

Connecting the Storied Landscape of the Shubenacadie

by

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To Ian Bailey.

Contents

Abstract	v
Acknowledgements	vi
Chapter 1: Introduction	1
Thesis Question.....	2
Chapter 2: Interpretation Through Layering	3
Landscape	3
Landscape as History	3
Landscape as Place	4
Shubenacadie Physical Landscape.....	4
Shubenacadie Cultural Landscape.....	5
Mi'kmaq	5
Acadians	13
Empire Building.....	21
Shubenacadie Today	26
Chapter 3: Method.....	27
Space, Place, and Perception	27
Chapter 4: Site Strategy	28
The Shubenacadie Pathway.....	28
Water Flows	36
The Sites	36
The Urban.....	36
The Forest	38
The Farm	38
Chapter 5: Design.....	43
Characters	43
The Canoers (Part One) - Urban Boat House	43
The Rower - Urban Boat House	47
The Canoers (Part Two) - The Fresh Water	51
The Day Hiker - Lock Six Park	55
The Canoers (Part Three) - The Salt Water.....	57

The Day Trippers - Dyke House	60
The Canoers (Part Four) - Tidal Dock.....	64
Chapter 6: Conclusion	67
Appendix A: B1/M5 Charette	68
Appendix B: Developing the B1/M5 Charette.....	70
References	73

Abstract

For more than 100 years, the Shubenacadie has been forgotten by the collective consciousness of many Nova Scotians.

This thesis examines the cultural practices of the Mi'kmaq, the Acadians, and the British as they engaged with the continuous thread of water - a series of lakes and rivers that create the Shubenacadie.

Traces left in the landscape, both physical and intangible, are used as design tools to recreate connections back to the landscape. This thesis proposes a continuous land path that links the Halifax Harbor to the Minas Basin. Three sites are chosen to setup particular relationships along one's journey. Each site facilitates the movement along the thread, revealing the sense of time and occupation linked to the histories and stories of the Shubenacadie.

This thesis proposes to reconnect a fragmented system by strengthening relationships between past and present cultures and reinscribing the narrative of the Shubenacadie landscape to reestablish its storied landscape.

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Chapter 1: Introduction

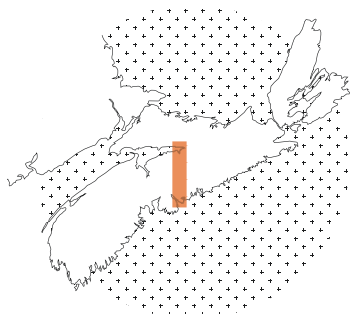
Part of the largest watershed in Nova Scotia, the Shubenacadie bisects the province from the Minas Basin to the Halifax Harbor. The waterway was formed during the Ice Age when a large glacier receded and left behind a 115 kilometre scar across the province.

The Shubenacadie landscape was transformed throughout cultural history, both naturally and anthropically. Differing cultural groups had their ways of manipulating or working within different water conditions. It started with the Mi'kmaq, as they used rivers and lakes for hunting and fishing with adaptable landscape technologies such as fishing weirs. This mark within the landscape was light, often temporary, that had to be rebuilt each season. More significant transformations happened when the French Acadian settlers cultivated previously unusable land using dyking techniques. This enabled them to reap the benefits of the mixing of salt and fresh waters and farm on recovered land. And eventually, the English saw the Shubenacadie as an opportunity to create a commercial hinterland, the new city of Halifax needed to thrive. They built a series of locks, some of which still stand today. What emerges from these layers are the different relationships these groups had towards the landscape and water, whether for travel, food, or defence.

Tuan's Theory, that place emerges from space, is examined as a way to reconnect nature and culture into the Shubenacadie. It expands on the relationship between 'name' and 'place' and how the Mi'kmaq used naming as a device for storytelling.



Situating Nova Scotia in Canada. (base map by Joy Charbonneau 2018)



Situating the Shubenacadie in Nova Scotia. (base map from NSTD 2019)

Through journey and narrative, we can understand the Shubenacadie. This thesis asks how architecture can provide a means to link place to the larger landscape, and the past actions and present experiences together. Juhani Pallasmaa wrote, "...more than ever, we need visions of cultural and experiential rooting that make us again, capable of grasping the epic story of culture and our humble role in the making of that great narrative" (Pallasmaa 2016, 59).

The landscape becomes a series of relational places (pause) linked by paths (movement) and combined with the various cultural narratives. This thesis aims to strengthen the relationship between the natural and cultural histories embedded within 'place' by reconnecting people to the deep connection that landscape plays in place making.

Thesis Question

Can architectural interventions along a path be used to structure the narratives of past and present, while connecting the layered stories of the Shubenacadie?

Chapter 2: Interpretation Through Layering

Landscape

DW. Meinig said, “Landscape is an attractive, important, and ambiguous term” (1979, 1). It is attractive as it reminds us of a pleasant scene, a particular setting of a special memory, or a suggestion to pay more attention to the design and care of our surroundings (Meinig 1979, 1). Landscape is an important term as it holds multiple connotations involved in significant matters of professional and public concerns used by artists, architects, historians, and earth scientists. It is an increasingly common word that encompasses a collection of common features that, when brought together, allow for a vibrant exhibit of the character of any given society (Meinig 1979, 2). However, as landscape is used by different people to relate to different things, it is an ambiguous term (Meinig 1979, 2).

In Meinig’s “The Beholding Eye: Ten Versions of the Same Scene”, he names ten different versions of landscape. This thesis recognizes all ten: landscape as Nature, Habitat, Artifact, System, Problem, Wealth, Ideology, History, Place, and Aesthetic, but focuses on two: Landscape as History and Landscape as Place.

Landscape as History

The dictionary defines landscape as “a portion of territory that can be viewed at one time from one place” (Merriam-Webster, n.d.). This definition does not begin to examine the stories embedded within that landscape. These stories are a combination of historical traces, both natural and cultural, that, over time, have become part of any given

landscape. The historical view implies that every landscape is an accumulation, that life is lived amidst lives lived before (Meinig 1979, 44). Meinig explains that landscape is a rich store of data about past peoples and societies that have overtime left their imprints on the land (1979, 44). Though it is not a full record of history, the landscape provides insight and endless opportunities to discover and reflect (Meinig 1979, 45).

Landscape as Place

The compliment to landscape as history is landscape as place. Meinig describes it as “every landscape is a locality, an individual piece in the infinitely varied mosaic of the earth” (1979, 45). Viewing landscape as place happens when the viewer looks past the generalities to appreciating the uniqueness of what they encounter (Meinig 1979, 45). Thus, allowing for a well-cultivated sense of place. Place is often associated with a name. By naming a place, or relating it through story and narrative, places become embedded with meaning and significance. Names are crucial to understanding place; they transform something physical or geological into something one can experience both socially and historically (Tilley 1994, 18). Tilley believes that fundamentally names create landscape, often used as devices of storytelling, situating, and contextualizing physical space (1994, 19).

Shubenacadie Physical Landscape

Nova Scotia is one of three maritime provinces, located on the Atlantic coast of Canada. The proximity to the sea has not only shaped the land but influences the climate, and flora and fauna found within the province (Thurston 2011, 7). The ocean moderates the extreme winter and summers,

allowing warmer weather to creep into autumn and winters to be less severe on the coast (Thurston 2011, 8).

Within the central region, roughly 15.4% of its land use comprised of young forests (Sterling et al. 2014) and is part of Atlantic Canada's largest ecoregion. The New England/ Acadian forest remains one of the most intact temperate broadleaf and mixed natural forest communities in the region despite European settlement (Thurston 2011, 78). These forests made up of tree species such as sugar maple, beech, eastern hemlock, red spruce, and a large amount of both white and yellow birch (Thurston 2011 79).

The central region is 3.2% farmland (Sterling et al. 2014) that has been modified and shaped over centuries. The majority of these farms are located near or on bordering bodies of water. Some of the world's highest tides are found in the Minas Basin (Thurston 2011, 153). Considered "gardens in the sea," these waters are rich in both nutrients and sunlight. The mix of salt and fresh waters converge here, lowering the overall salinity of the waters providing the ideal habitat for many species of fish such as cod, haddock, and flounder (Thurston 2011, 156).

Shubenacadie Cultural Landscape

To better understand the importance of water landscape, it is essential to comprehend how humans engaged with the natural environment and created their cultural histories along the Shubenacadie and how these places became important and valuable to them.

Mi'kmaq

Ta'n Weji-squalia-tiek (from where we sprouted) is a Mi'kmaq expression of being rooted in the landscape. For the

ECOLOGICAL LAYERS OF NOVA SCOTIA



WATER

LEGEND

Water ■
Primary Water Sheds —

WETLANDS

LEGEND

Salt Marsh ■
Coastal Wetland ■
Bogs ■

LAND COVER

LEGEND

Urban ■
Agricultural/Suburban ■
Mixed ■
Forested ■

Maps of Nova Scotia illustrating the different natural layers of the landscape (base map from NSTD 2019)

Mi'kmaq people, place is significant, often relating to places to a specific meaning or activity (Lewis 2019). Their sense of place is rooted in a type of bond. For example, being born and living in a place that has developed over 13,500 years. For the Mi'kmaq, this way of thinking is considered cultural memory, one of which gets transferred down generation to generation. This knowledge is passed down through mythical and factual narratives in the form of stories, legends, family, and generational histories (Lewis 2019). Before colonial contact, the Mi'kmaq read the landscape through natural markers. Geography or physiographic determinants is what defined the cultural landscape of the Mi'kmaq (Lewis 2017). Based on the water divide in Nova Scotia, the most significant were the four main physiographic areas of Nova Scotia (Lewis 2019).

