overall is used as a thoroughfare – with

117 (Wellington City Archives, “Town Belt [general File] Part 2” 2; Wellington City Archives, “Town Belt [general File] Part 6”)

118 (Wellington City Archives, “Town Belt [general File] Part 6”)



people passing through on mountain bikes, walking or driving – which makes it a really interesting part of the everyday experiences people encounter. The challenge then became more about how to enhance these everyday experiences.

3.2 Design Objectives

The method of enquiry into how this concept of existential intimacy and stormwater design can combine together within the landscape is through the means of water detention. Water detention up Mount Victoria opens up a range of possibilities in terms of how this usually process focused design can become more experiential and evoke a sense of understanding or context. I have tested this concept through designing dams and other detention structures up Mount Victoria, to see what the context and this functional aspect can draw together. Instead of just allowing existential intimacy to occur, the space will be intentionally crafted with the detention structures and use of water to enhance the space and its qualities. By specifically designing in the context of Mount Victoria, allowed physical site visits which aid in drawing out the specific spatial qualities of the experience relevant to this location and it allowed a greater sense of connection. By engaging in this practical way with water it also means that the spaces will have multiple levels of meaning and will enhance the connection between people and space. By designing in this context, it means that an expansiveness across scales will be created and dealt with meaning the details cannot be lost. However for the space to be successful it also has to be connected to the whole context.

3.3 Methodology

By using design as the primary mode of enquiry throughout this research, the concept of existential intimacy has been teased out and understood in more depth. Only through analysing and designing spaces in Mount Victoria and others which I had physically visited, was I able to understand that existential intimacy is about the coming together (assemblage) of concepts, experiences and spaces, resulting in rich, experiential spaces and spatial experiences. I learnt through the design development that some representations and explorations of existential intimacy were too subtle and needed a stronger intention and spatial effect to fully encompass this concept of existential intimacy. By using water detention as an articulation of this enquiry it has meant that the design goes from being purely poetic and temporal to having an everyday functional use and need. Developing the “art” of existential intimacy has been a huge challenge specifically in relation to my knowledge at the beginning of this research. Through testing of theoretical concepts from architects such as Juhani Pallasmaa and Gaston Bachelard, and interrogating case studies a combination of theories and representations has evolved. As a designer I tend to get stuck in the details of a design slowing the progress of the overall design. However by designing with this concept of existential intimacy I have been forced to look at the spatial details in conjunction with the overall larger context of the design and its implications.

3.3.1 Landscape / Interior Interface

Working within the interface between Landscape and Interior Architecture has been one of the main challenges throughout this research. How does one deal with the small details and design evocatively while also considering the entire larger context and drawing these details at a different scale? This interface is one that not many have braved to dabble in but through this concept of existential intimacy the two somewhat disparate disciplines are drawn together in a harmonious way to encompass all the spatial experiences related.

Not only this how does one communicate these ideas not only visually, but also verbally? Each discipline has its own set of language in drawings and language, as well as a specific style. I came into this research believing interior was better at representing spaces than landscape but through testing and designing have found they represent in different ways with interior being based in the perspective and landscape based in the plan and section.

Working in this interface has resulted in huge growth for me as a designer as it has pushed my skills and knowledge to my limits while also allowing me to interrogate my own discipline and its relationship to other disciplines. A really important and interesting challenge that showed up throughout this process as well is that interior architecture is extremely digitally based focusing a lot on digital renders and building space in the 3Dimensional perspective whereas landscape tends to be based more in plans and sections. It has been an interesting challenge using both of these typical forms of representations but perhaps the most interesting and surprising thing was that for the majority of the representations throughout this design a lot of it was done through hand sketching and drawing which was then enhanced and worked on digitally. This meant that although I was designing it didn't quite feel as though I was because the representation was so different. This also created fear when approaching very typical landscape drawings and conventions as I don't have the same knowledge and understanding of how to articulate in their way and I have a very different way of seeing space and

understanding it in drawings. For instance, the large cross sections in the body of the design were a set of drawings that took me a long time to craft and master as I was trying to maintain the balance between the spatial feel for the section along with the ecology and typography of the space to create a drawing that read to me as more than just a diagram. I found comfort in creating spatial perspectives but found that these often weren't as meaningful in communication as the cross sections and plans were.

The interface between these two disciplines has so much untapped potential with both being able to connect and communicate across many levels of understanding and representation. I think the most important aspect of the relationship between these two disciplines is the different way they connect to site and context and what that means for the design – generally interiors are very insular and don't relate well to site and context and landscape is usually so caught up in the site that the smaller spatial details are lost. It was a really interesting challenge connecting and communicating ideas with people who have a slightly different thought process and way of articulating this.

3.3.2 Engineering

In order to deal with the engineering aspects of this design, I had to tap into a lot of other professional knowledge and experience to provide the general idea and concept of what I was trying to achieve. For the context of this research it was not important for me to learn absolutely everything about engineering, stormwater design and water catchments but to learn enough in order to help progress the design. This involved learning how to do and to use ArcGIS mapping tools, learning about the general concepts of landscape engineering – particularly in relation to stormwater, check dams, larger scale dams and water sensitive urban design – along with how to work out peak flows of catchments and pond capacity calculations. All of these meant that the design tended to take a more practical route through these calculations and explorations and I often found myself getting caught up in trying to understand and implement these concepts. Over the year I found myself understanding these concepts far quicker and easier than at the start.

3.3.3 Preoccupations

In general throughout this research, I have tended to be preoccupied with understanding and implementing all of the technical engineering and landscape information. I have spent a lot of time learning and understanding the theoretical side of engineering, stormwater design, stormwater management and the issues in Wellington city. I also spent a lot of time trying to understand the history of the site and the context, resulting in many hours at archives.

I began by interrogating what it was that I meant by “intimacy” teasing it out into a more comprehensive concept, analysing sites and case studies, doing site visits, drawing design drawings (such as plans, cross sections, perspectives, details), going back and interrogating these drawings alongside the conceptual theory and repeating these steps again to come to a final series of designs. Throughout this process getting the technical and functional details correct was a big focus and probably distracted me from the actual point of my design – the concept of existential intimacy.

This research contributes to not only the field of interior architecture, but also landscape and stormwater engineering. It opens up possibilities for experiences of spaces that currently tend to process and function driven while pushing the boundaries of what interior is and developing a more comprehensive representational language for landscape. Generally the biggest thing I struggled with throughout this process was the representation of this spatial quality in a landscape format.

3.4 Design Iterations

The following design explorations present a series of opportunities and explorations in terms of how this design could work in context. It is probable that at this scale, context and time there is not one final design that could be selected and implemented. Rather the range of possibilities presented have the opportunity with refinement through the addition of other disciplines such as engineering to become a relevant choice. The presented designs represent a selection of different detention systems- interestingly a variety tend to occur across each section.

3.4.1 Overall Context

To begin tackling this large space size I was unaccustomed to I went on some site visits and then began to generate flow studies in Arc Map to figure out where the water tended to flow in storm events (see figure 119). From this I then looked at the flow paths and the contouring of the land and began to draw out areas that might hold decent amounts of water if a dam wall was built. This turned out to be a crucial step in the design as the potential for this space became very clear once this initial drawing was done. From here I attempted to select a few of the detention areas that I believed would be the most efficient and create some interesting spatial experiences. I then tested with general rules, what the plan turned into when drawing straight dam walls, using the assumption that 1 metre in height meant 250 millimetres in thickness of the wall. Then testing with curved walls was the next step as a general rule is that the material thickness of a curved concrete dam wall is about half as thick as a straight wall.

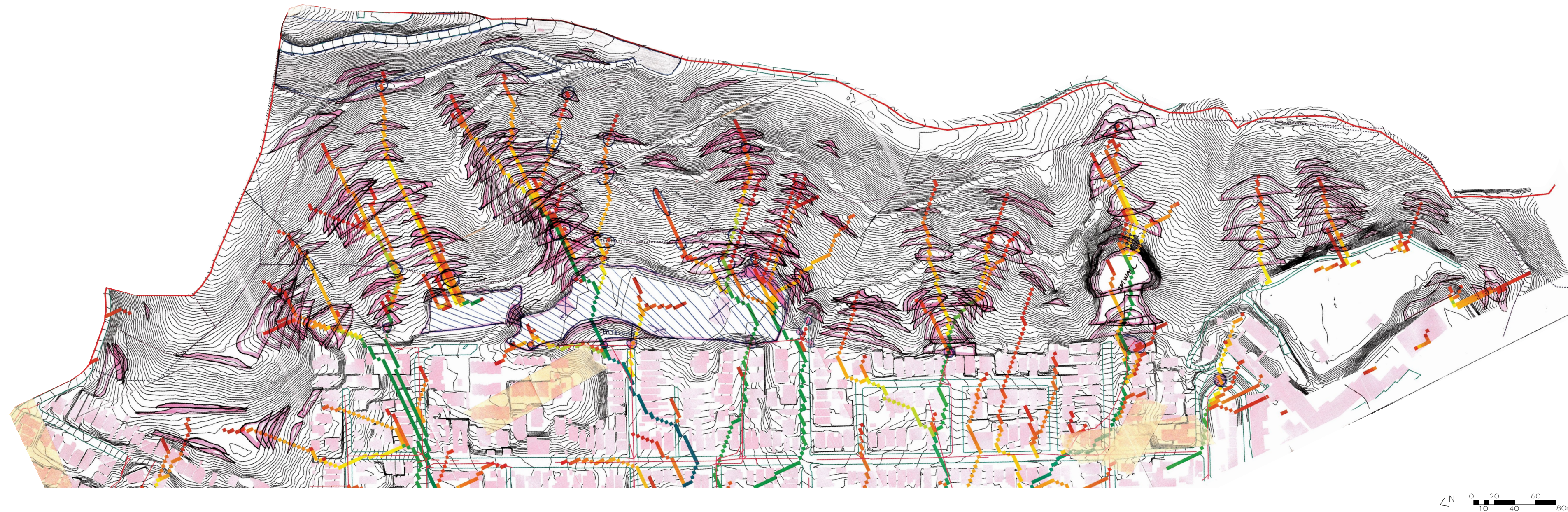


Figure 119: ArcMap flow path studies for Mount Victoria - overlaid with all areas water could be detained (Author; Koordinates Ltd.)

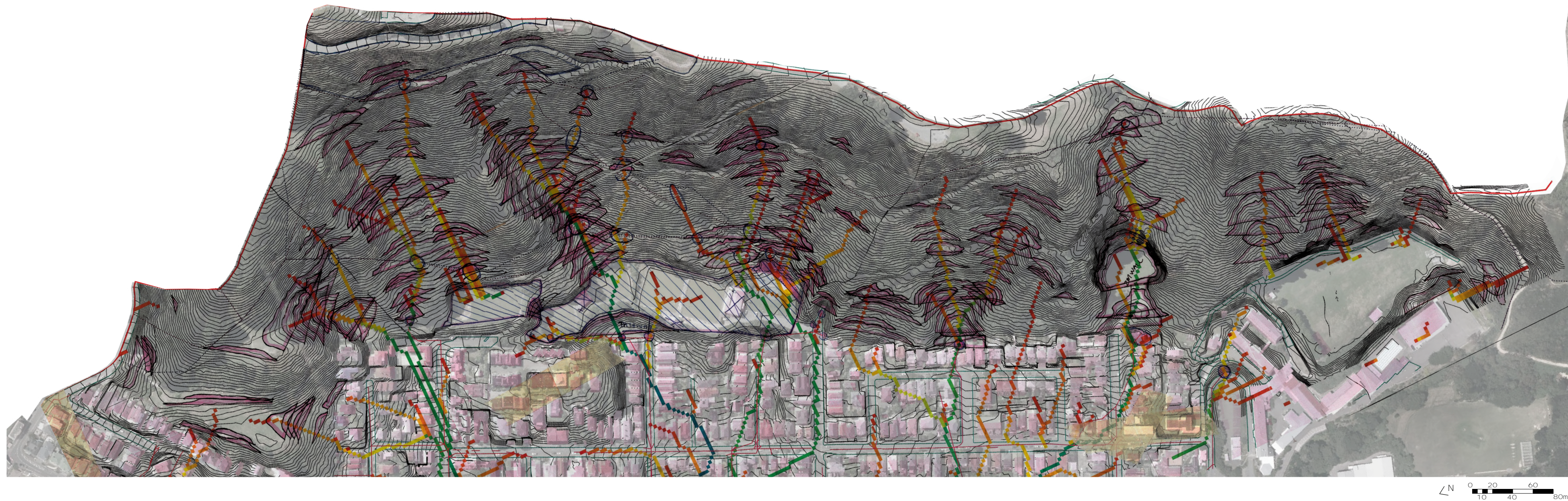


Figure 120: ArcMap flow path studies for Mount Victoria with all areas water could be detained with context (Author; Koordinates Ltd.; TerraMetrics and Google)

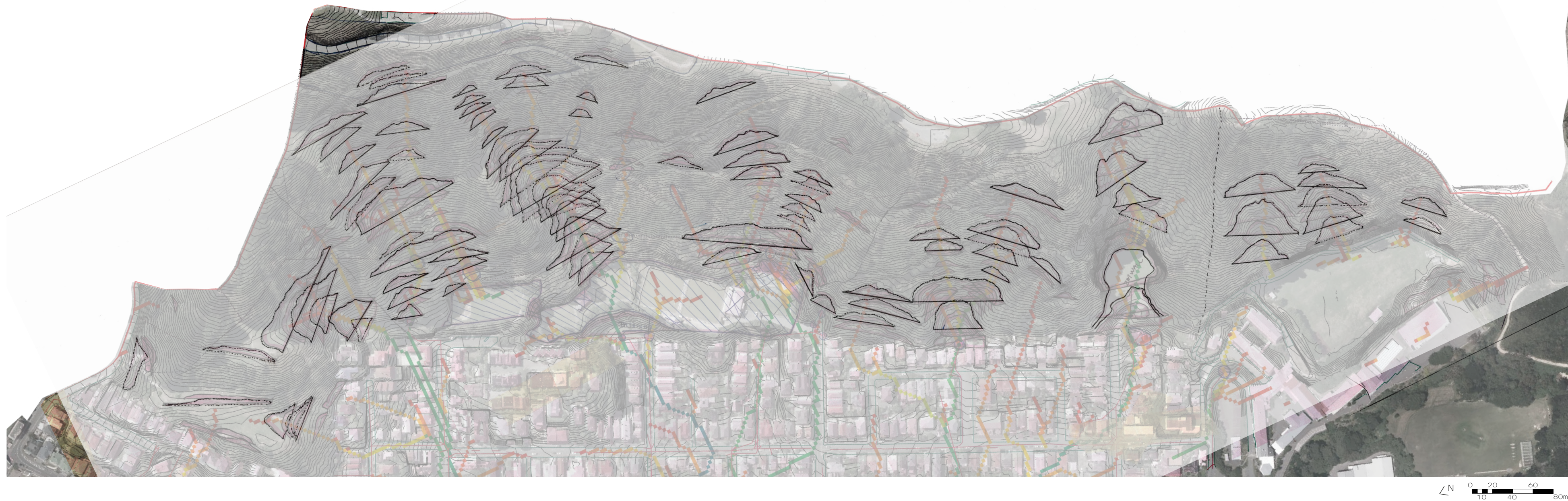


Figure 121: Selecting important/valuable detention areas (Author; Koordinates Ltd.; TerraMetrics and Google)

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Figure 122: Straight dam walls across important detention areas - using the assumption that for 1 meter depth of water = 0.25m dam wall thickness (Author; Koordinates Ltd.; TerraMetrics and Google)