Coastal, intertidal areas, estuaries, and riverine habitats are noted as the ideal locations for settlement. These habitats offered a diverse and seasonal resource base (Lewis 2006,



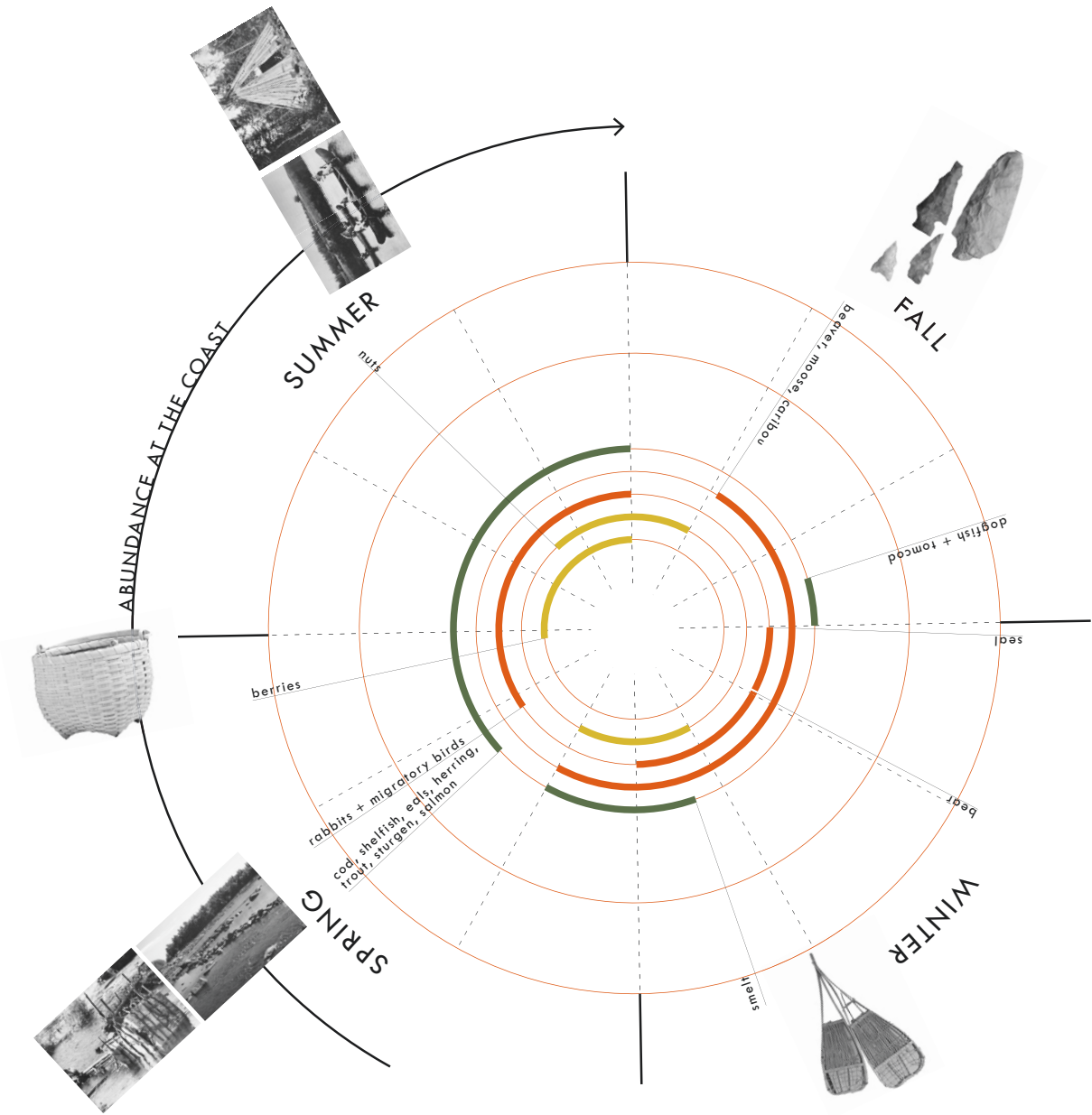
Technologies used by the Mi'kmaq. Basketry (Nova Scotia Museums 2019a) , Fish Weir (Nova Scotia Museums 2019b), Wigwam (Pastore 1998), and Canoe (Barnett 2002,4)

10). The Shubenacadie was one of the 42 principal rivers utilized by the Mi'kmaq when the seasons changed. They navigated these waterways in canoes, often made from birch bark. The design incorporated a square-rigged sail and high sides, allowing it to cross open waters (Mi'kmaw Spirit 2016a). When the weather began to turn colder, they would travel by canoe inland on rivers. Along the way, they would build complex sets of fishing weirs used to trap eels, salmon, and a variety of other fish. By the winter, the Mi'kmaq would have travelled inland to establish their winter camps within the forest, where they turned to hunt large mammals as their primary food source (Mi' kmaw Spirit 2016b). Like the canoes, birch bark was used to build traditional Mi'kmaq wigwams, most commonly the conical wigwam (Pastore 1998). In addition to the birch, the main structure was built with spruce poles and striped maple saplings (Mi'kmaw Spirit 2016c). The Mi'kmaq also applied their knowledge of how wood breaks and bends to basketry. Technologies such as the weir, canoe, wigwam, and baskets all relied on a particularized understanding of land and materials, which would have been passed down through generations.

Fish Weir

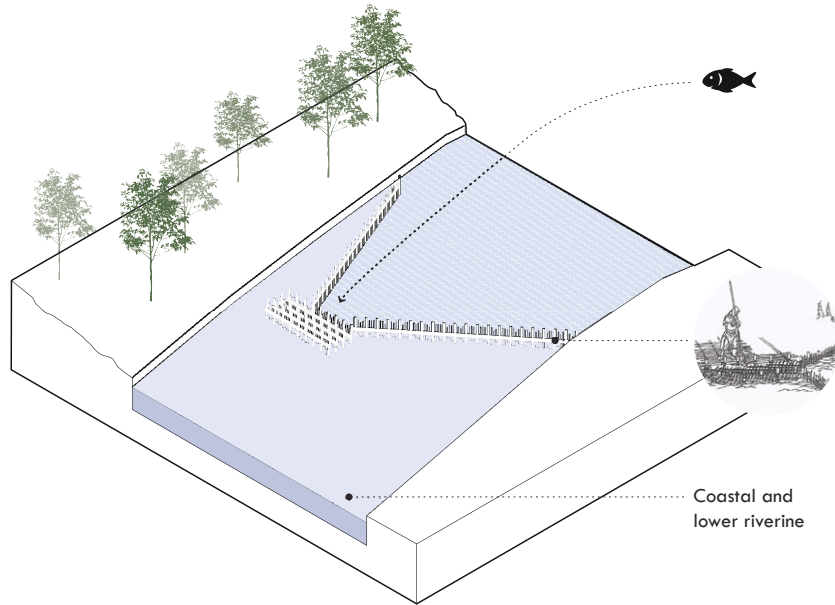
The fish weir or fish trap have been utilized to aid in the catching of fish for decades. Basic forms of fish traps have been dated and identified to at least the Mesolithic period. Still, they are believed to have been a development from the Neolithic period's very primary forms (Bannerman and Jones 1999, 70). The weir, simply defined by Merriam-Webster Dictionary as "a fence or enclosure set in a waterway for taking fish," has been designed, made, and modified by humans to trap fish so they could not escape (Lewis 2006, 2). The Mi'kmaq were among the many populations that

used this effective technology to realize the potential of their marine habitats (Lewis 2006, 9). Though all fish weirs share the same function, they differ in form depending on the environment they are found in and the species of marine life they are intended to trap.

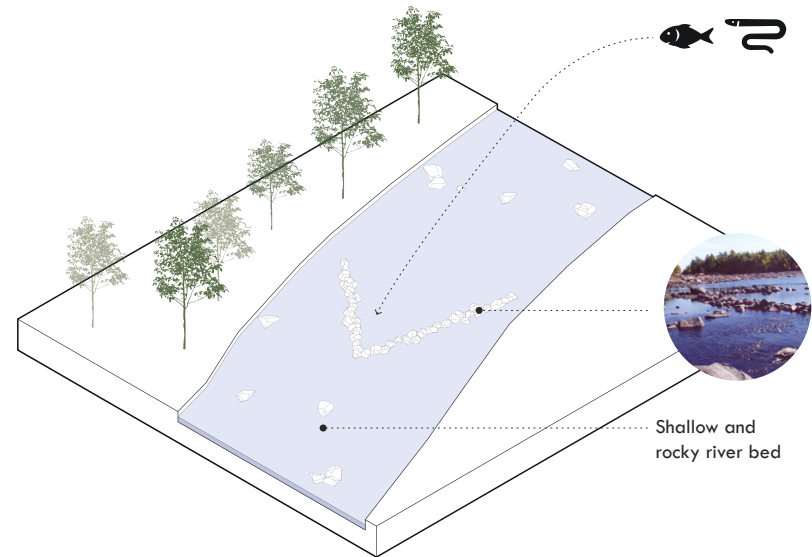


The Mi'kmaq experienced time through the seasons. For them the Shubenacadie was the route which enabled them to travel towards the coast for fishing when the weather became warm, and back inland when the weather became cold (information from Pastore 1998).

FENCE-STAKE

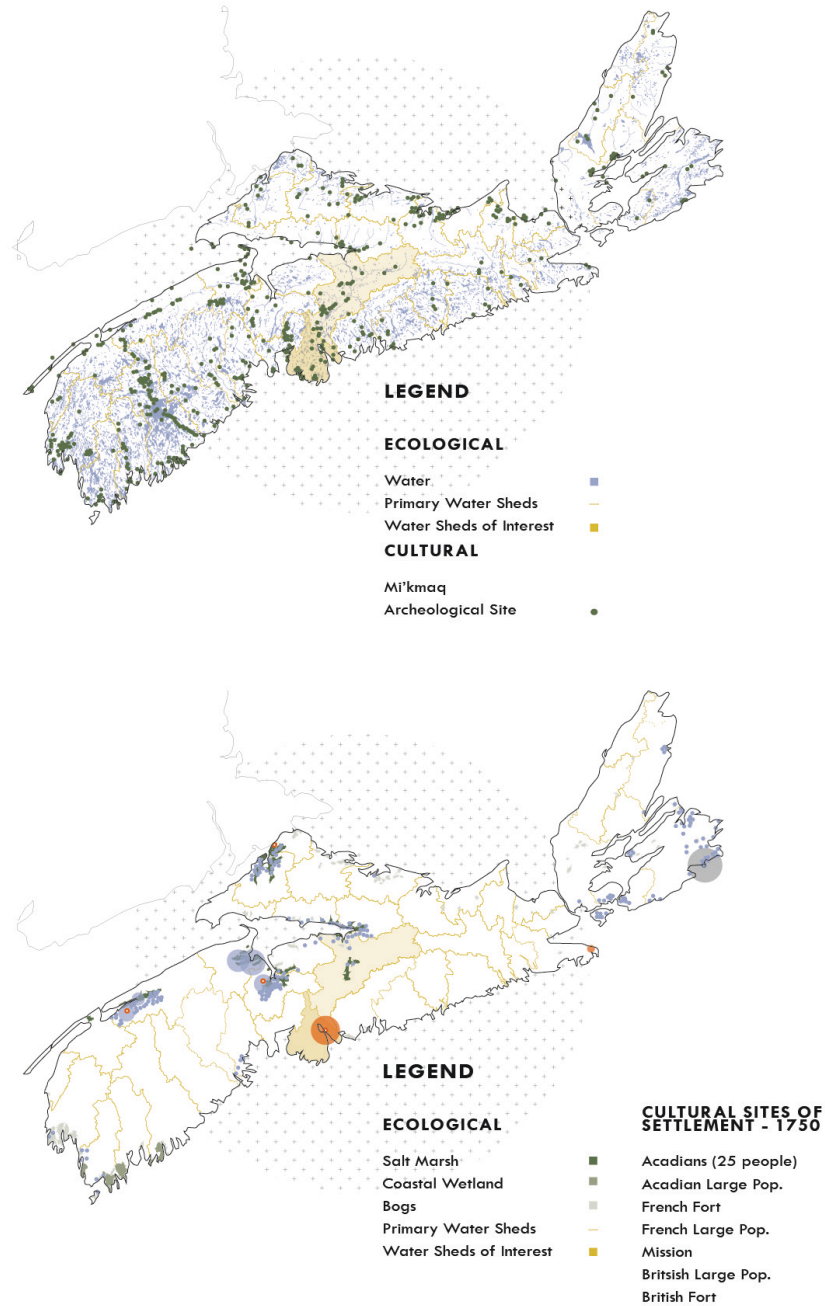


V-SHAPED



Fence-stake fish weirs existed in coastal and inter-tidal habitats. This style of weir were constructed at the mouths of estuary rivers, intertidal channels or stretches of rivers where there was an adequate tidal range. Subject to continuous modifications to accommodate changes in their surroundings, such as erosion and sea-level changes. They were designed to capture anadromous, catadromous and euryhaline fish species that migrated in and out for feeding or spawning purpose V-shaped weirs were used for smaller fish species, such as American smelt, tomcod, gaspereau, blueback herrings, and eels. This style of weir were built with small boulders from river bed arranged in a V shape pointed both downstream or upstream depending on the seasonal migration (information from Lewis 2006, 39-40).

CULTURAL LAYERS OF NOVA SCOTIA



Locations of Mi'kmaq archeological sites, some dating back 13,500 years ago. When layered with bodies of water, one can begin to see the migratory paths of the Mi'kmaq rely on proximity to water. At the height of the Acadian population in Nova Scotia, and just one year after the British established Halifax, you can see how these settlements cluster around coastlines. For the Acadians, specifically around wetlands areas (information from Hornsby 2005; Lewis 2019, base map from NSTD 2019).

Acadians

In 1630, a small group of French settlers dyked and began to farm the land of present-day Annapolis Royal. Previous to this, the Bay of Fundy had numerous failed attempts at maintaining settlement in this area. First identified as an area abundant in cod, fishermen from England, Spain and Portugal sailed along the Nova Scotia coasts looking for a good catch. They typically stayed only for a season but cured their catch on land before returning home (Department of Agriculture and Marketing 1987, 15). The need for permanent settlement occurred when fur trading with the Mi'kmaq began. During the first half of the 17th century, the area of Port Royal switched hands numerous times before finally landing in the hands of the French with the treaty of 1632. (Department of Agriculture and Marketing 1987, 17). During the 17th century, Acadians successfully farmed the land, recovering much that had been lost to the sea. Using dykes, they created a new type of landscape that boarded coastal areas. Rather than orientating their villages around a church or a town square, the Acadians broke with the French tradition and settled in a string of farms to be near their dykes (Department of Agriculture and Marketing 1987, 23). Nearly all of their cultivated land was dykeland, rarely farming upland (Department of Agriculture and Marketing 1987, 23).

Dyke

The Acadians needed to solve two main problems: build a dyke high and robust enough to keep the high tide at bay, and develop a way to discharge excess water into the sea (Department of Agriculture and Marketing 1987, 31). The Acadians built their dykes, starting at the highest points of

land. They learned how to read the natural drainage systems of the saltmarsh and constructed aboiteau from hollowed-out tree trunks (Landscape of Grand Pré n.d.). The aboiteau was placed in small creeks that drained the marshes at low tide. Dykes were built from marsh mud and cover with layers of living sod (Department of Agriculture and Marketing, 1987 31). By 1750, the Acadian population had climbed to approximately 10,000, spreading up and down the coastline (Department of Agriculture and Marketing 1987, 26). The successes of this building technology transformed the coastal landscape in the Minas Basin.