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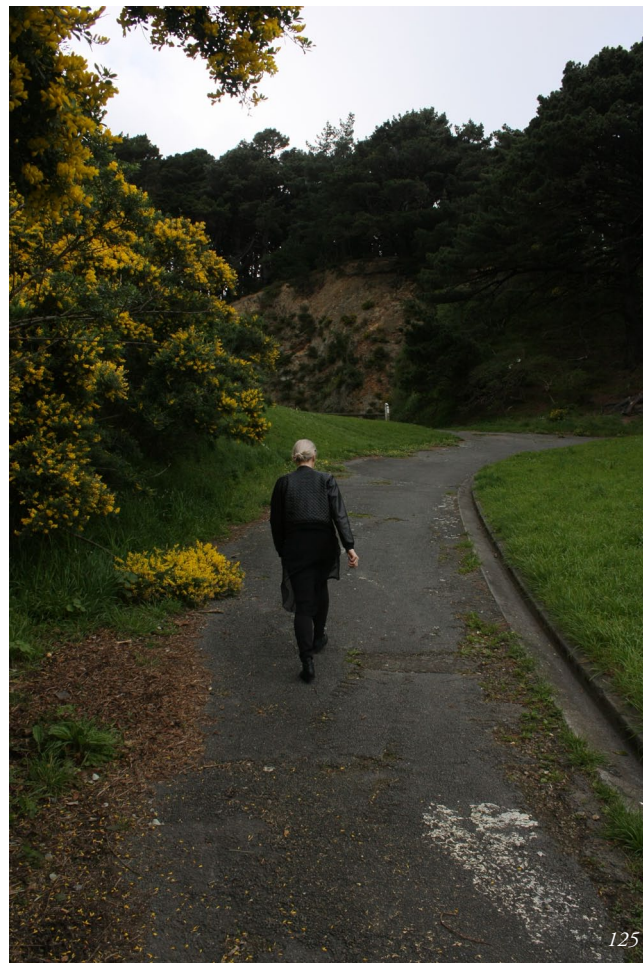
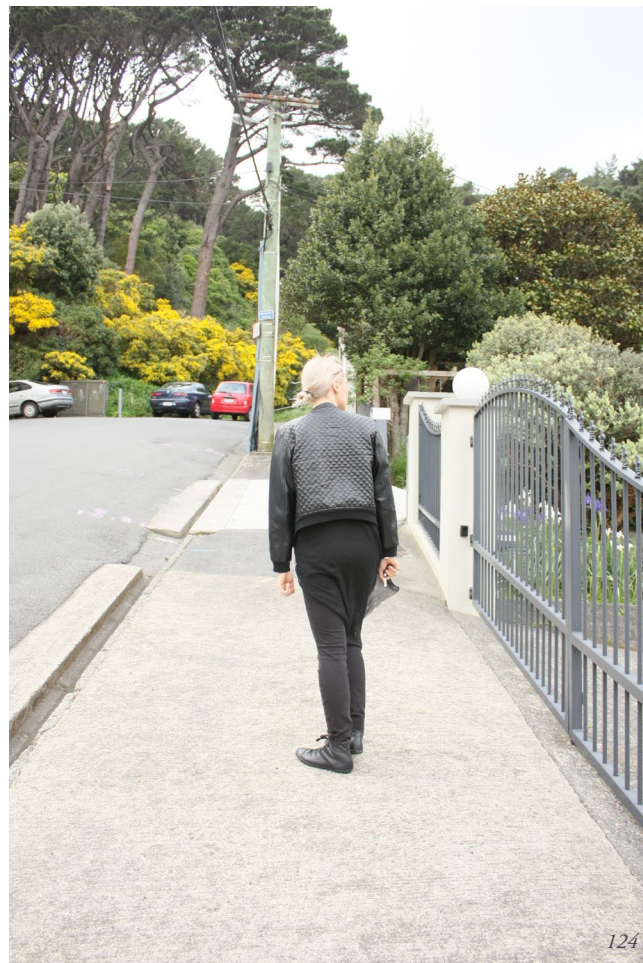


Figure 124 + 125: City approach to Cistern (Author)

3.4.2 The Cistern – Abandoned Quarry

The Cistern is an old abandoned Blue Metal quarry at the top of Ellice Street.¹¹⁹ Over the years the space has been used as a dumping ground for rubbish, an area for shooting practice, and currently as a dog walking area.¹²⁰ There is something really spectacular about this space, particularly as there is no other space quite like it up Mount Victoria. Approaching the space, one must walk either up a steep hill from the city, or down a narrow path from the town belt but once you cross the threshold that is the hump of the hill you are cast into this deep bowl like space which opens out onto the city. As soon as you enter the space, you are confronted by the intense verticality and the height of the space, drawn towards the back of the quarry, and when you turn around you are rewarded with a sheltered view across the valley out towards the city – standing on the brink of the of the boundary between the city and the green belt. By adding water and an underground cistern to the space, the bowl like atmosphere is enhanced and the visitor disappears under the ground level to experience the cistern just out of site of the city. This space becomes a sort of catalyst for the rest of the design, acting as another form of detention. The tank works alongside the series of dams to help slow the flow of water into the city.

119 (Wellington City Archives, “G H Baylis, Regarding Quarry at Mount Victoria Reserve”)

120 (Wellington City Archives, “Quarry: Ellice Street, Mount Victoria”)

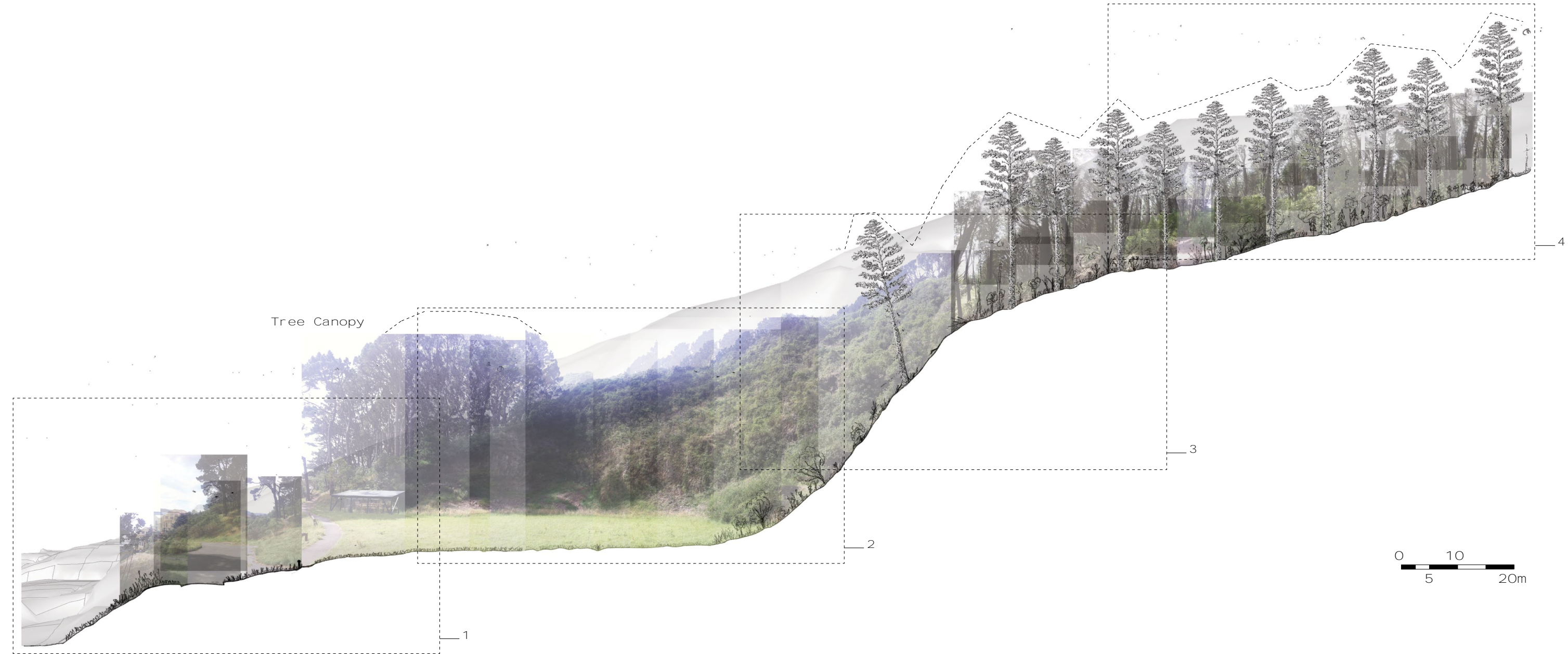


Figure 126: The Cistern cross section - before intervention (Author; Koordinates Ltd.)

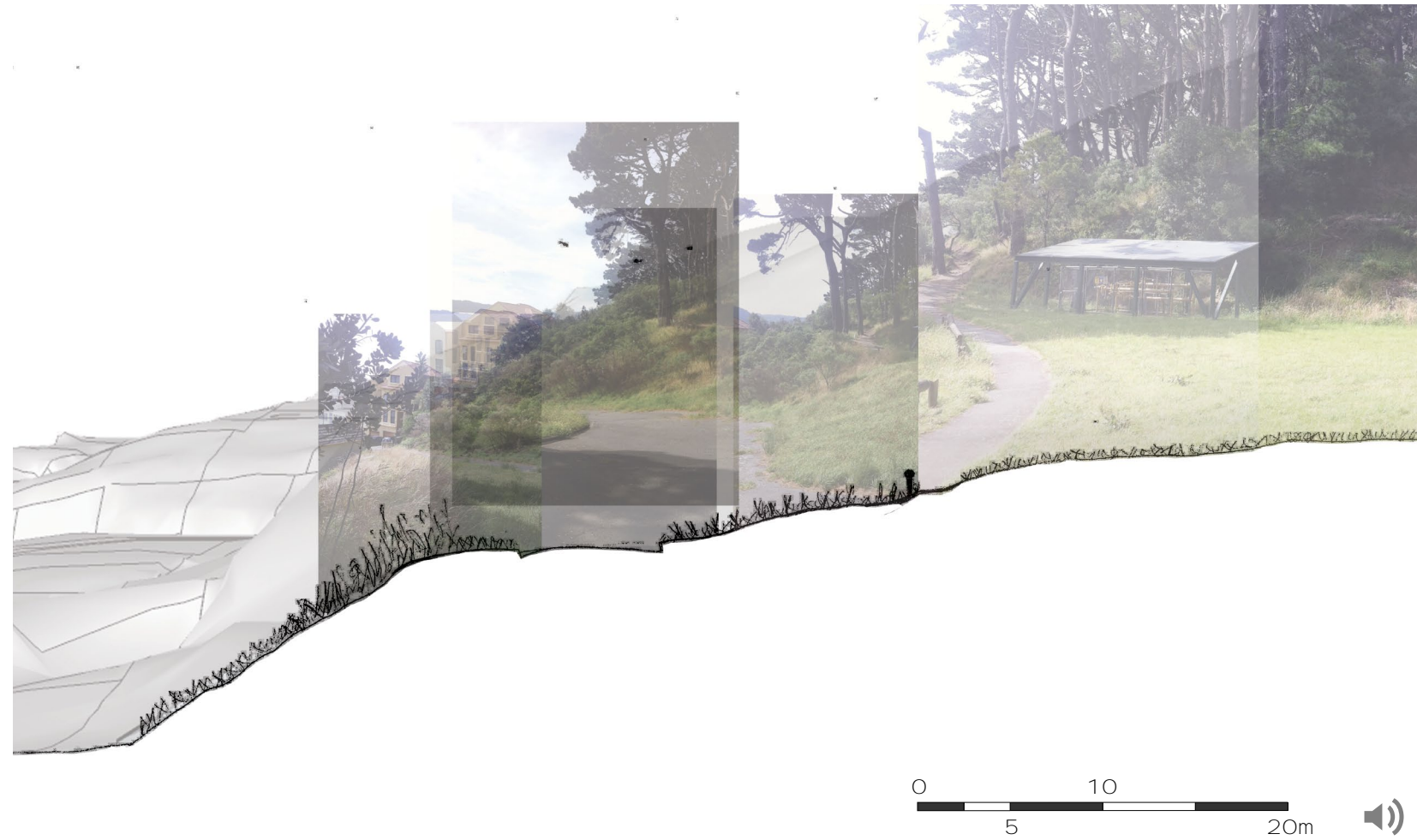


Figure 127: The Cistern cross section [section 1 zoomed] - before intervention (Author; Koordinates Ltd.); Audio: (Author)

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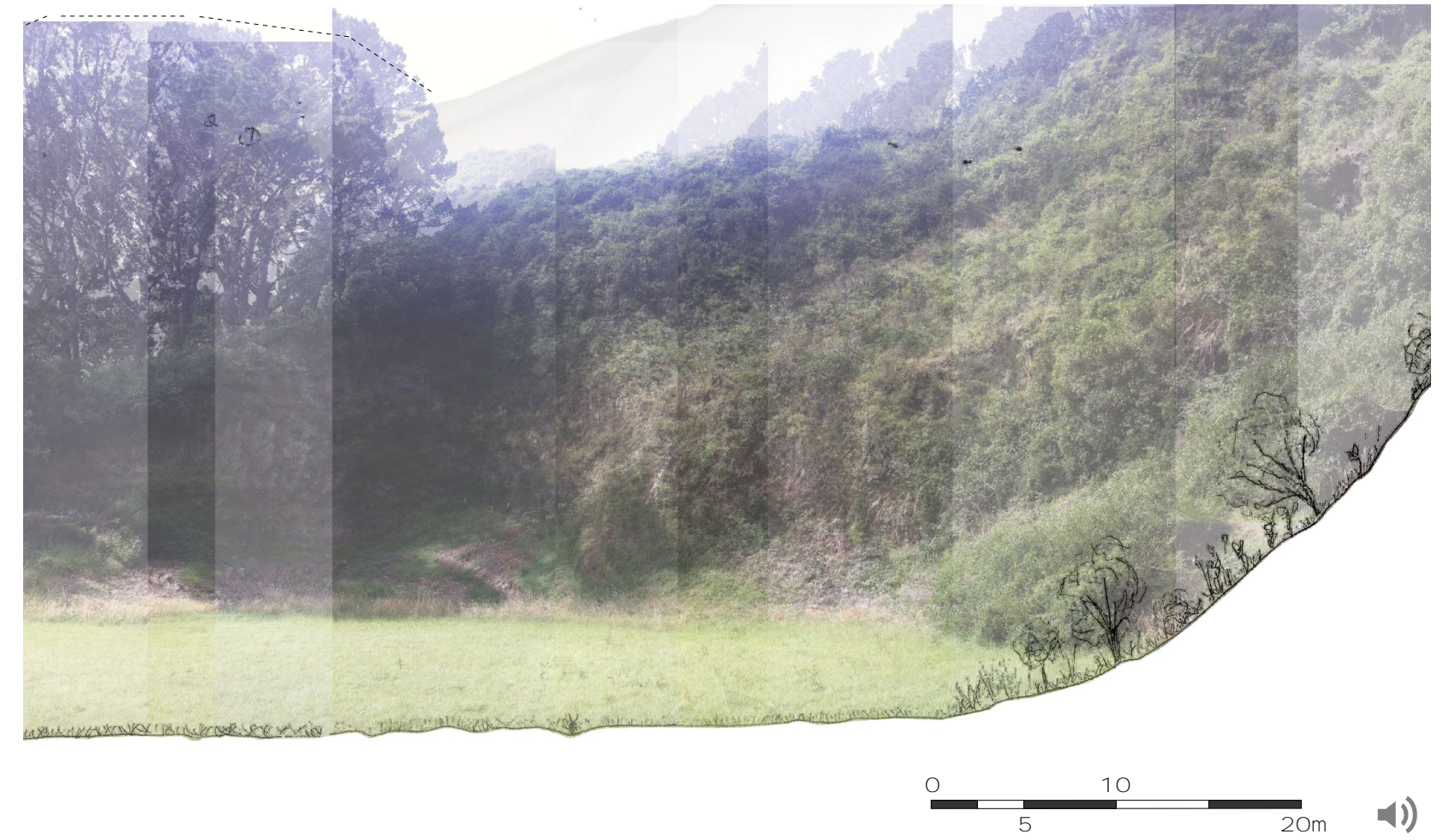


Figure 128: The Cistern cross section [section 2 zoomed] - before intervention (Author; Koordinates Ltd.); Audio: (Author)