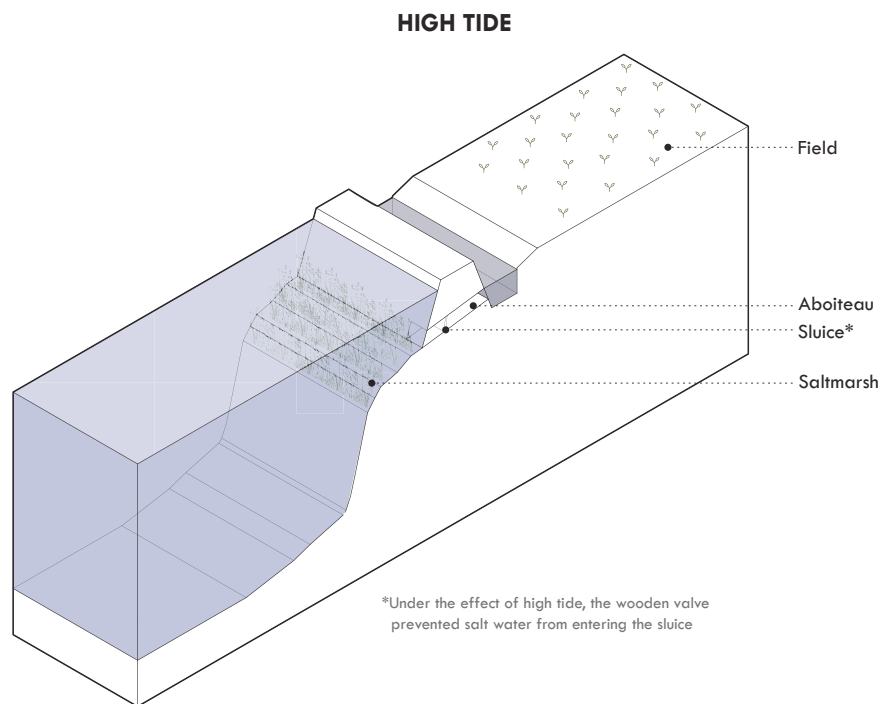
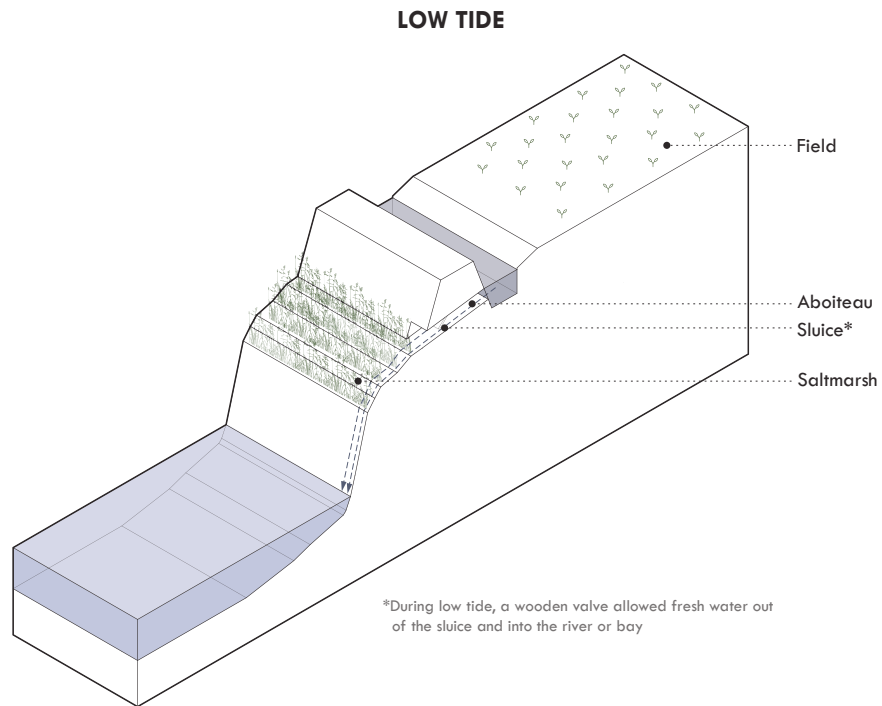
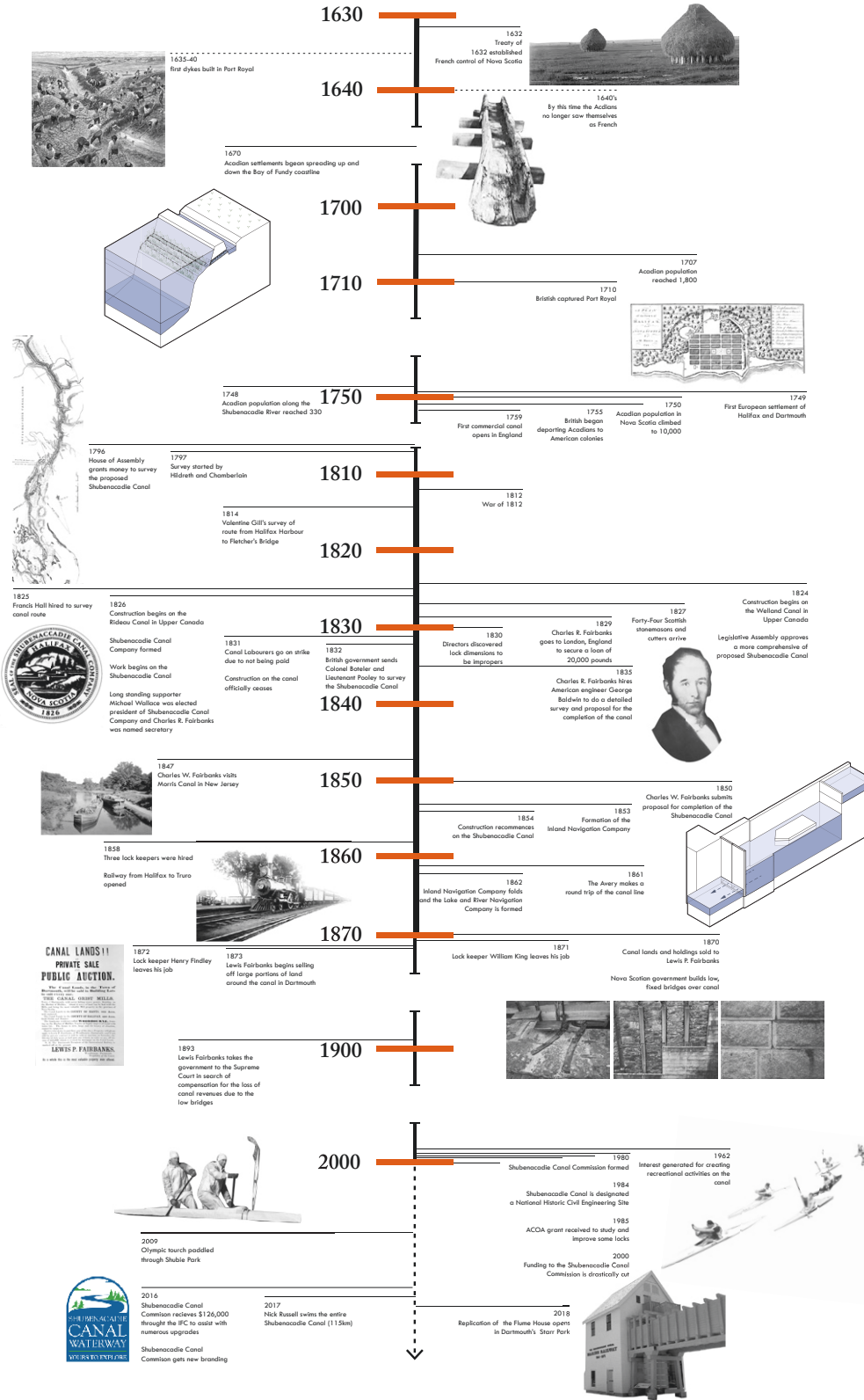
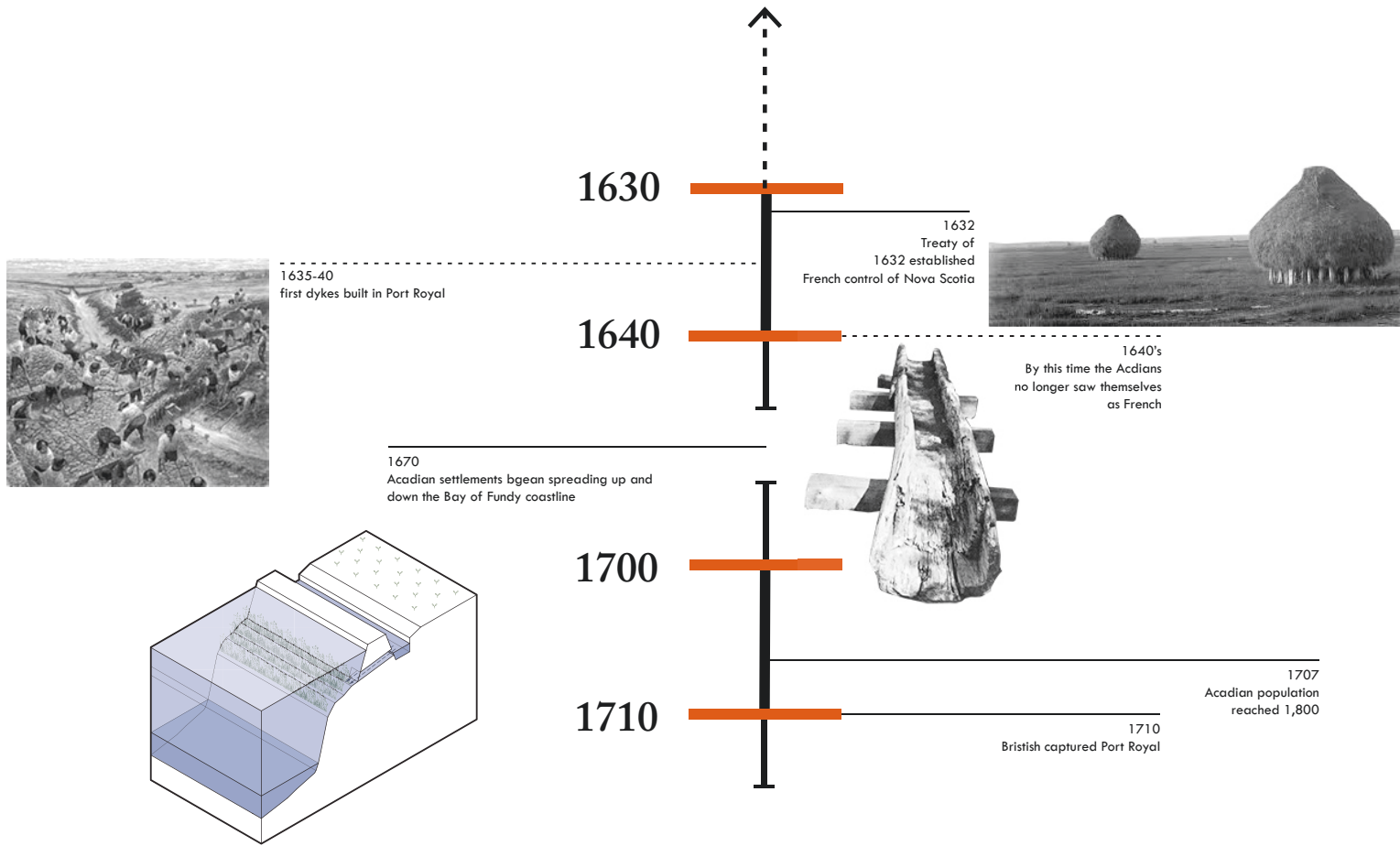


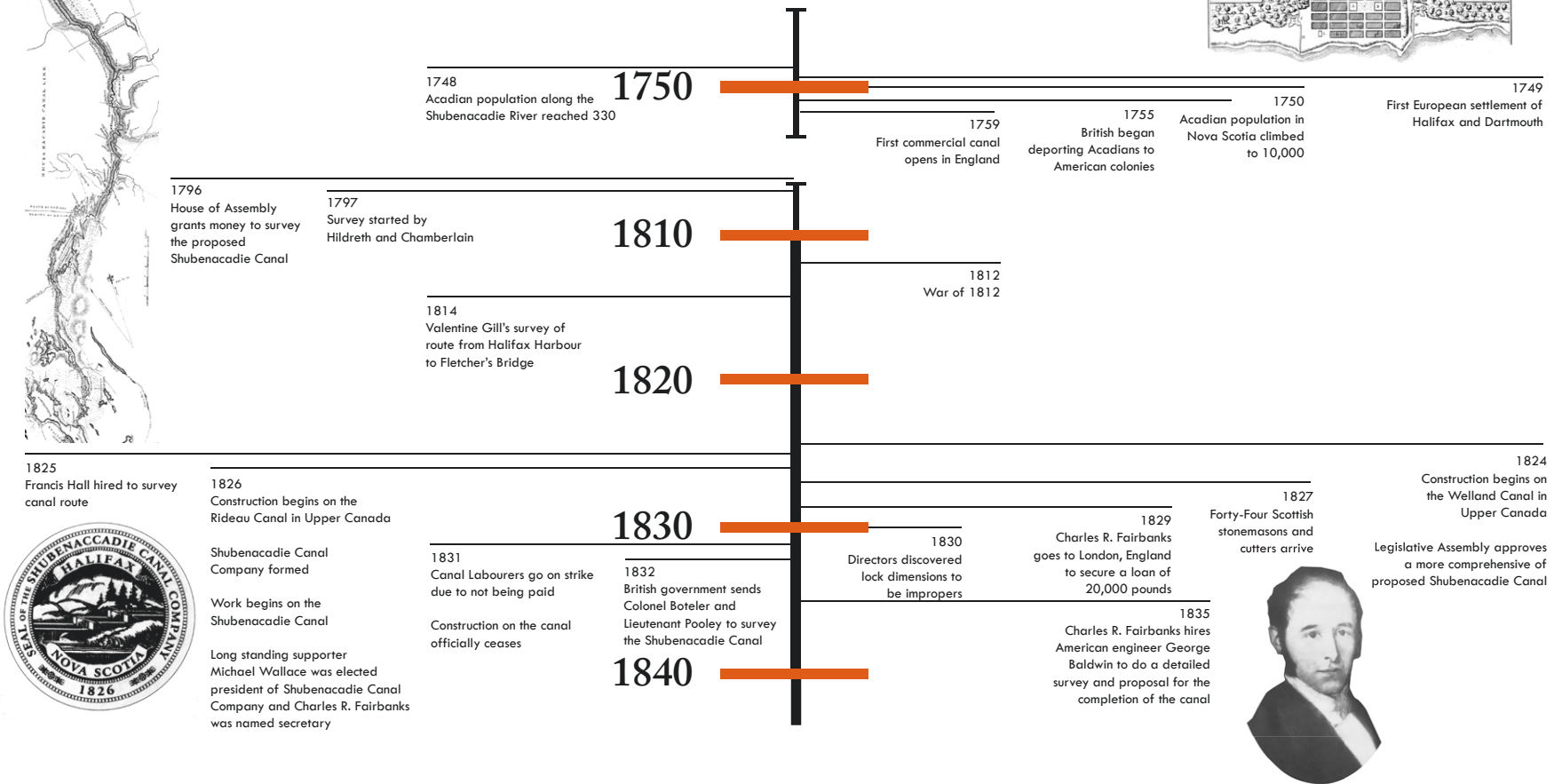
Illustration of a cross-section of a typical Acadian dyke, including the tidal range, salt marsh, aboiteau system and field (information from Landscape of Grand Pré, n.d.)