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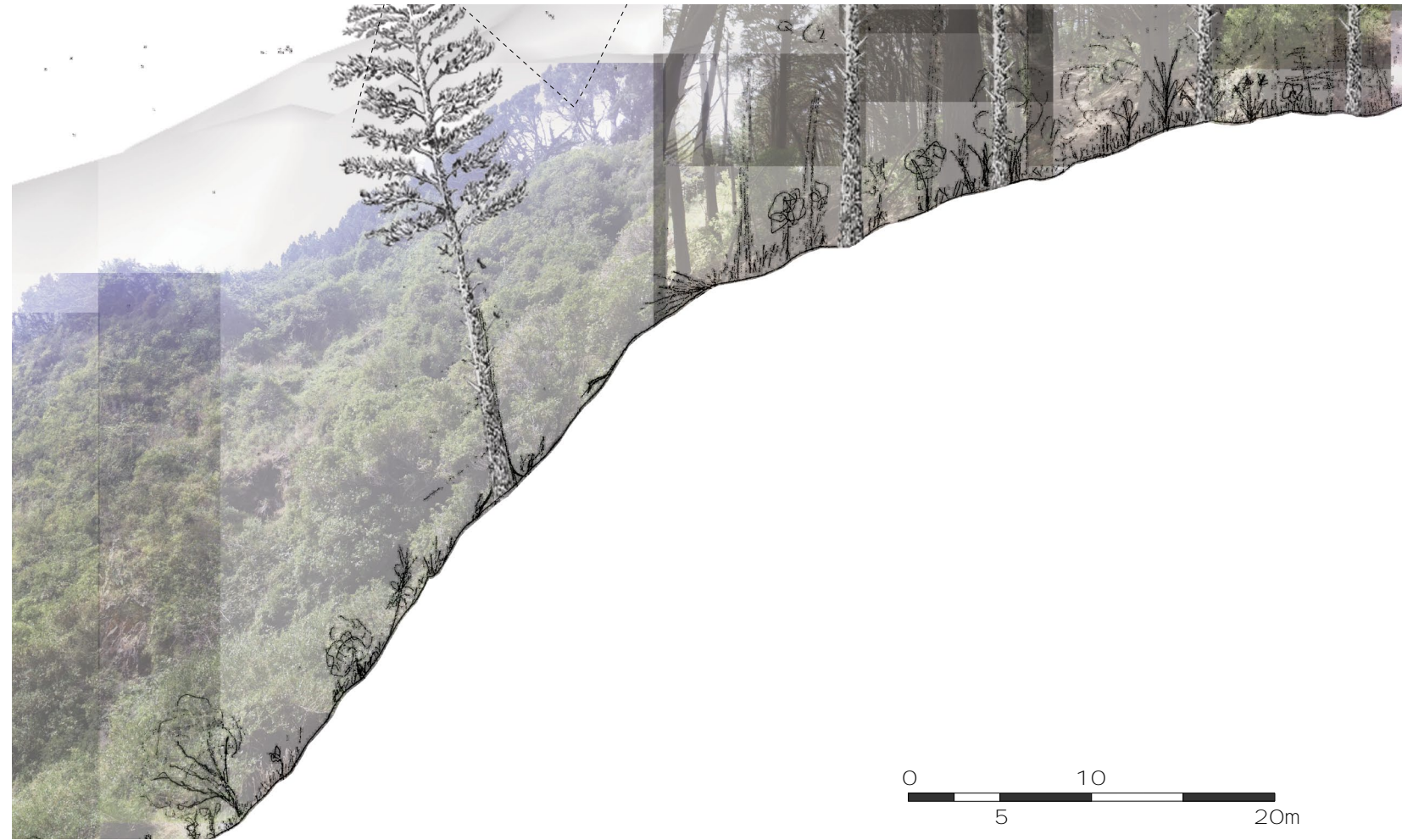


Figure 129: The Cistern cross section [section 3 zoomed] - before intervention (Author; Koordinates Ltd.)

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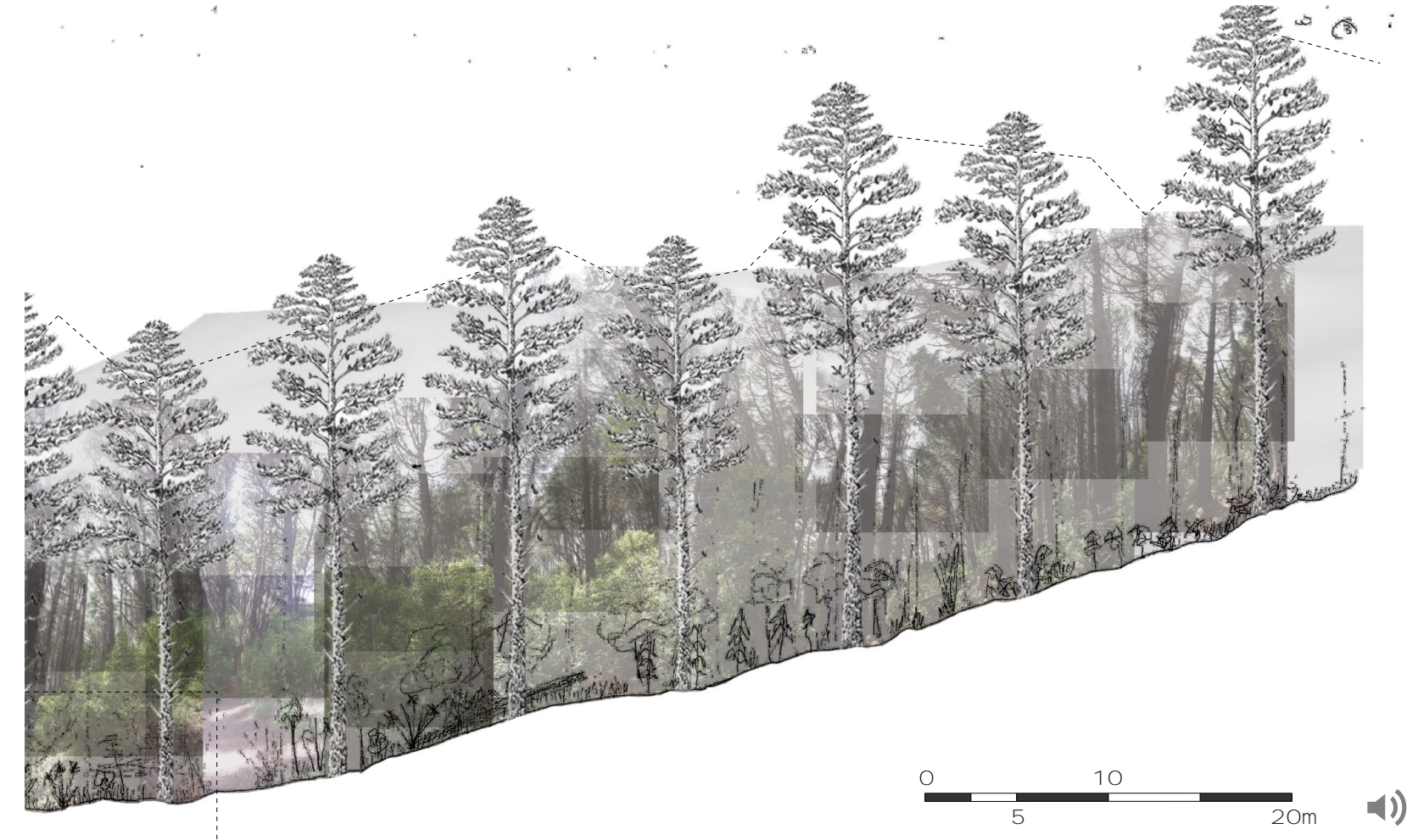


Figure 130: The Cistern cross section [section 4 zoomed] - before intervention (Author; Koordinates Ltd.); Audio: (Author)

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Figure 131: The Cistern perspective view 1 - before intervention (Author)

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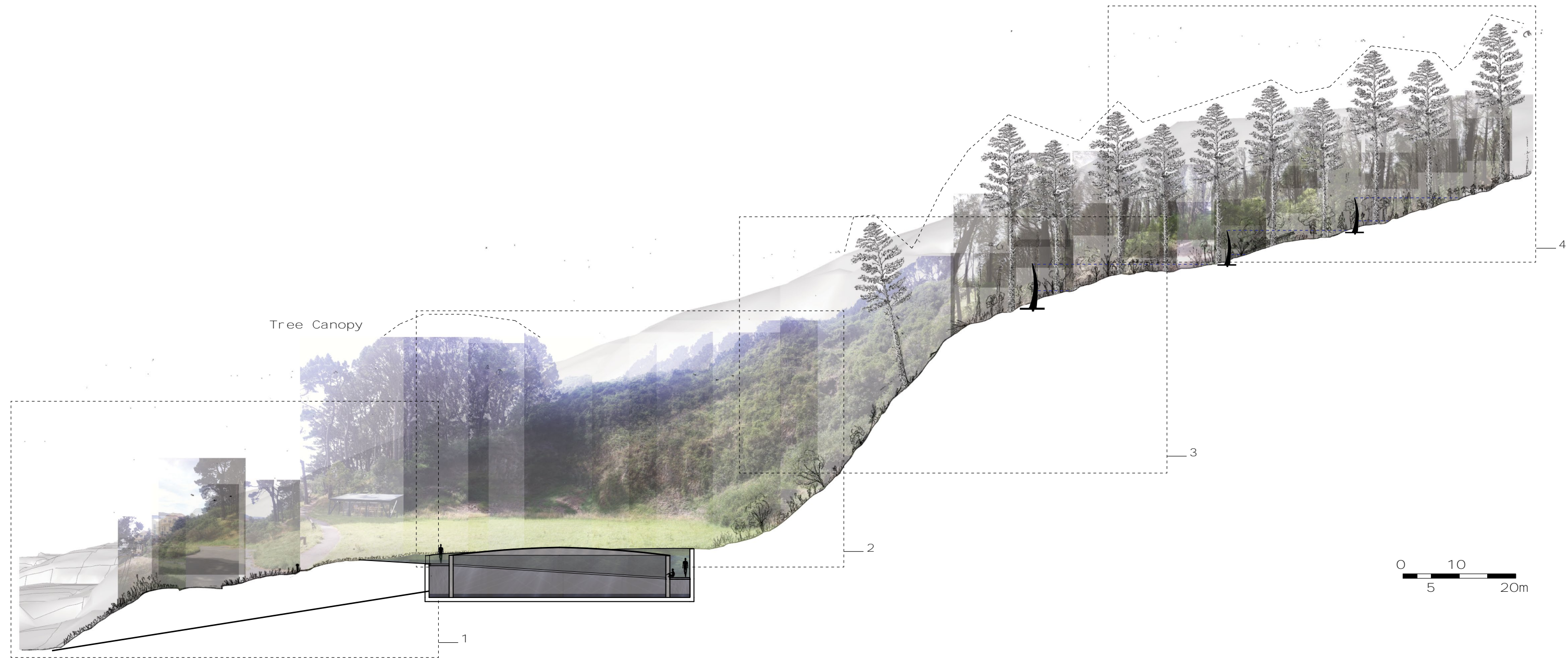


Figure 133: The Cistern cross section - after addition of detention (Author; Koordinates Ltd.)

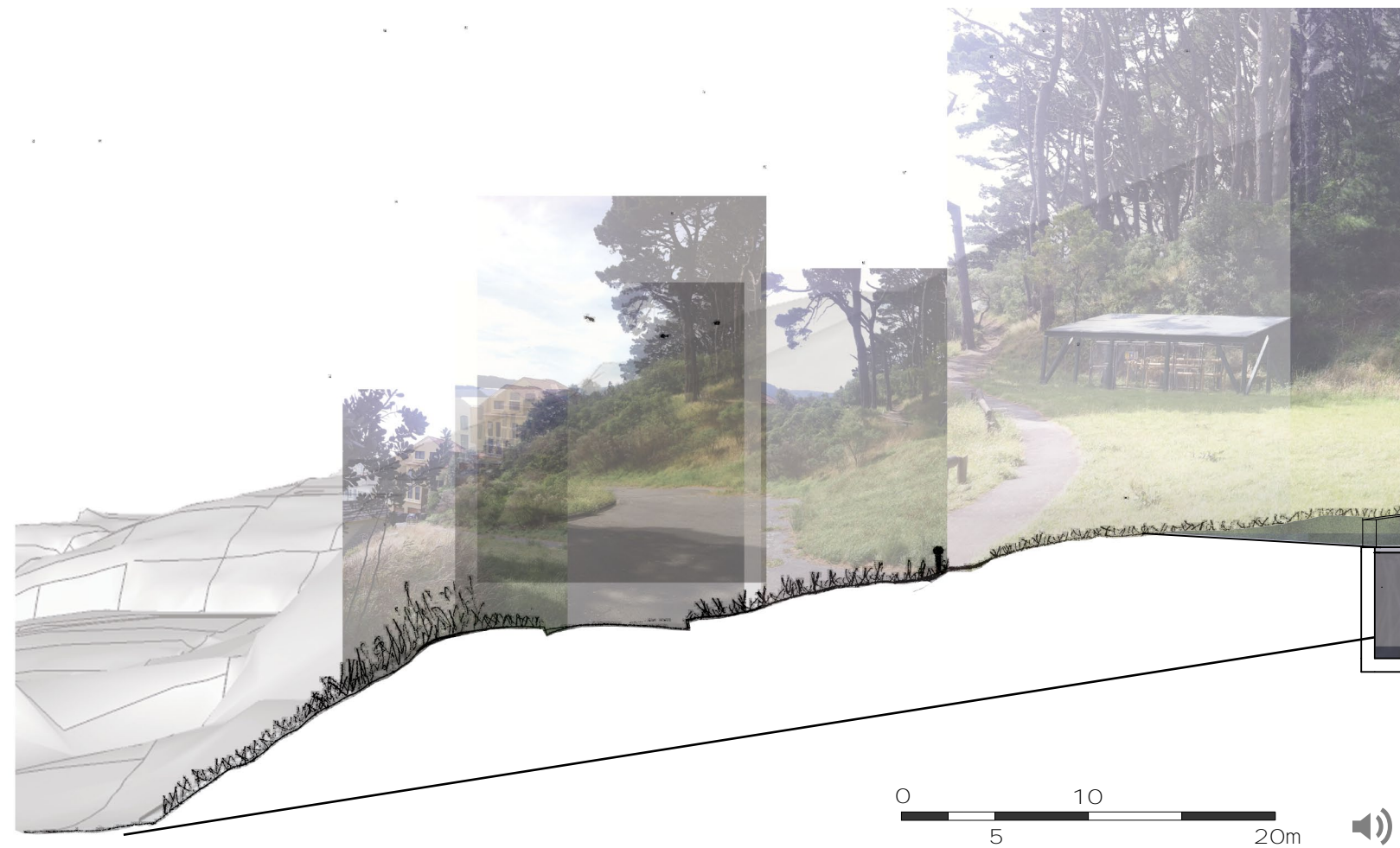


Figure 134: The Cistern cross section [section 1 zoomed] - after addition of detention (Author; Koordinates Ltd.); Audio: (Author; Videoblocks)

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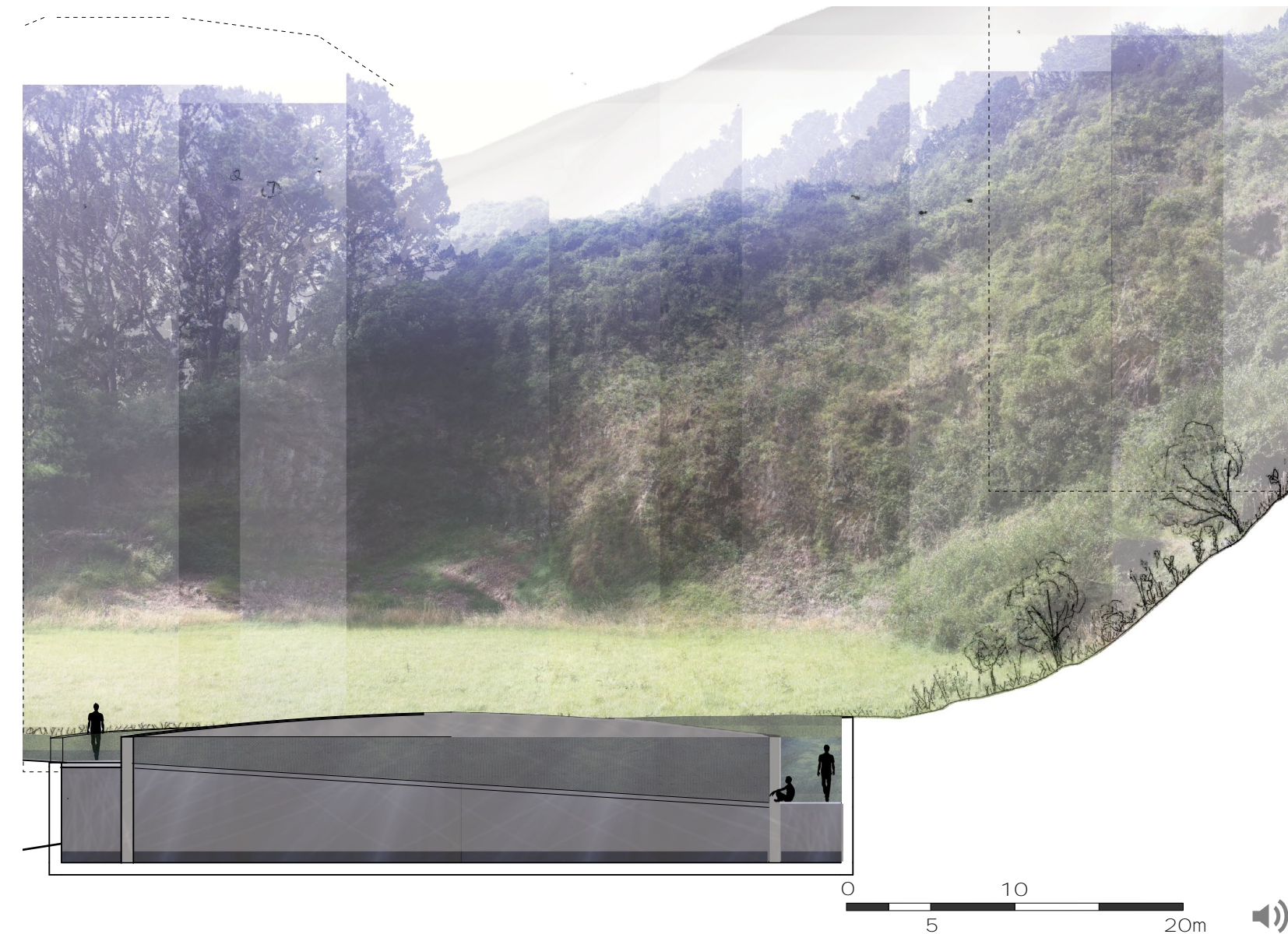


Figure 135: The Cistern cross section [section 2 zoomed] - after addition of detention (Author; Koordinates Ltd.); Audio: (Author; Videoblocks)

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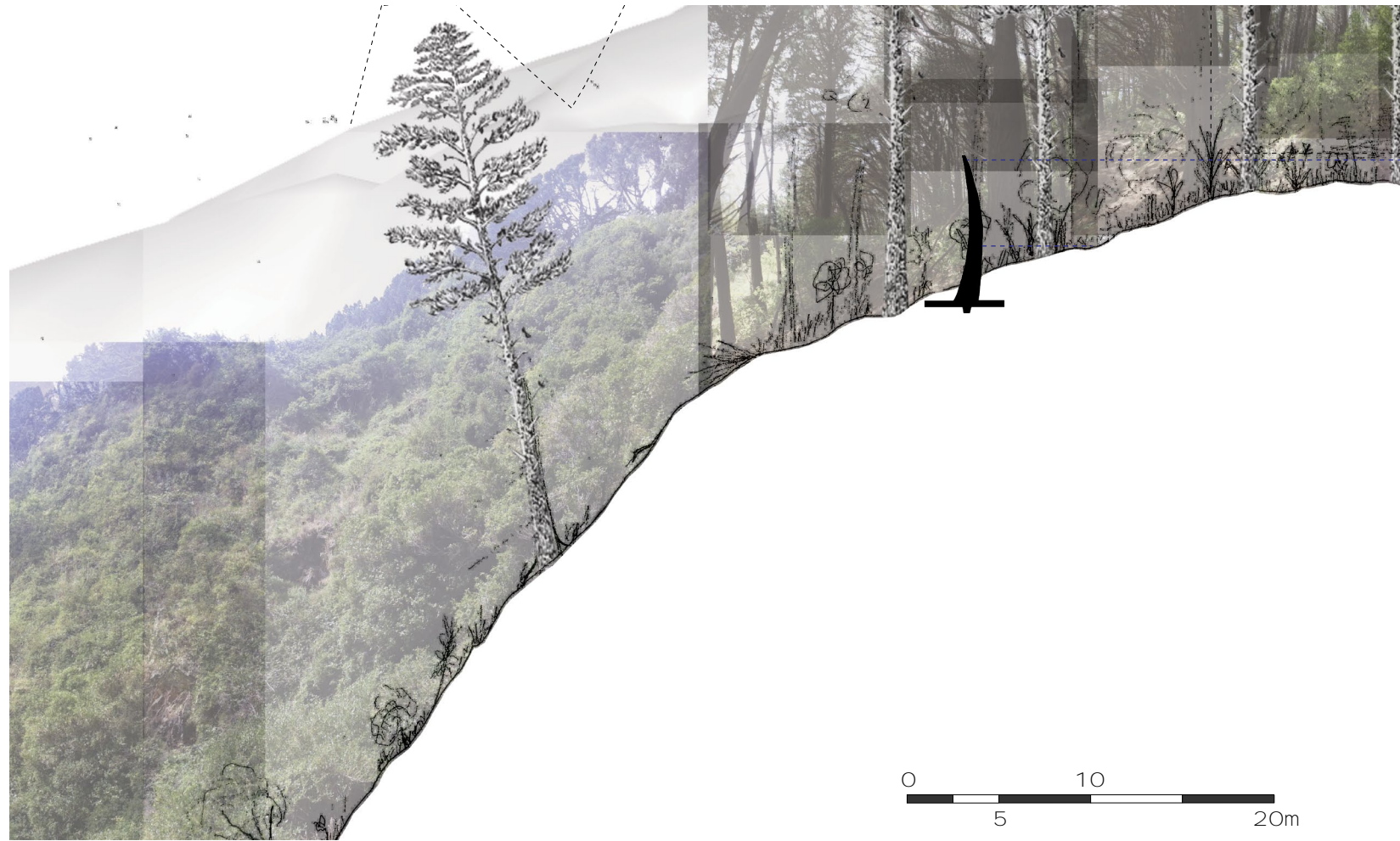


Figure 136: The Cistern cross section [section 3 zoomed] - after addition of detention (Author; Koordinates Ltd.)

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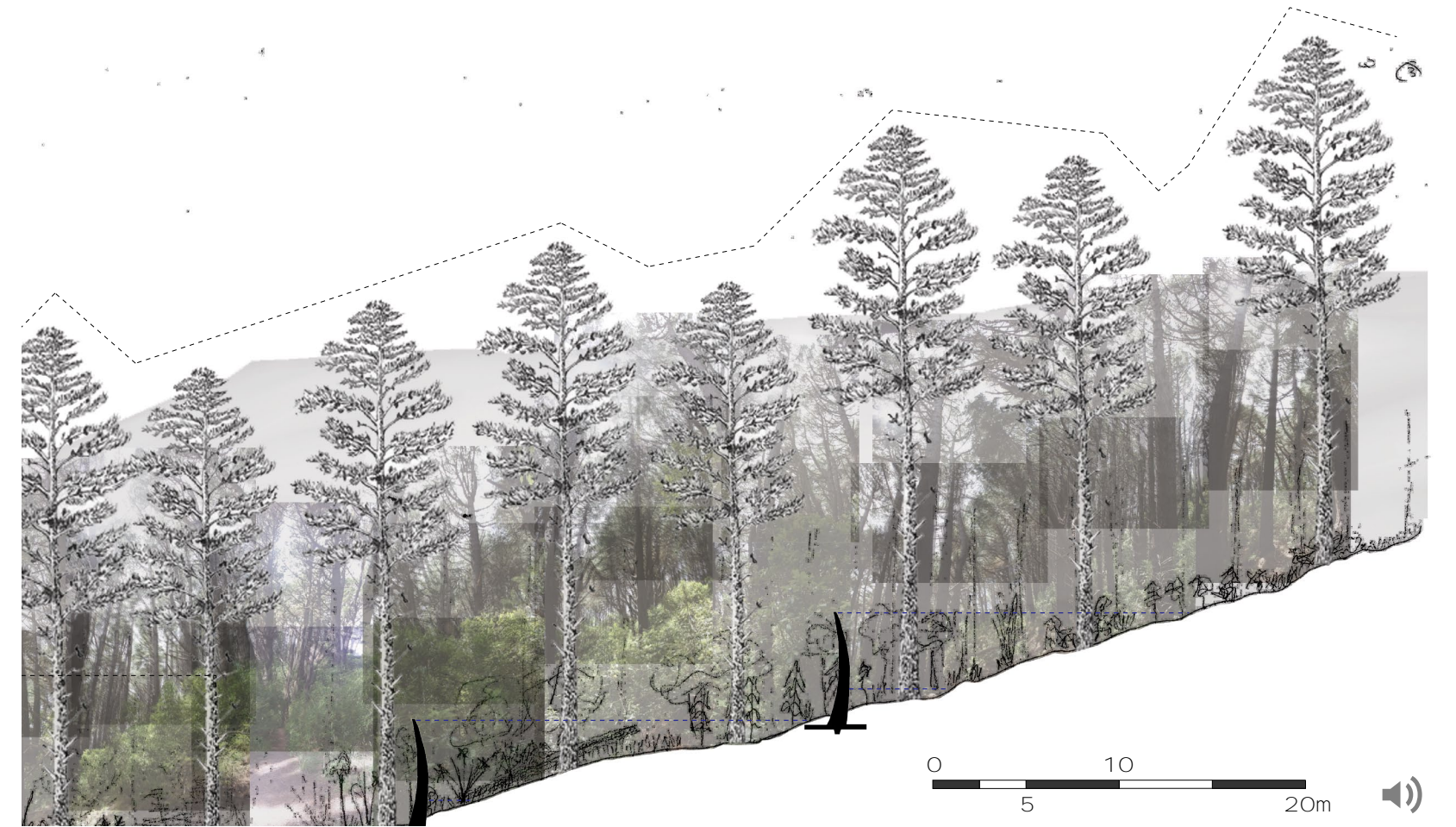


Figure 137: The Cistern cross section [section 4 zoomed] - after addition of detention (Author; Koordinates Ltd.); Audio: (Author; Videoblocks)

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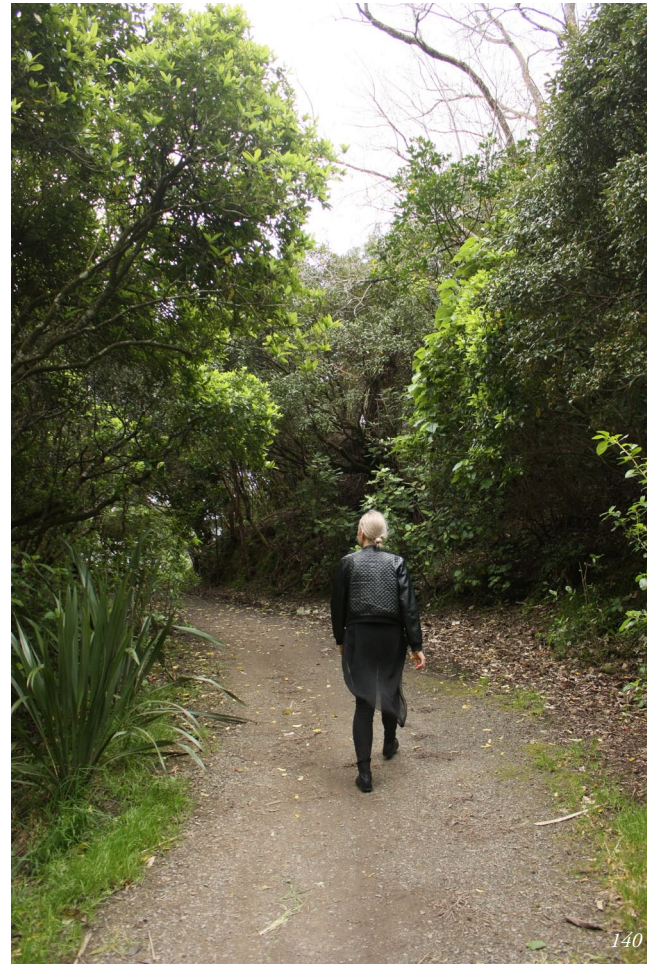
Figure 138: The Cistern perspective view 1 - after intervention (Author)

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Figure 139: The Cistern perspective view 2 - after intervention (Author)

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Figures 140 + 141: Approach and pathway around/through the Cascades (Author)

3.4.3 The Cascades

The Cascades is a series of spaces connected through overflowing check dams. This space runs from up near the Mount Victoria lookout down into the community gardens which occupy an old bowls turf. The cascades are the largest area of its kind on Mount Victoria and represents the large range of spatial experiences created through this design. The current paths wind their way around and through the gully, constantly winding their way up the hill. By adding this series of dams this site becomes slightly easier to navigate and opens up to the sky above. What is quite nice about this portion of Mount Victoria is the range of ecologies that one passes through, making it an ever changing experience particularly in regards to the level of enclosure, shade, height and scale of the space. With the addition of these dams comes the addition of the sound of flowing water, making the experience of the space really unique. Depending on how full the ponds are the visitor will either hear and see water flowing, or see small ponds of water. The ponds always have a small amount of water in them to maintain their aesthetic appeal. The series of dams all range in scale and size, inviting different activities and experiences, some to cross and some to sit on.