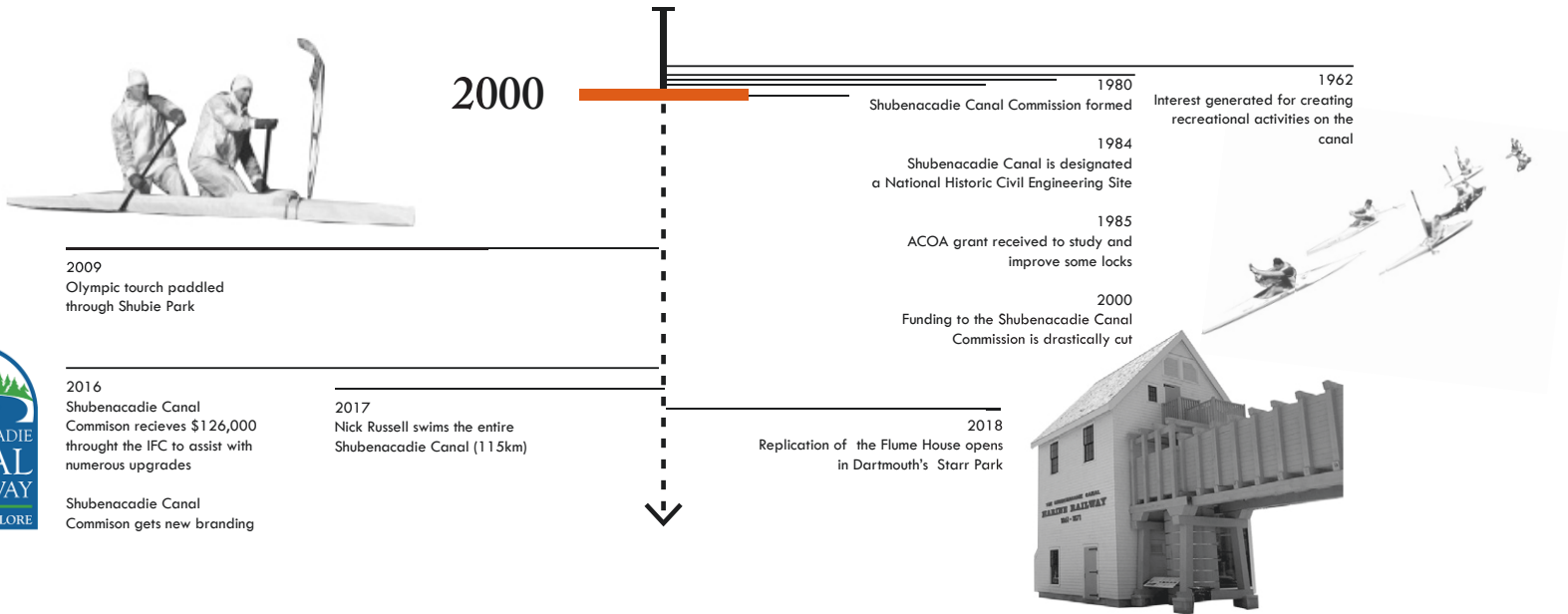
The Acadians relied on the tides moving in and out through dykes they built along the wetland coasts. They reclaimed land that had been lost to the sea. The British saw The Shubenacadie as an opportunity to provide Halifax with a commercial hinterland by taking advantage of a chain of seven lakes and a river which bisected the province.



Timeline part one.



Timeline part two.



2009
Olympic touth paddled
through Shubie Park

2016
Shubenacadie Canal
Commision recieves \$126,000
through the IFC to assist with
numerous upgrades

Shubenacadie Canal
Commision gets new branding

2017
Nick Russell swims the entire
Shubenacadie Canal (115km)

2000

1980
Shubenacadie Canal Commission formed

1984
Shubenacadie Canal is designated
a National Historic Civil Engineering Site

1985
ACOA grant received to study and
improve some locks

2000
Funding to the Shubenacadie Canal
Commission is drastically cut

2018
Replication of the Flume House opens
in Dartmouth's Starr Park

1962
Interest generated for creating
recreational activities on the
canal

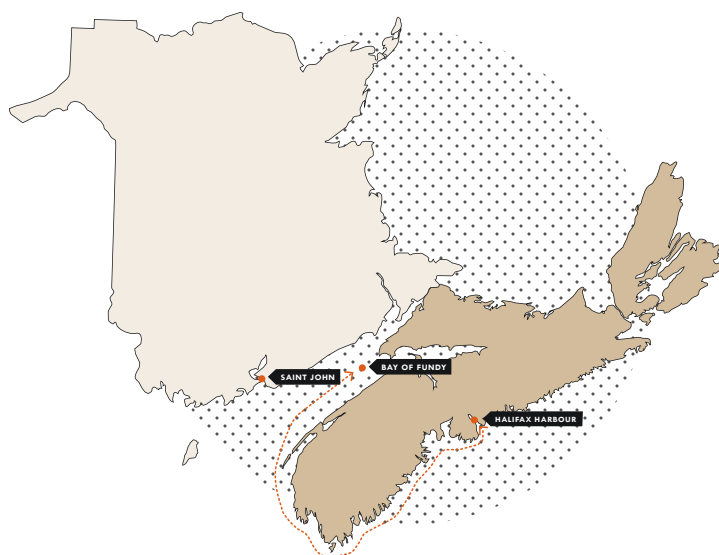
Empire Building

During the mid 18th century, roads were few, and the commerce between countries depended on large sailing ships and horse-drawn carts to transport goods. In 1759, England began construction of its first commercial canal to provide a more economical and faster method of transportation. For the next fifty years, Europe experienced a boom of this concept as it spread across the continent. In British North America, untapped wilderness offered potential access to natural resources, but also posed as a barrier for efficient travel (Barnett 2002, 2). Between 1825 and the 1830s became the canal-building era in British North America (Belshaw 2015). These canals provided access between resource hubs, which tackled the hurdles the natural landscape poses to transportation. Canals also offered a way to transport military troops and supplies quickly, which was especially crucial for there were worries of additional threats following the war of 1812 (Barnett 2002, 21). Massive engineering projects such as this garnered support for the Shubenacadie Canal.

In Nova Scotia, the primary place of settlement was along coastal areas. Travel from the Atlantic coast to the Bay of Fundy required sailing around the southern tip of the province, often fraught with dangerous and lengthy sea voyages. This risky undertaking made many Halifax merchants reluctant to make the voyage, thus leading New Brunswick to become the leader of trade and commerce in the Bay of Fundy.

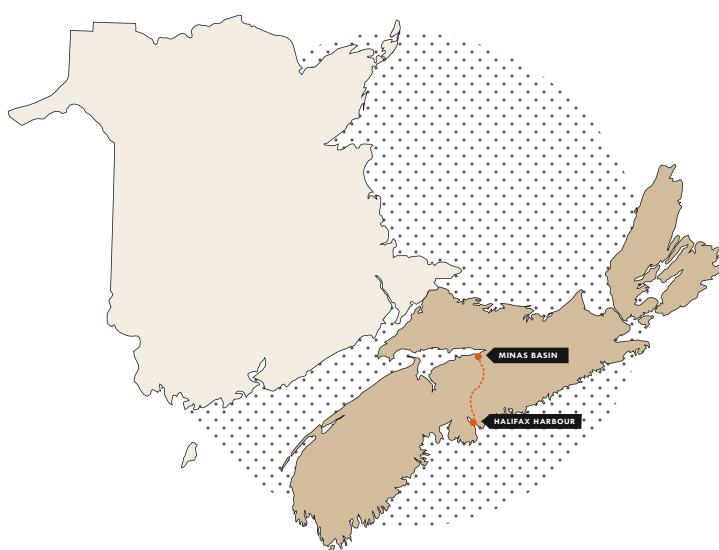
River of Dreams

By the mid-1760s, Halifax government and businessmen began planning ways to connect the Minas Basin and the



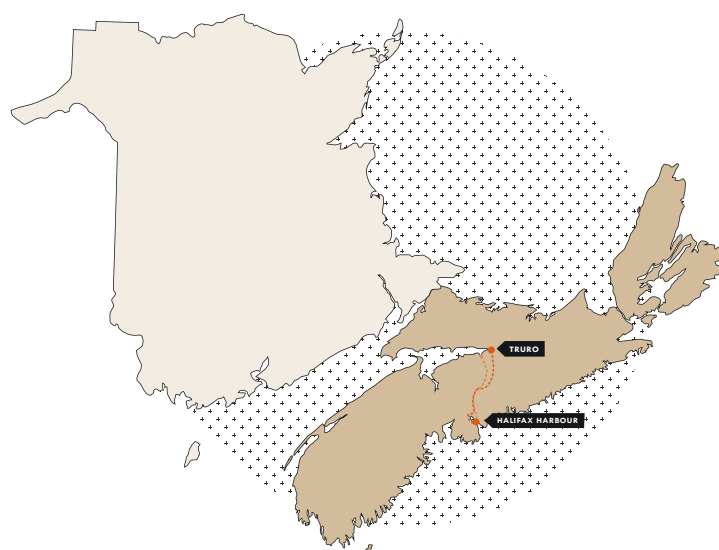
**ATLANTIC COASTLINE
PRE 1861**

Due to the lengthy and dangerous sea voyage around the southern tip of Nova Scotia, Saint John became the leading commercial hub for both sides of the Bay of Fundy.