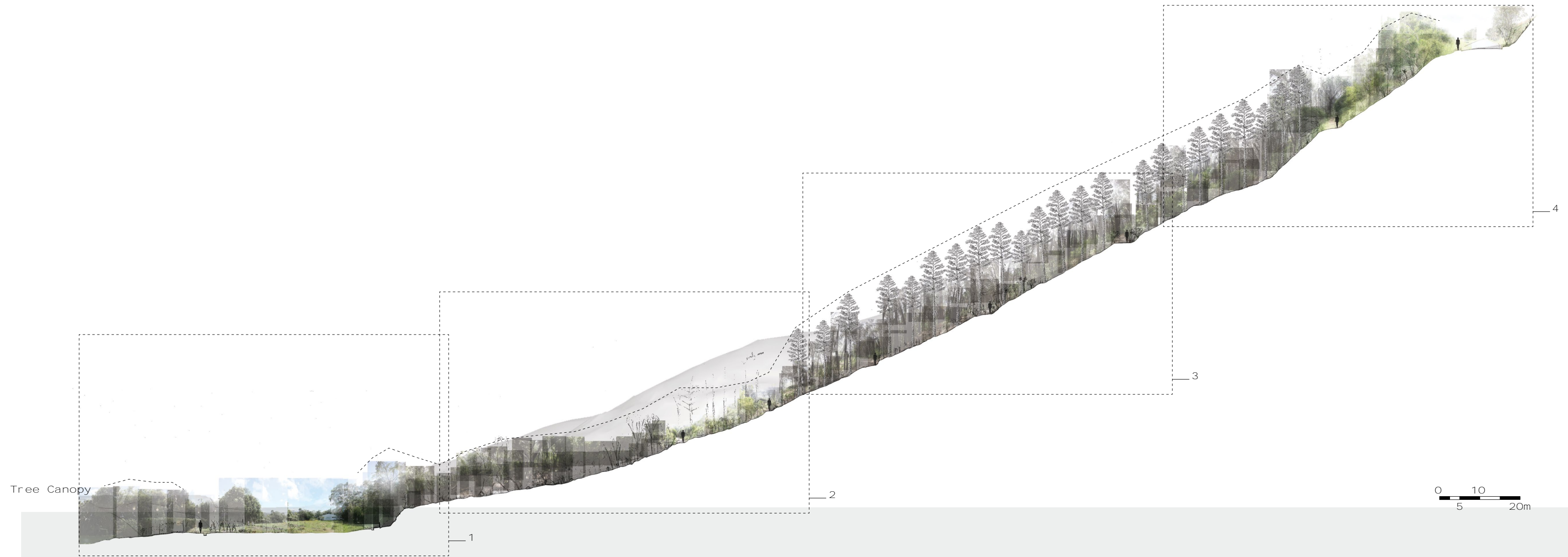


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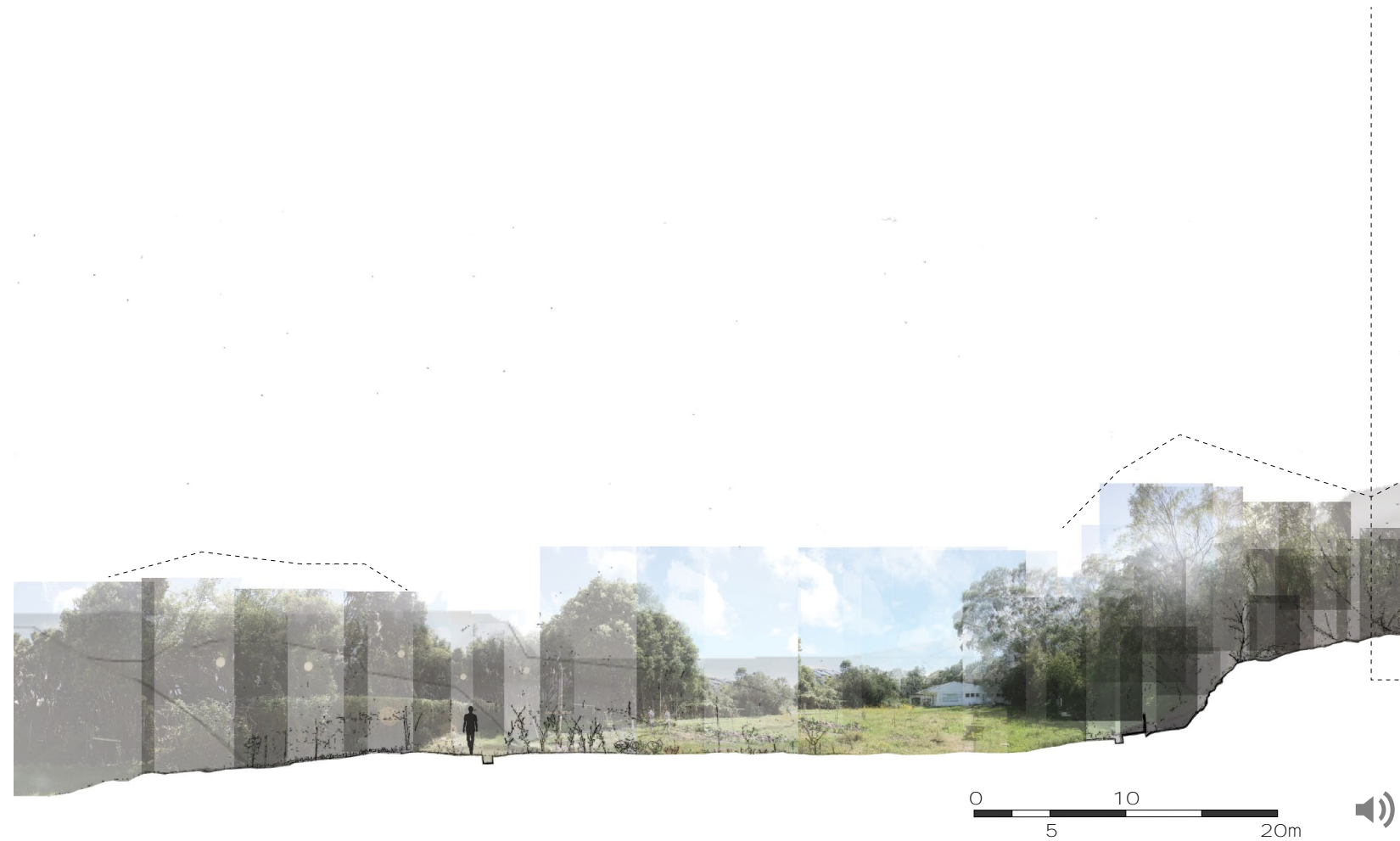


Figure 143: The Cascades cross section [section 1 zoomed] - before intervention (Author; Koordinates Ltd.); Audio: (Author)

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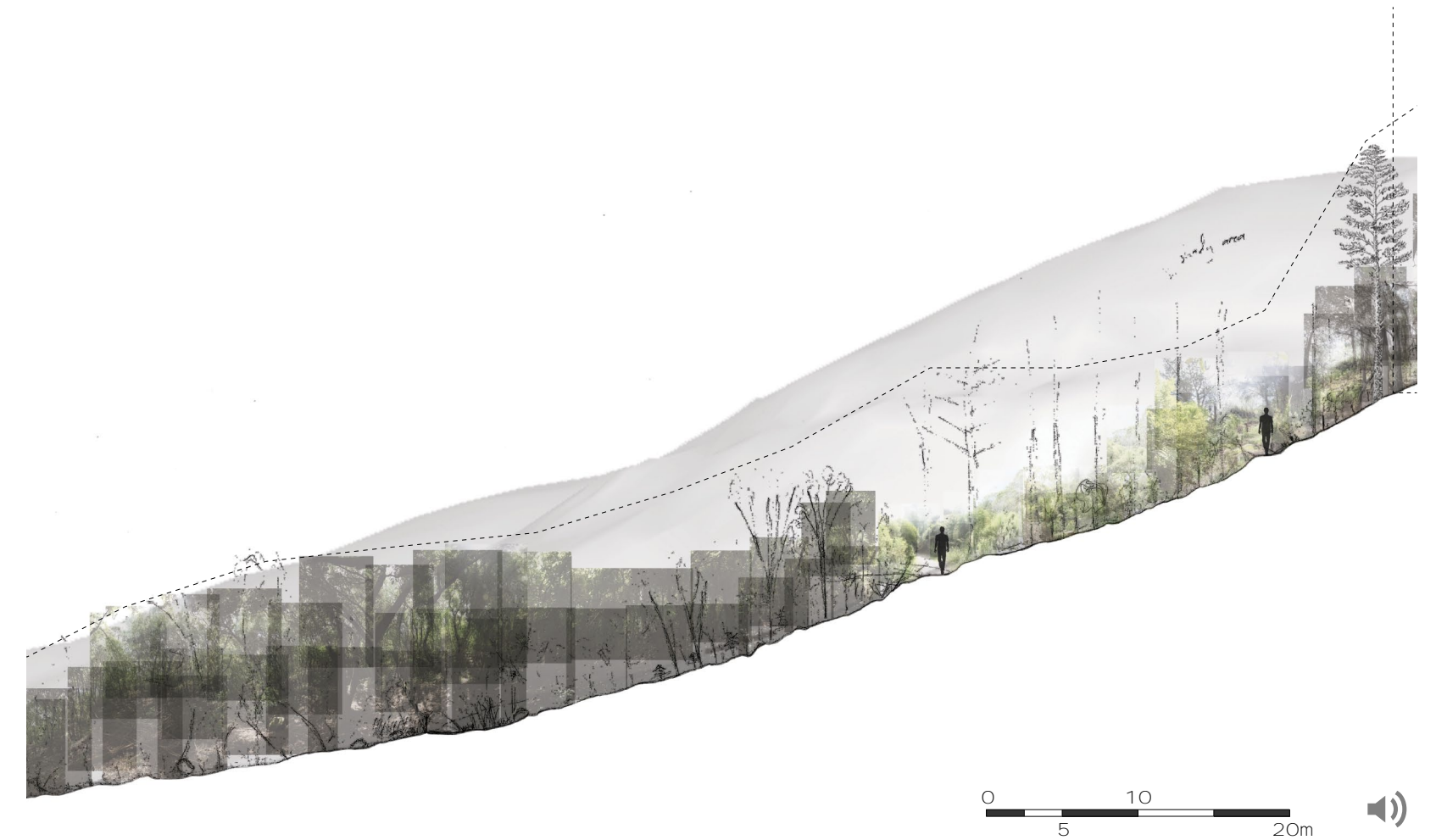


Figure 144: The Cascades cross section [section 2 zoomed] - before intervention (Author; Koordinates Ltd.); Audio: (Author)

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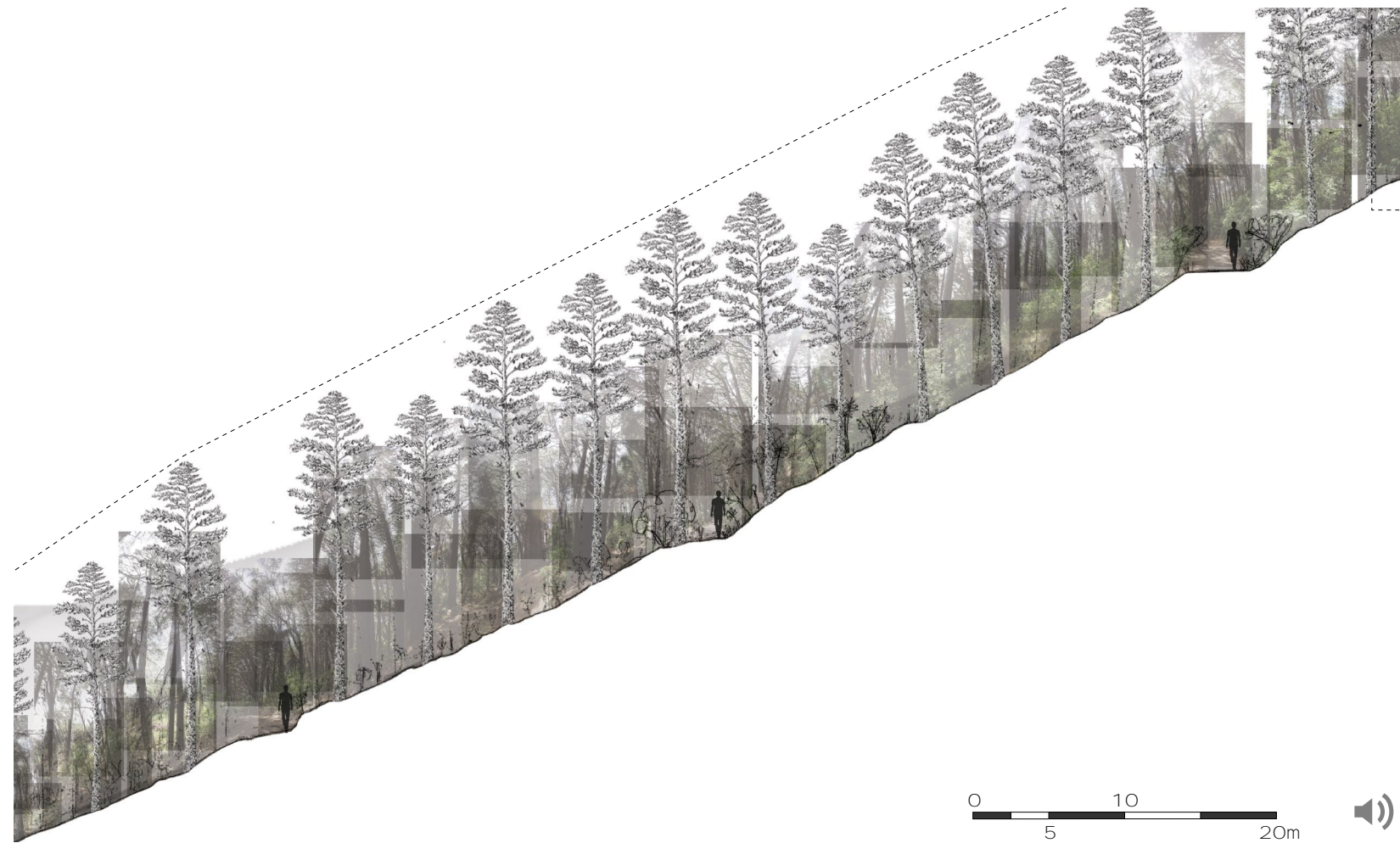


Figure 145: The Cascades cross section [section 3 zoomed] - before intervention (Author; Koordinates Ltd.); Audio: (Author)

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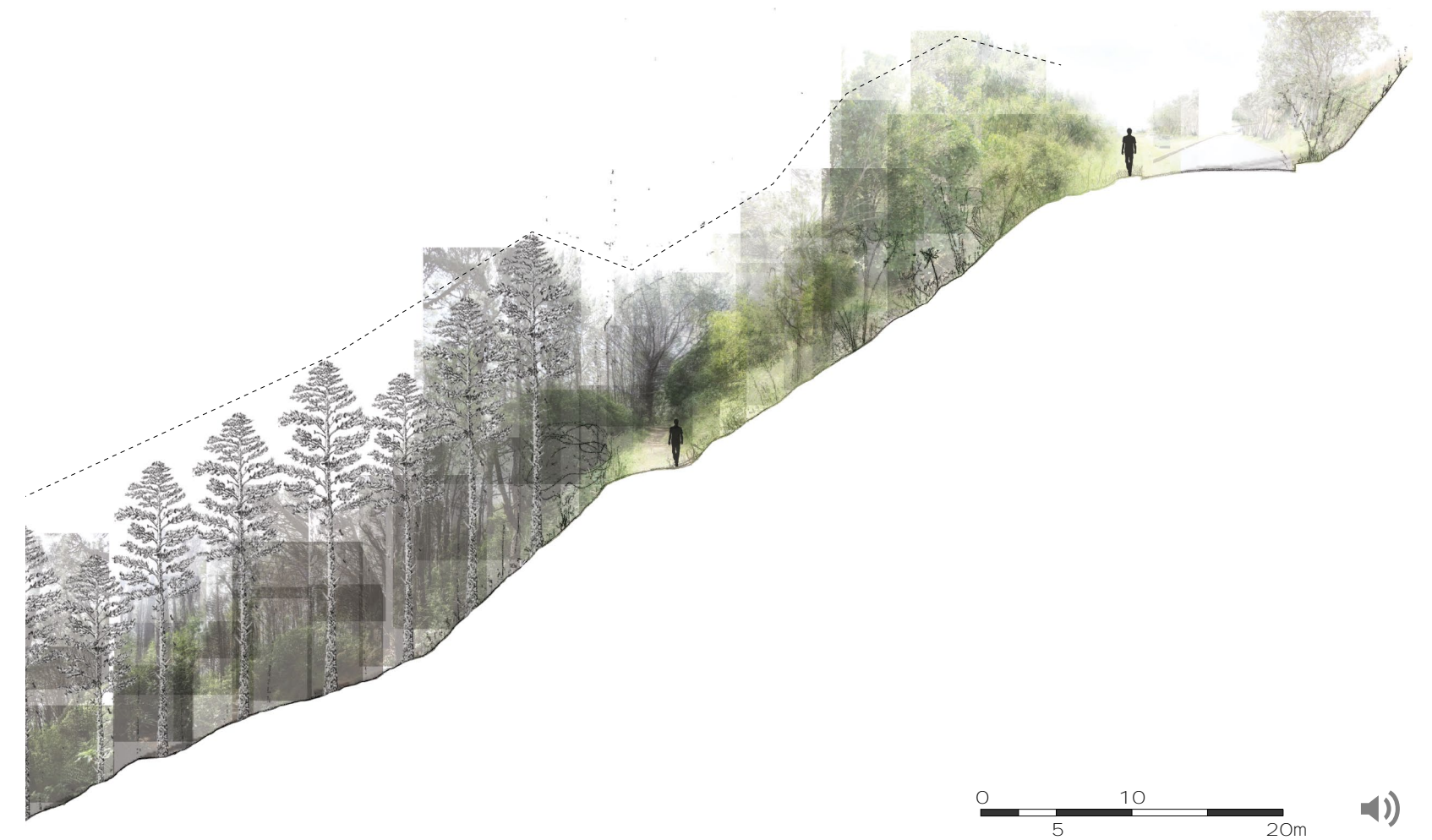