**SHUBENACADIE CANAL
1861-1871 ***

*parts of the canal were being used in 1858, but the full system was not complete until 1861



**THE EASTERN LINE
1858+**

The Eastern Line connected Halifax to Pictou via Truro by rail. The railway often ran parallel to the canal and became the preferred way to move goods as it ran year round and was much quicker.

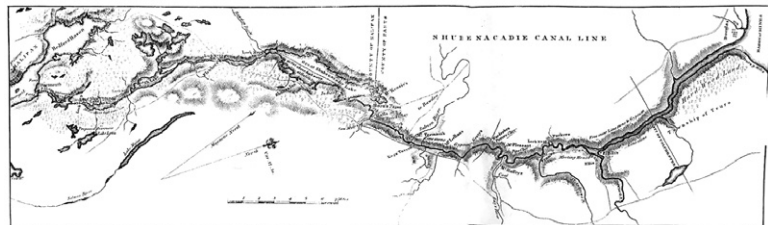
How the route of preferred travel changed over time.

Halifax Harbor. The first man to elevate the possibility of this connection was Captain William Owen. In his diary, he described the situation of commerce in Halifax at the time:

The country about Halifax, though daily improving, afforded as yet few of the necessities of life, and the supplies that were brought in, on account of the badness of the roads, the difficulty and expense of land carriage, came by a tedious and dangerous navigation around by sea. To obviate this great inconvenience a scheme had been some time in speculation for opening a communication by the lakes and rivers between the capitol and the back settlements. (Barnett 2002, 5)

In 1767, using routes that had been used by Mi'kmaq for generations, Owen and a team of fourteen people set out to chart and record the lakes and rivers (Barnett 2002,5). Though Owen's expedition laid the groundwork for the canal system (Barnett 2002,5), construction did not begin until 1826. By this time, the age of canal building was flourishing, and now Nova Scotia could participate in the leading edge of progress in British North America.

Construction of the canal was poorly timed and continually struggled with technical difficulties. Francis Hall, a Scottish engineer, was first hired in 1824 to design the Shubenacadie canal. His design boasted nineteen locks over the entire line, seven of which were to aid boats in reaching the start of the then "Dartmouth Lakes" from the harbour (Barnett 2002, 24). Dams and waste weirs would support each lock and used to retain additional water during seasonal flooding. Hall's experience in canal building was the British



Francis Hall's plan of the Shubenacadie Canal linking the Halifax Harbour to the Minas Basin (Barnett 2002, 18-19)



The British method of lock building used large granite blocks. These images were taken at the site of Lock 5 which was restored in 1985.

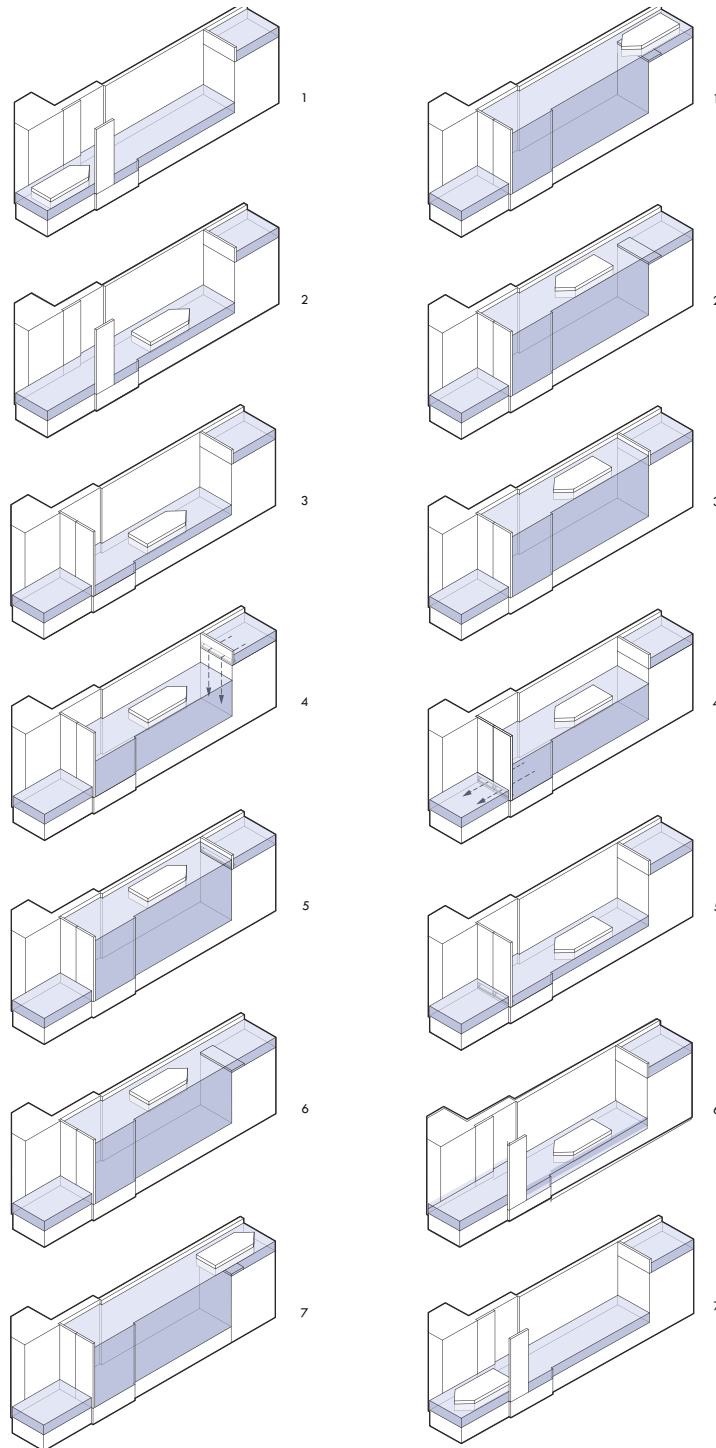


The American method of lock building used a combination of wood slats and local stones. This image was taken at the site of Lock 3.

construction style of lock, which relied mainly on granite, which previous surveys proved to be plentiful in Nova Scotia (Barnett 2002, 24).

This way of lock construction later proved not to be well suited for the harsh winters of Nova Scotia (Barnett 2002, 69). By 1832, only a few locks were complete and found to be defective. Additionally, the section in Dartmouth, which linked the harbour to the Dartmouth Lakes, had not started (Barnett 2002, 54). Construction of the canal slowly continued after another attempt to push the canal forward; however, as of 1850, it was still not complete (Barnett 2002, 67). That year, Charles Fairbanks, a young engineer, submitted a proposal for completing the canal. His significant contribution was to replace a total of seven locks at Porto Bello and downtown Dartmouth with the more modern alternative of two inclined plains (Barnett 2002, 67). Additionally, he proposed the American method of lock building, which employed wooden slats placed vertically between locally sourced stones. Unlike the British lock method, the American approach was better suited for Nova Scotia's fluctuating climate (Barnett, 2002 63).

The Shubenacadie Canal officially opened in 1860, though some sections had already been navigable during construction (Barnett 2002, 79). The first trip from Halifax to Maitland in 1861 was recorded to have taken eight days, and its return to be three days (Shubenacadie Canal Commission 2019). Common cargo found on the steamships which travelled towards Halifax on the canal were bricks, logs, and granite, and materials such as coal were shipped inland from the harbour (Shubenacadie Canal Commission 2019). Within the first number of years in operation, the canal showed promise, but profits soon



1-2. Boat enters the lock
 3. Lower gates are closed
 4-5. Sluice in upper gate opens and lock is filled with water from upstream
 6. Upper gate is opened
 7. Boat exits the lock

1-2. Boat enters the lock
 3. Upper gates are closed
 4-5. Sluice in lower gates opens and lock is emptied draining its water downstream
 6. Lower gates are opened
 7. Boat exits the lock

Diagram showing how a lock system worked. This was the general style of lock used along the Shubenacadie Canal.

began to decline (Shubenacadie Canal Commission 2019). With the railway's growing popularity as a more efficient way of transporting freight and people, the canal struggled to make a profit (Barnett 2002, 94). In 1870, just ten years after opening, the canal was put up for sale (Barnett 2002, 94), and the last recorded income of the canal was on June 30 (Shubenacadie Canal Commission 2019).

Shubenacadie Today

The weir, the dyke, and the lock were all technologies used to interact with the water. They represent how each culture had their own attitude towards the landscape and to place. What remains today, may be hard to see or understand. A weir may have been washed away with a tide, a dyke may just be seen as a mound along the coasts, and a lock may simply be a pile of stones. Yet all are remnants of a culture's connection to place.

Today the waterway is a broken series of walking trails and broken waterways. All but few of the locks remain in a state of disrepair, a fragment left behind. Forgotten are the routes people once traveled each season, following the migration of fish along the waterway. Though these stories have been ignored, they remain embedded in the landscape threaded together by the waterway.