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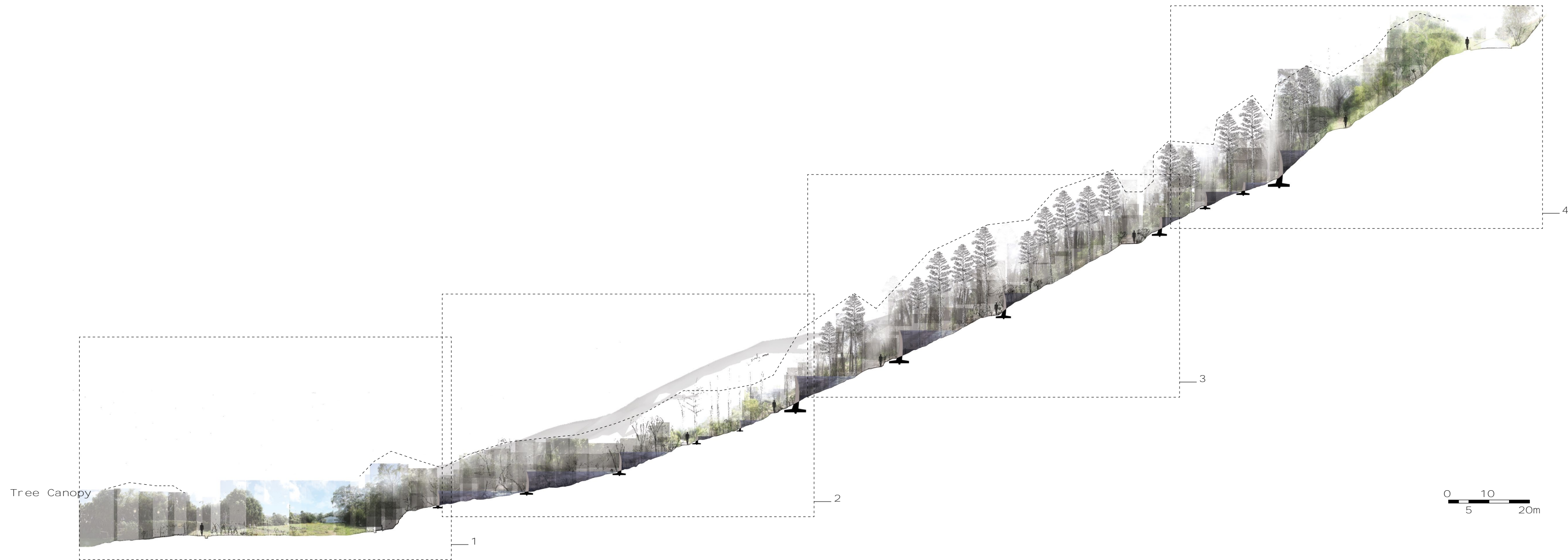


Figure 147: The Cascades cross section - after addition of detention (Author; Koordinates Ltd.)

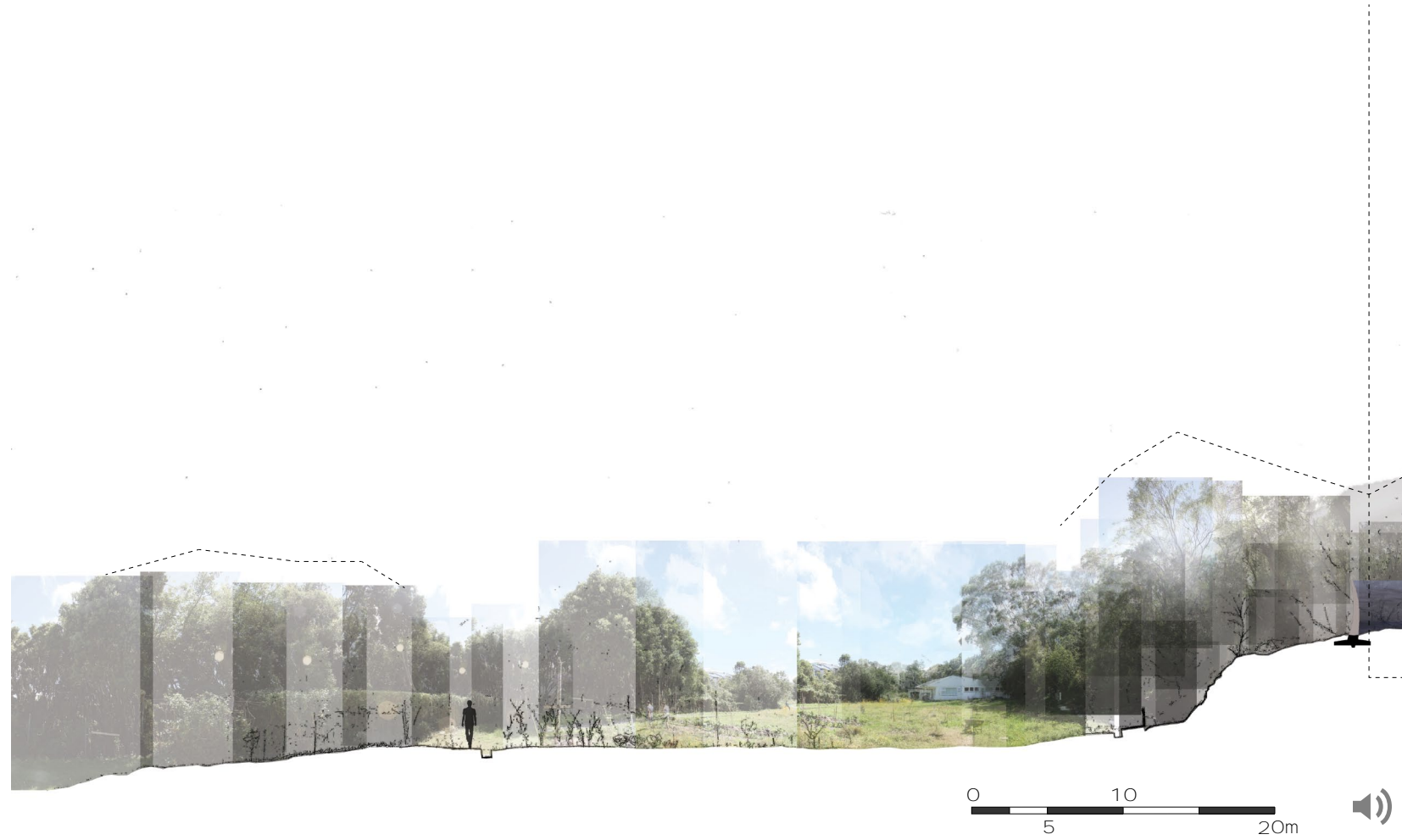


Figure 148: The Cascades cross section [section 1 zoomed] - after addition of detention (Author; Koordinates Ltd.); Audio: (Author; Videoblocks)

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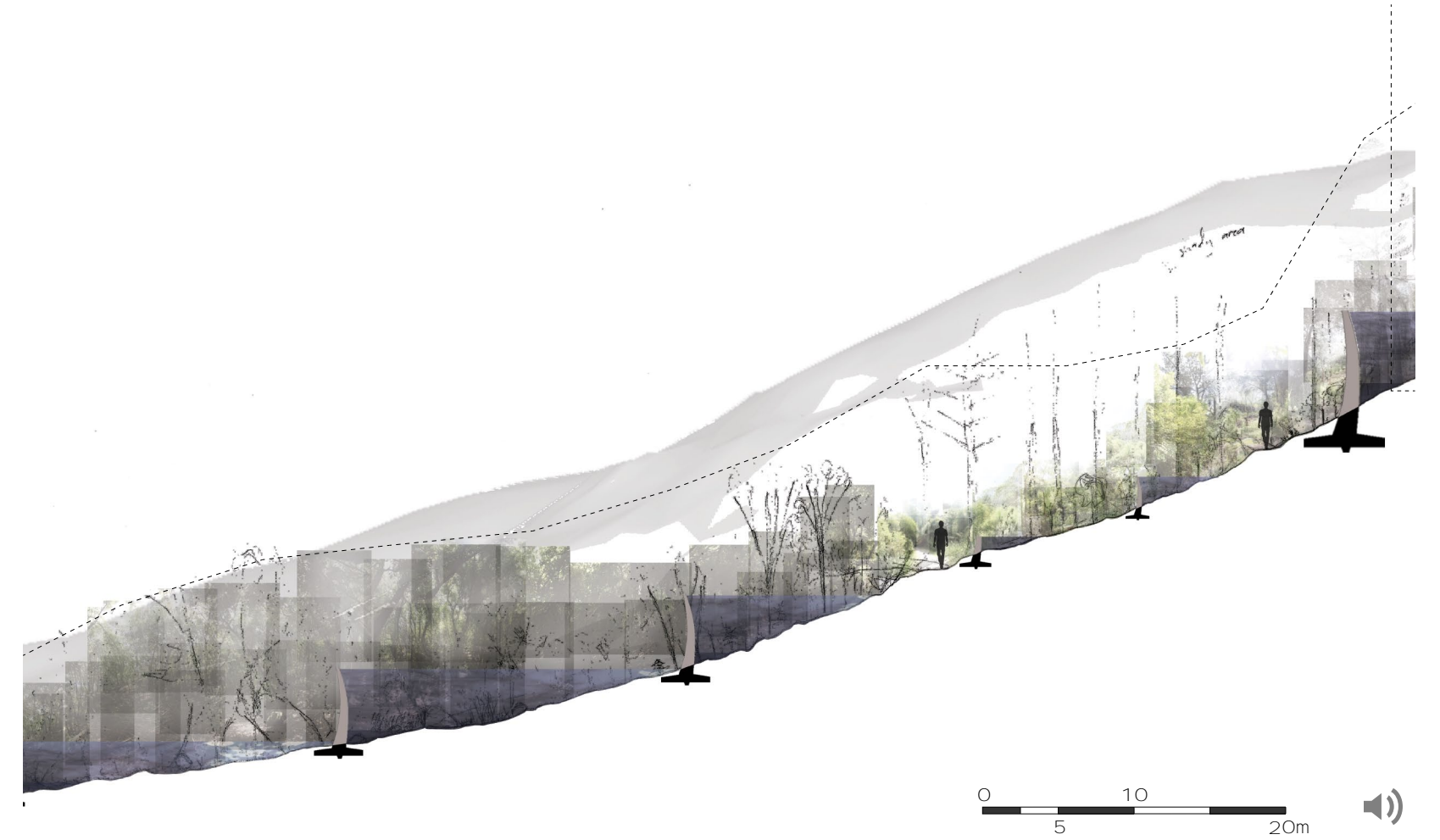


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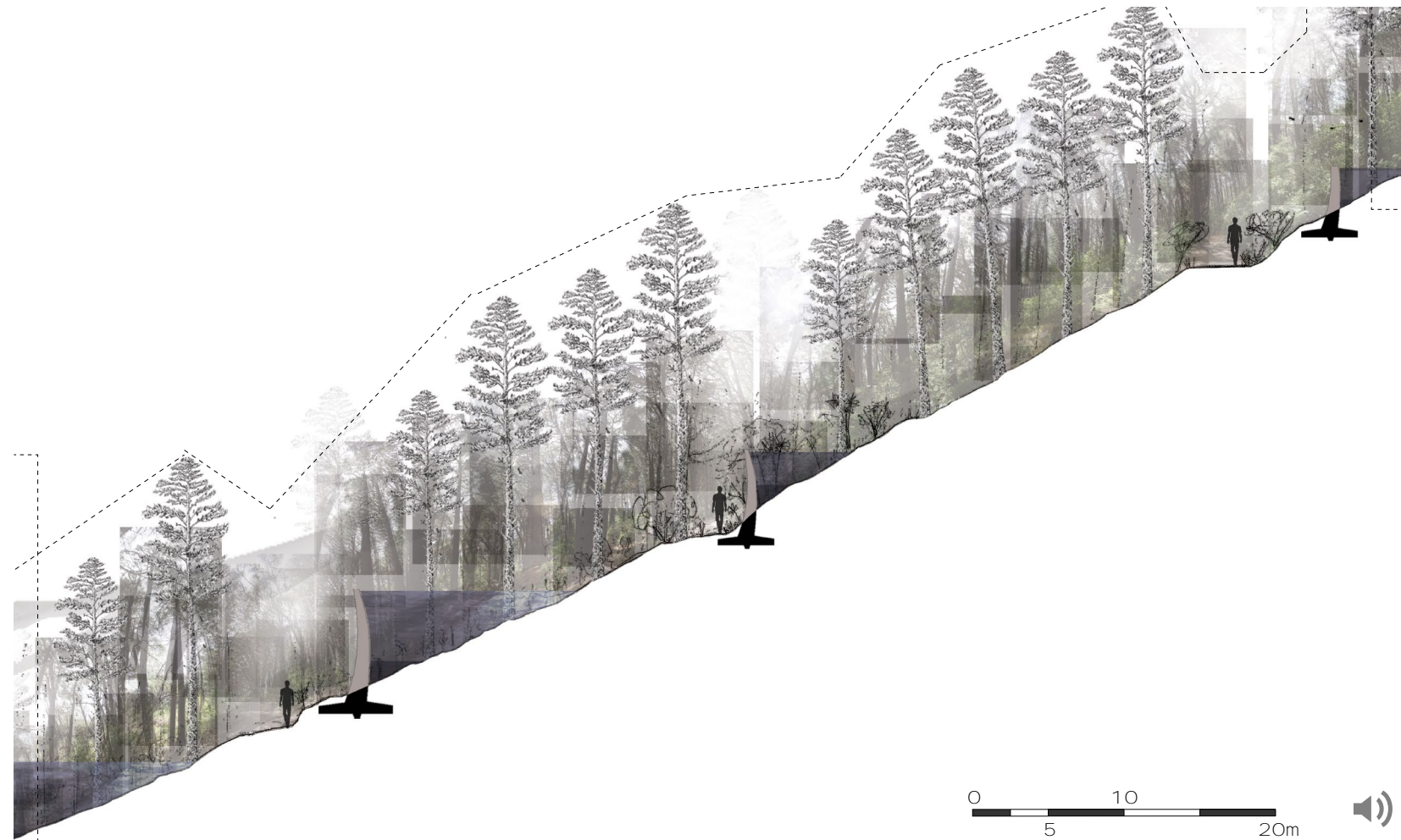


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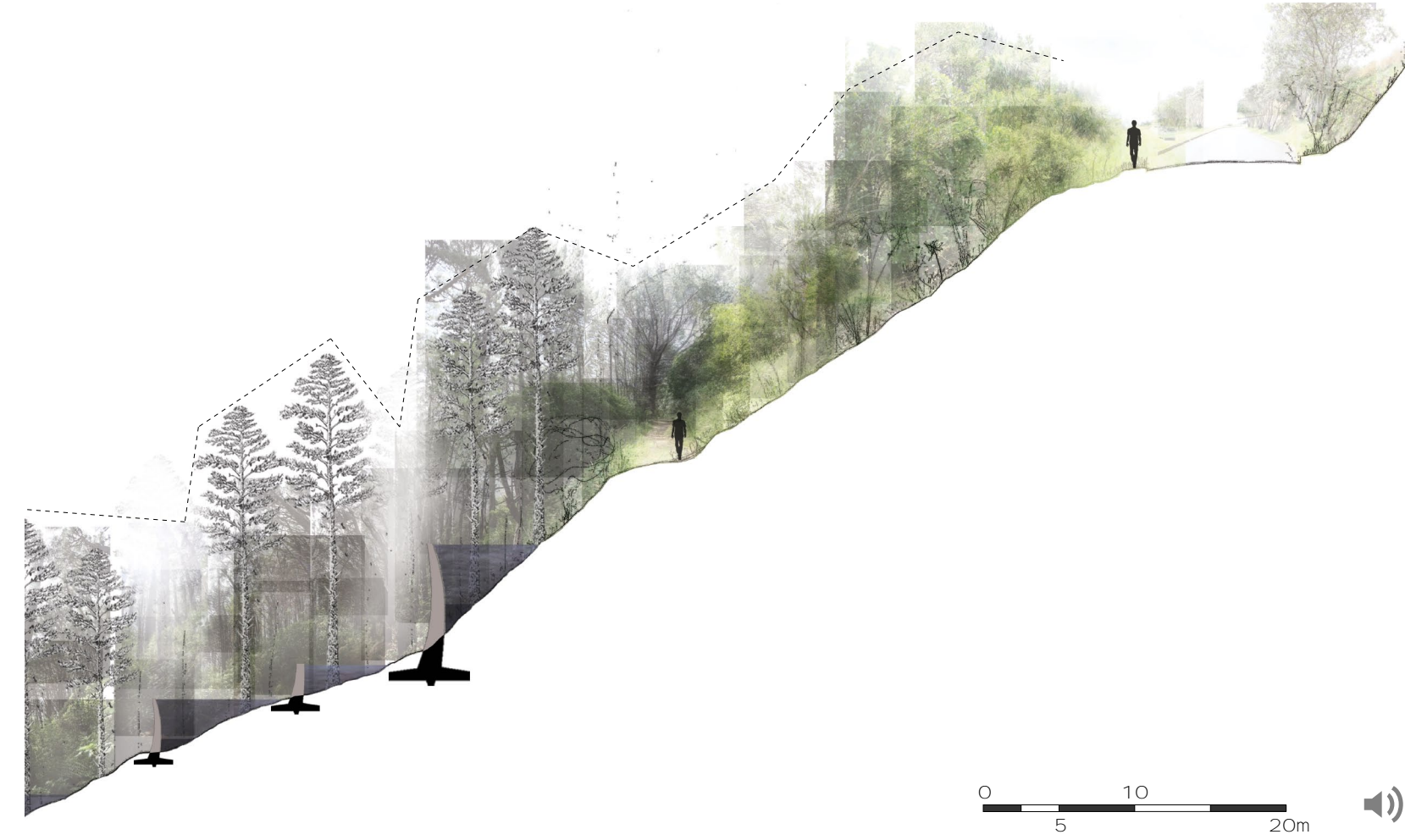


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4.0 Discussion

This research thesis has been an interesting journey of discovery not only of where my skills, knowledge and abilities lie but also in exploring and understanding this concept of existential intimacy.