Traces of Lock Six near Enfield, NS.

Chapter 3: Method

Space, Place, and Perception

Space is but a simple surface in the landscape (Tilley 1994, 9). For space to become place, a connection must be made. Place is grounded in the existential or lived consciousness of it; it offers context for the human experience; memory, encounter, and association (Tilley 1994, 15). For Tuan, “place achieves concrete reality when our experience of it is total, through senses as well as the active and reflective mind” (Tuan 1977, 18). Experience can be derived from smell, touch, and tastes, but must be directed to the external world.

This theory runs true for the indigenous peoples of the Maritimes. Their beliefs of Ta'n Weji-squalia-tiek was their direct connection to the landscape. The Mi'kmaq named places based on experiences and meanings often related to natural features. Tuan explains this in *Space and Place: The Perspective of Experience*, “...they do not stay in one place and because their sense of land ownership is ill-defined, we might expect less attachment; but in fact the strongest sentiment for the nurturing earth can exist among such people” (Tuan 1977, 156). This way of thinking was how they defined their sense of place. For generations, the landscape had been personal; the naming of places was how space became their place.

Place is defined as needing to come from one's experience, but experiences are based on one's perception of that space. All perceivers have access to the same “space,” but their perceptions may differ due to an infinite number of ways to perceive these spaces. There are various ways in which one may perceive a space (Tuan 1977, 8).

Chapter 4: Site Strategy


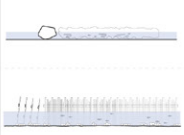

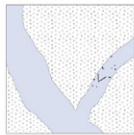





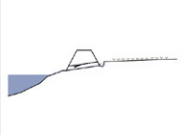







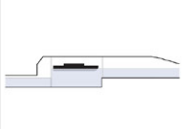

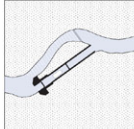




The Shubenacadie Pathway

The path plays a fundamental role in reconnecting cultural and natural narratives. By connecting a series of broken existing trails, the land path works at creating a continuous land network along the Shubenacadie. Active transportation is defined as the modes of transportation powered by a human. This path will act as an active greenway network linking the Halifax Harbour to the Minas Basin. It will support numerous “human-powered” transportation modes, specifically but not limited to biking and walking. There can be many users of the path, different in duration, mode, and intent.

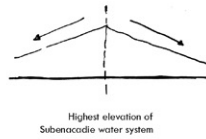
Not only does the path present itself in its physical form, but also that of the theoretical. It becomes the vehicle allowing the traveller to perceive the landscape. There can be many users of the path, different in duration, mode, and intent, thus each journey will be unique. The path’s primary function is connectivity and a means of moving through space but provides the traveller with the opportunity to observe and understand the spacial qualities of the Shubenacadie.

Along the Shubenacadie Pathway, sites of significance, whether they are in a physical form, such as a ruinous stone wall once belonging to a lock, or intangible, like a Mi’kmaq place name such as *Siknikt*, meaning drainage place, the texture of the land path will change. Whether on foot or by bike, the travel will feel his textural change beneath, indicating the location of a site of significance.

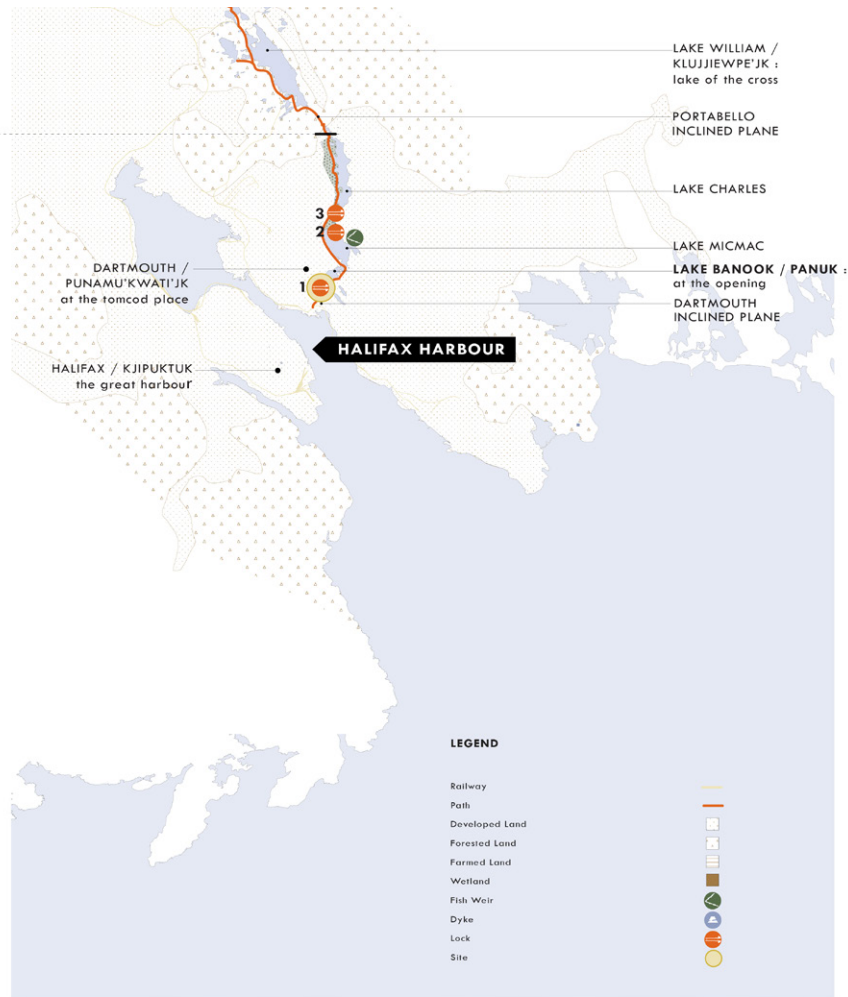
WATER CONTROL TECHNOLOGIES

	who	technology	flows	landform	material	thresholds	ruin	icon	path/marker
FISH WEIR					stones wood				
DYKE					grass sod fir tree clay				
LOCK					granit stone rubble lumber lead				

Matrix of water control technologies used by three cultural groups: Mi'kmaq, Acadians, and the British (information from Barnett 2002; Landscape of Grand Pré, n.d)