Throughout this research I have encountered challenges which have pushed my abilities and forced me to learn a lot. Among those discussed above the main ones I faced were how to use a range of media to represent existential intimacy – a haptic spatial experience – in a 2 dimensional representation. It became a lot more about how landscape and interior visual language could work together to create this experience and what that meant in terms of existential intimacy. It was also a lot more about physically drawing on site and using hand drawings as a main exploration rather than digital –which somehow connected me more to the process and the design itself. My limited knowledge of landscape and engineering meant that I had to rely on advice a lot of the time to make decisions regarding the design within the limitations of engineering and landscape. It was frustrating and scary at times waiting for the advice and jumping into the unknown but on a practical level the storm water detention design would work. In reality if this were to be an actual built project it would require a multidisciplinary team.

Within these confines I have managed in this project to develop some design concepts that would result in an essentially intimate experience should they be built. This means that I have managed to identify and apply some of the concepts required to achieve this outcome.

Existential Intimacy as a concept has the potential for a lot more exploration and testing, as I believe I have only skimmed the surface of what it is able to achieve. In order to develop this concept further I would tackle a project a little bit less foreign but still challenging spatial boundaries.

Interior architecture as a discipline have the potential to tackle much larger meaningful spaces than at present, and the crossover between interior and landscape has been a really interesting and useful one as it has cemented the importance of context and connection to site, something interior lacks.

This research thesis has developed my design process and the way that I look at space. By being able to appreciate the skill involved in landscape and apply that to my own designs means that I have begun to develop a richer design palate. It has also meant that there have been a few drawings or processes which have taken me longer than perhaps somebody based in landscape, but pushing through these has helped my development.

This concept of existential intimacy is something which I don't believe I will ever stop applying to my designs or searching for in everyday experiences. To me, this concept pushes both landscape and interior, into a much more powerful design space.

5.0 Conclusion

Existential intimacy is an intense spatial experience and design technique that has huge potential to change how we read and design spaces. It provides the unique ability to connect to something bigger than the direct space or context unfolding the boundaries of space to become limitless and encompass the whole world. It is this limitlessness of the boundaries that makes it an even more interesting concept when considered in the relationship to interior architecture and the usual precept that interior must be bound by a building. This research sits on the boundary of landscape and interior architecture touching into engineering through the manipulation of stormwater design. Although a challenging research thesis it has presented opportunities for the disciplines of interior and landscape architecture to cross over more and share techniques and language from one another. Each disciplines weakness is the others strength and by bringing these disciplines together through the concept of existential intimacy I created an expansiveness across scales. The project itself has potential to be further developed to become a fully functioning prototype. This is not limited to just stormwater virtually any engineered system has the potential to be manipulated through existential intimacy. The concept of existential intimacy warrants further exploration to test its full capacity and potential.

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8.0 Appendices

8.1 Inspiring Spaces

Jones/Ginzel – Atoll, Antithesis, Ineffable

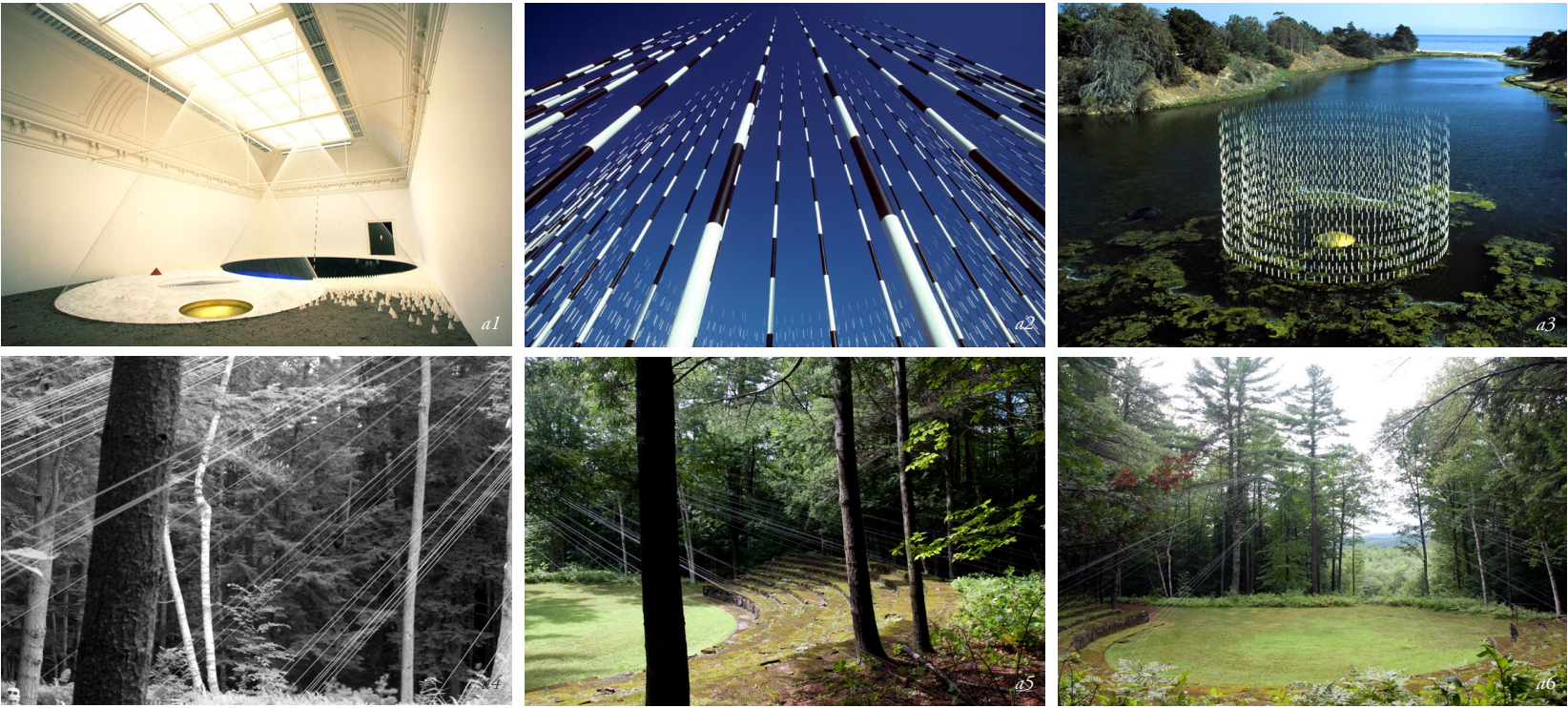
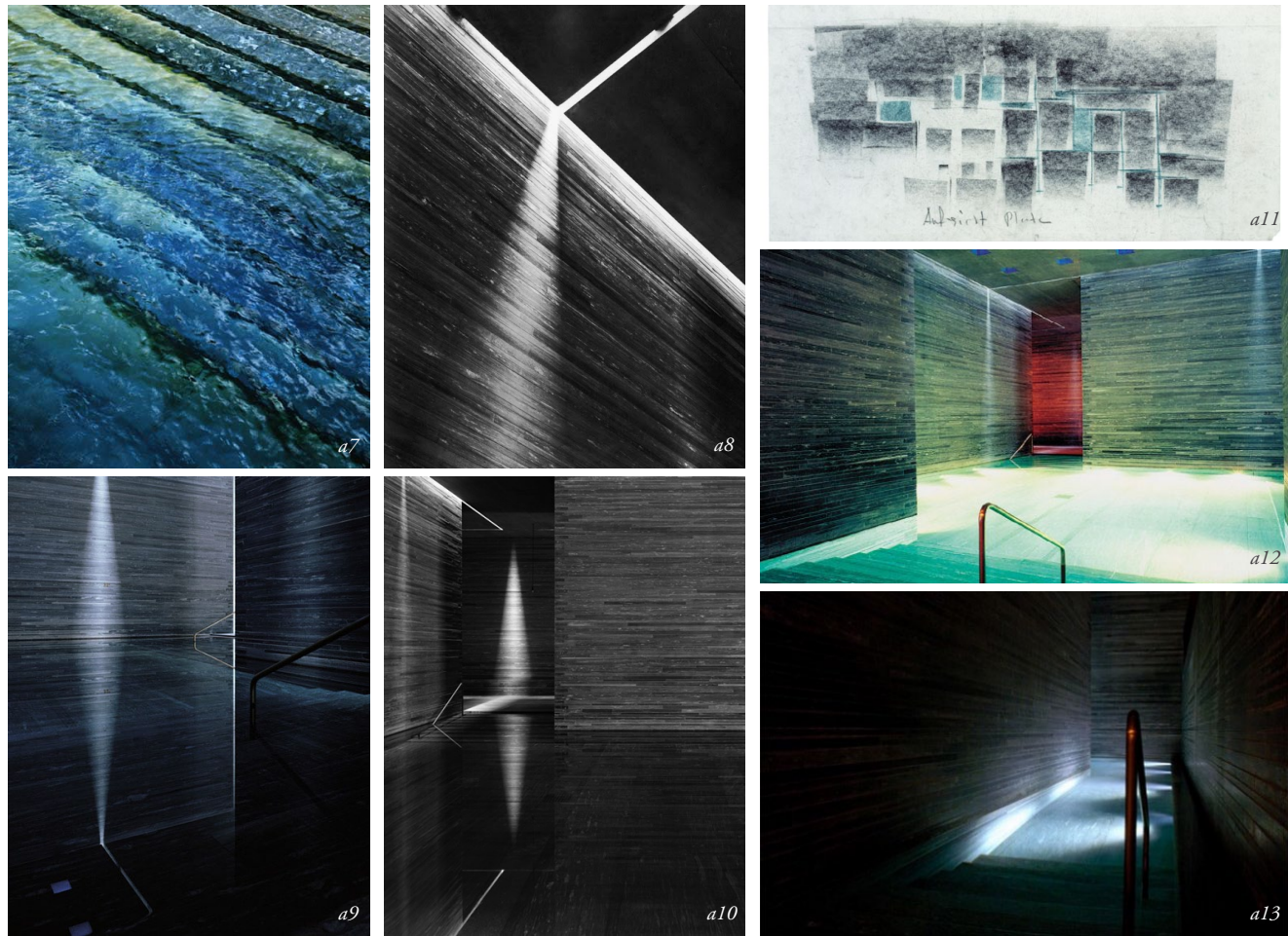


Figure a1: Antithesis (Jones and Ginzel, Antithesis)
Figures a2 + a3: Atoll (Jones and Ginzel, Atoll)
Figures a4 - a6: Ineffable (Jones and Branchi)



Figures a7 - a13: *The Therme Vals*, by Peter Zumthor (Figures a7, a9 + a10 (Etherington, "Photographs of Work of Peter Zumthor by Hélène Biner"); Figure a8 (Chang Hanway); Figure a11 (Etherington, "Key Projects by Peter Zumthor"); Figures a12 + a13 (ArchDaily))

Peter Zumthor – The Therme Vals

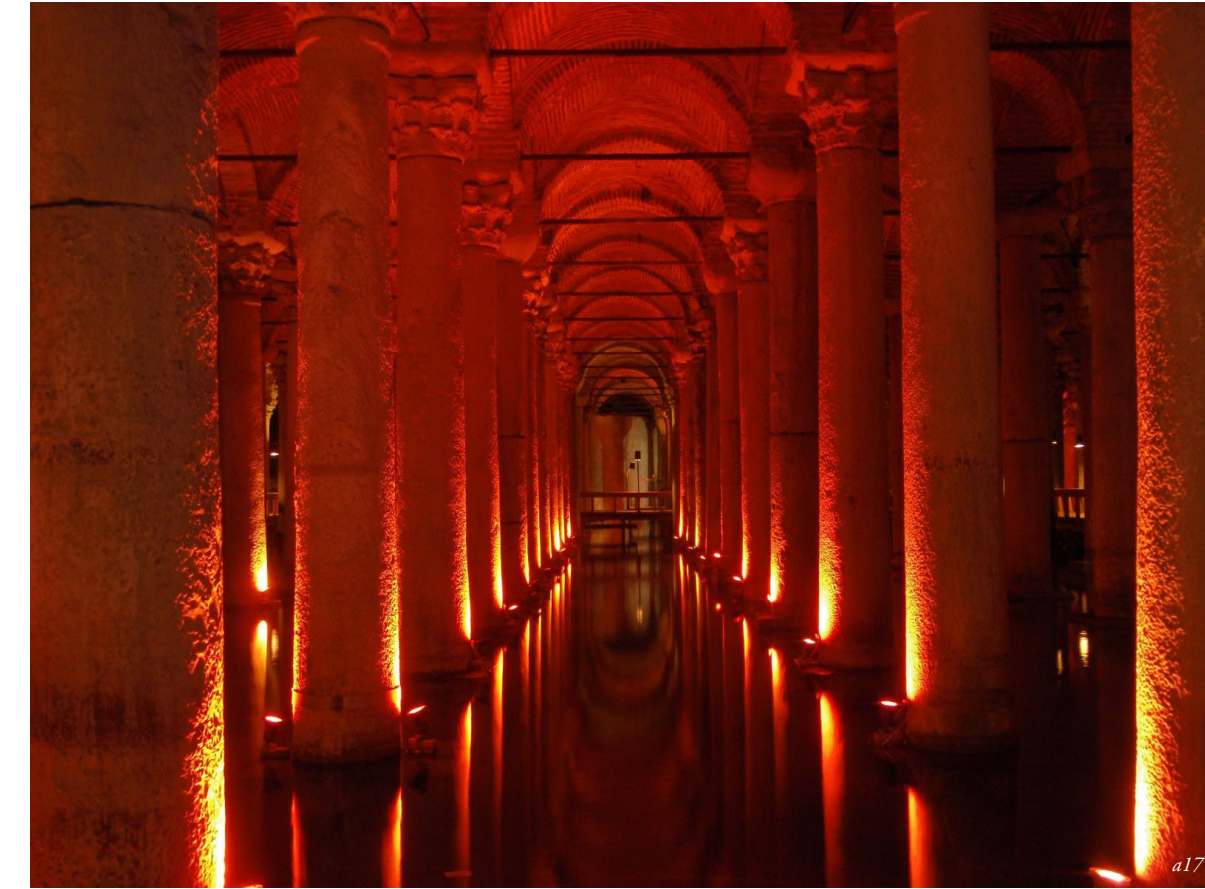


Figures a14 + a15: *The Therme Vals*, by Peter Zumthor (Figure a14 (ArchDaily); Figure a15 (Chang Hanway))



Figures a16: The Basilica Cistern Istanbul (Destination 360)

Basilica Cistern Istanbul



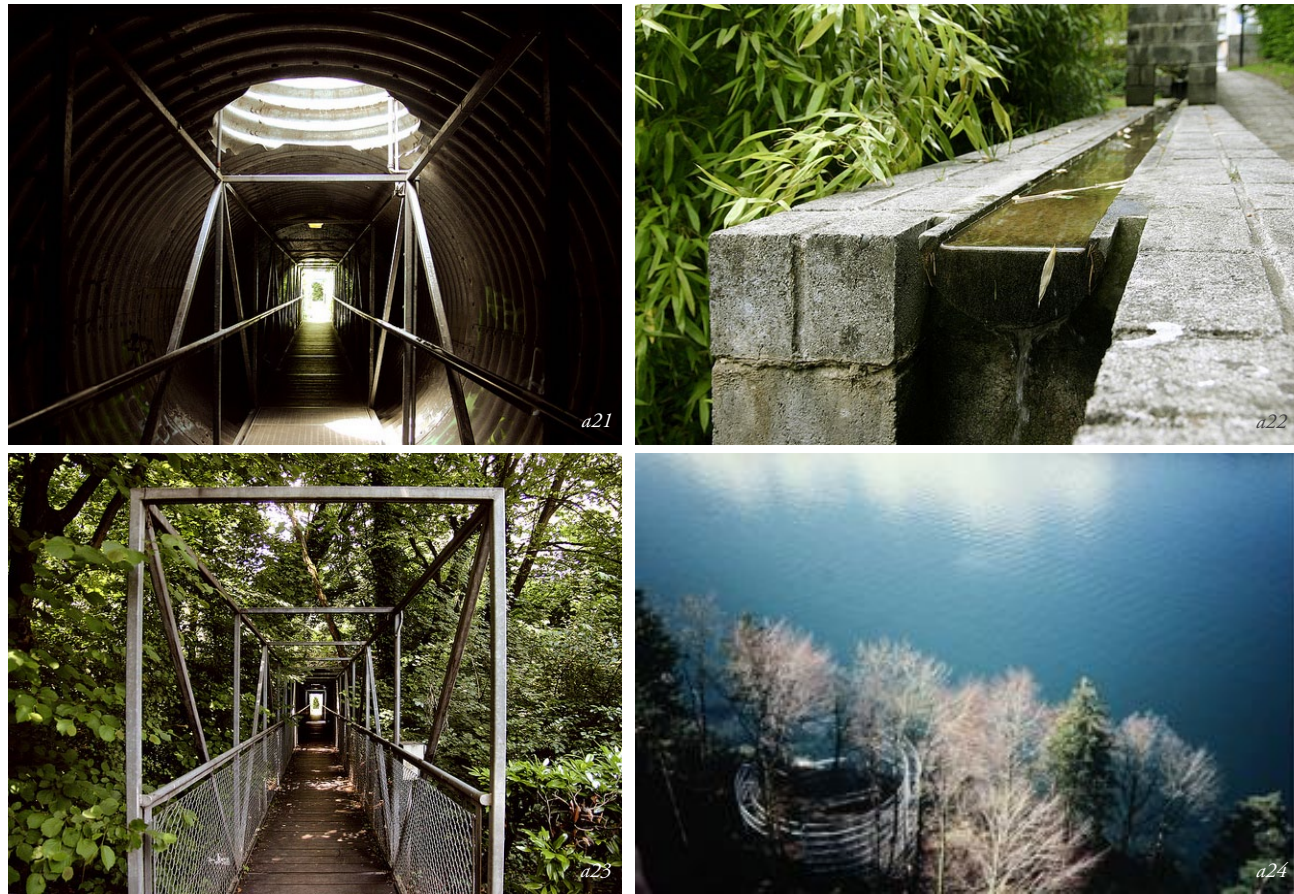
Figures a17: The Basilica Cistern Istanbul (Tourist in Turkey)

Cloudscapes



Figures a18 - a20: Cloudscapes, by Tetsuo Kondo Architects and Transsolar (Etherington, "Cloudscapes by Tetsuo Kondo Architects and Transsolar")

Georges Descombes



Figures a21 - a23: Parc en Sauvvy, by Georges Descombes (Patt)
Figure a24: Design Unknown, by Georges Descombes (Lopez)

Lake Lenexa



Figures a25 - a29: Lake Lenexa (Figures a25, a28 + a29 (Roever); Figure a26 (Unknown); Figure a27 (Lenexa Kansas Parks and Recreation))

Stormwater Design



Figures a30 - a32: Stormwater examples in Seattle (Silvera Seamans)
Figure a33: Controlled Canal and Wet Swale (First Street Corridor Champaign, Illinois)

8.2 Design Development



Before



After



Figures a34 + a35: Design Development Spatial Perspective - before and after the addition of water (Author)



a36

Before

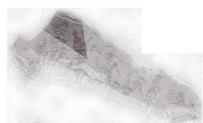


Figure a36: Design Development Spatial Perspective - before the addition of water (Author)



a37

After

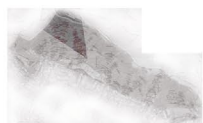


Figure a37: Design Development Spatial Perspective - after the addition of water (Author)



Figure a38: Design Development Spatial Perspective - Quarry before the addition of water (Author)



Figure a39: Design Development Spatial Perspective - Quarry after the addition of water (Author)



Figure a40: Design Development Spatial Perspective - Quarry before the addition of water (Author)



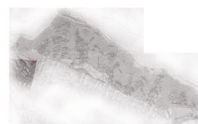
Figure a41: Design Development Spatial Perspective - Quarry after the addition of water (Author)



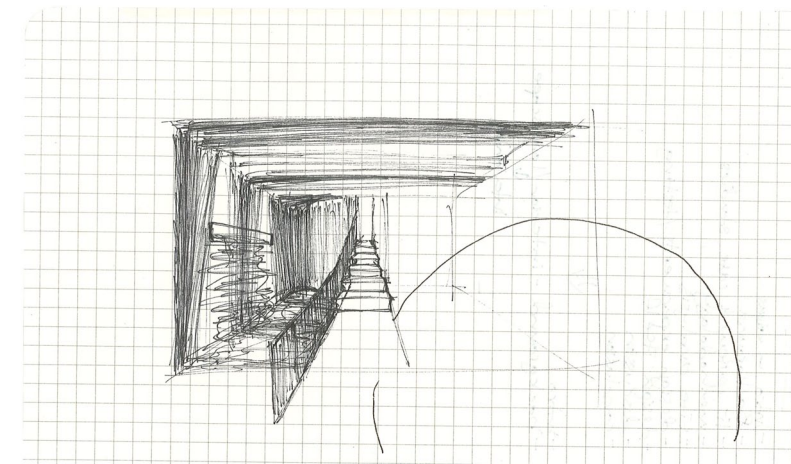
Before



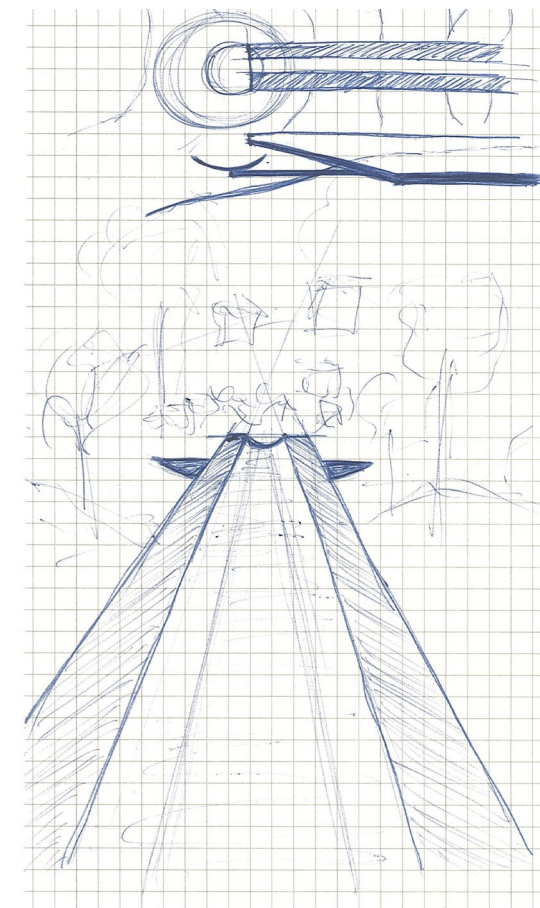
After



Figures a42 + a43: Design Development Spatial Perspective - before and after the addition of water (Author)



a44



a45

Figures a44 + a45: Conceptual sketches - design details (Author)

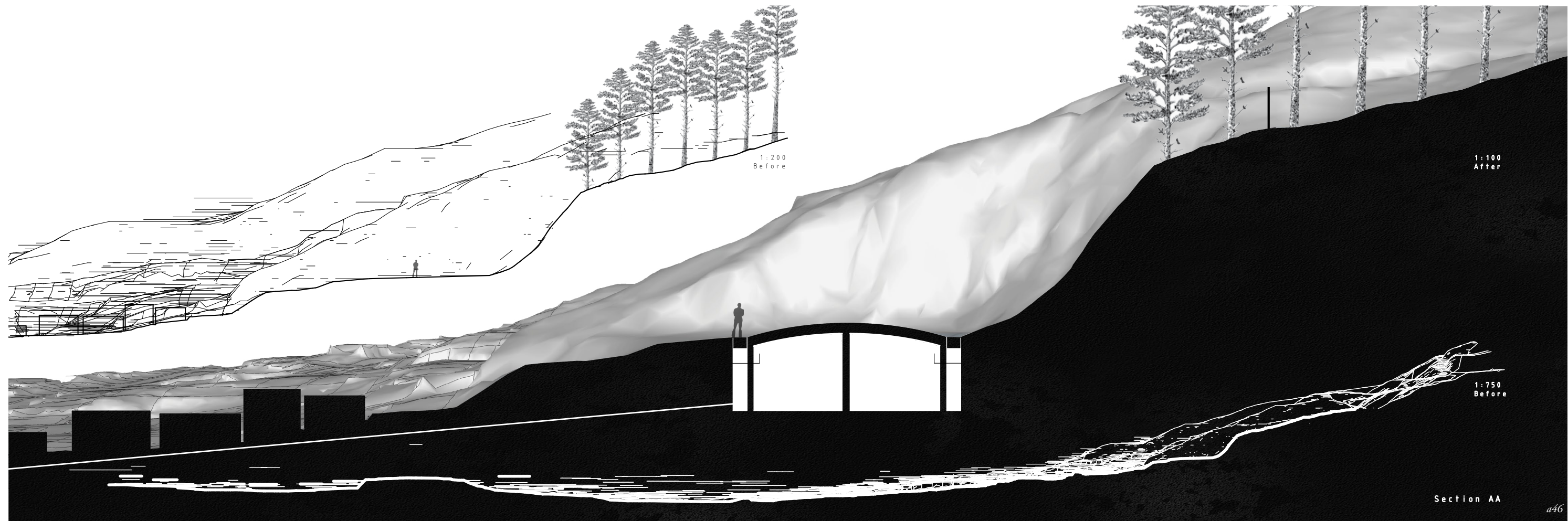


Figure a46: Quarry Design Development Cross Section - before and after the addition of water (Author)

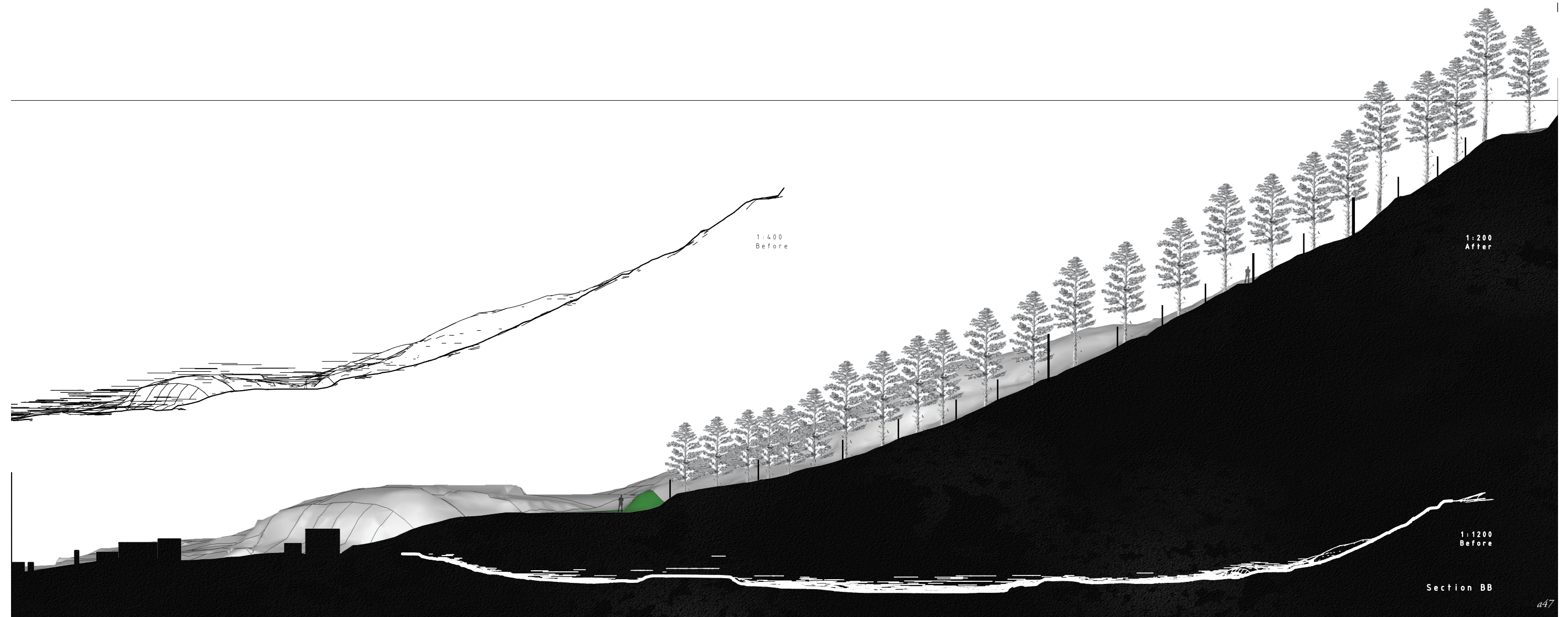


Figure a47: Cascades Design Development Cross Section - before and after the addition of water (Author)

8.3 Engineering Calculations

Peak flow for a catchment for the critical rainfall event.¹

Rational method

$Q = CiA/360$

Q = peak discharge (m ³/s)

C = runoff coefficient

i = rainfall intensity (mm/hour) [found by analysing time of concentration]

A = area of catchment (hectares)

Newtown Catchment - Area (A) = 442ha, runoff coefficient (C) = 0.64, time of concentration (Tc) = 75 minutes. Newtown Catchment Management Plan (1997)

Using the current rainfall values in the Regional Standard, for duration 60minutes (closest to 75 minute time of concentration) the 1 in 50 year rainfall intensity (i) = 38.1mm/hr.

$Q = CiA/360 = [0.64 \times 38.1 \times 442]/360 = 29.9m^3/s.$

¹ (NIWA Taihoro Nukurangi; Ministry for the Environment; Capacity Infrastructure 19)