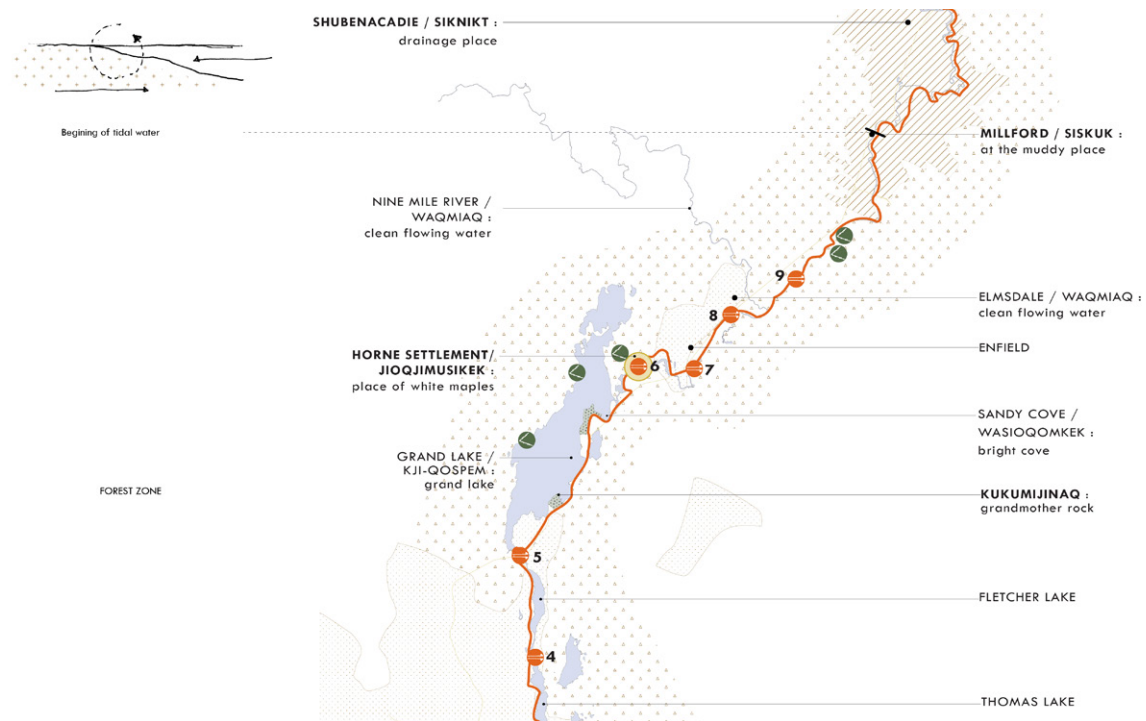


URBAN ZONE



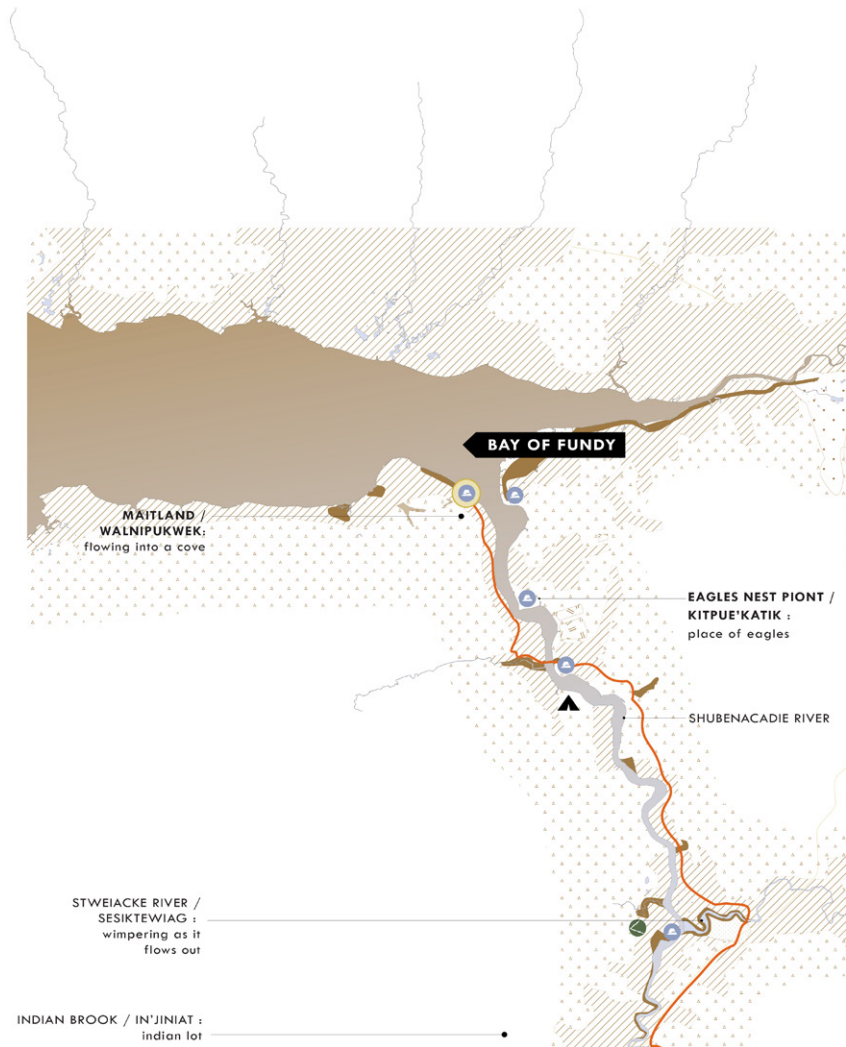
THE PATHWAY

The path plays a fundamental role in reconnecting cultural and natural narratives. By connecting a series of broken existing trails, the land path works at creating a continuous land network along the Subenacadie. This path will act as an active greenway network linking the Halifax Harbour to the Minus Basin. It becomes the vehicle allowing the traveller to perceive the landscape. The path's primary function is connectivity and a means of moving through space but provides the traveller with the opportunity to observe and understand the spacial qualities of space.



Map part two - Forest Zone

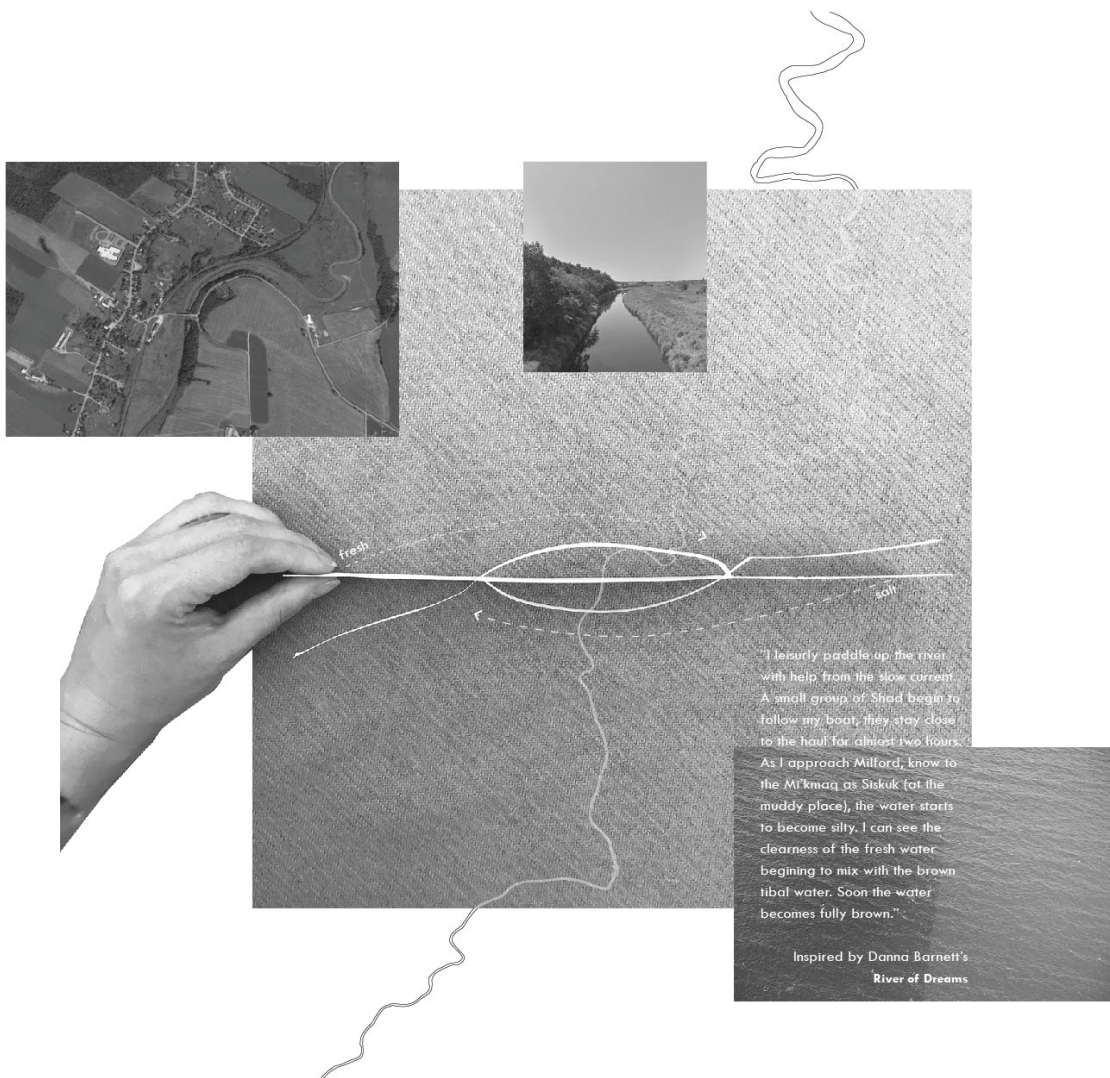
SHUBENACADIE PATHWAY



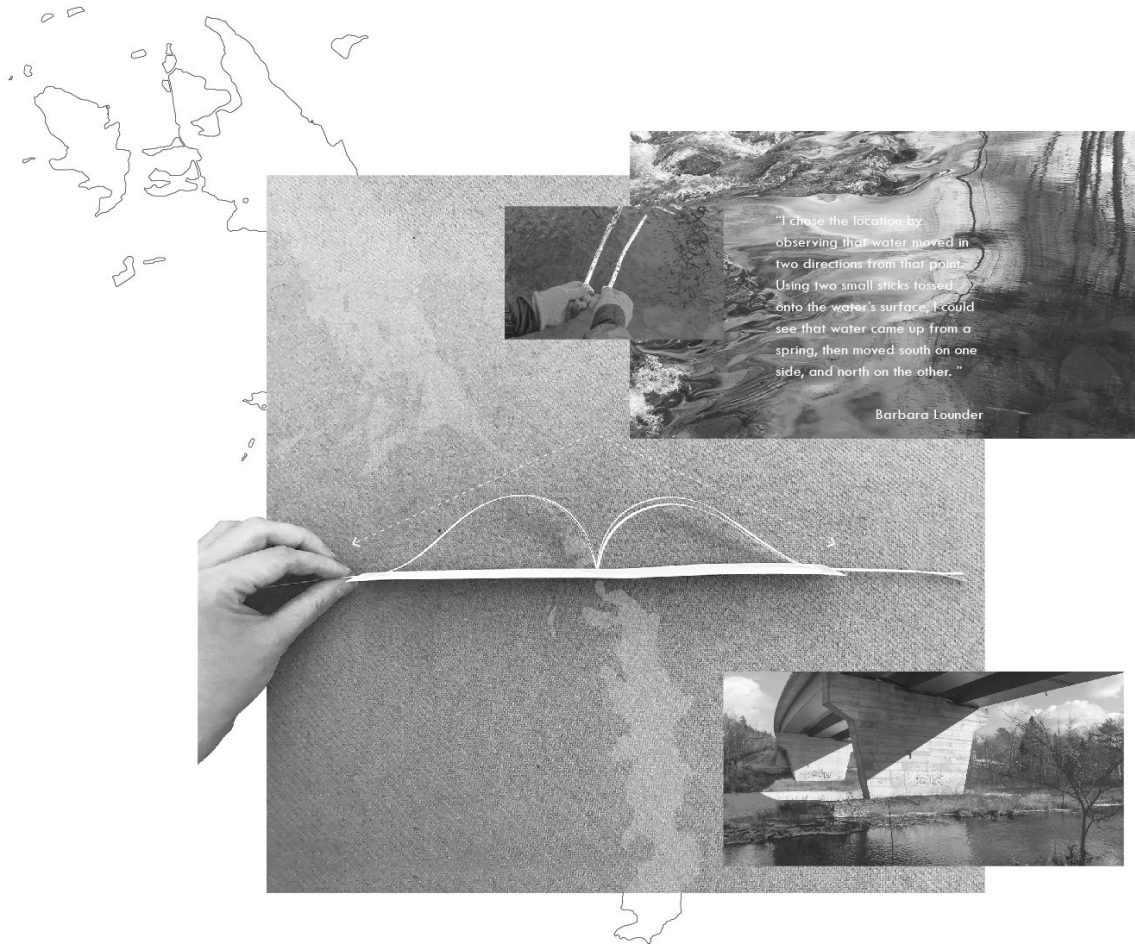
FARM ZONE

STWEJACKE RIVER /
SESIKTEWIAG :
wimpering as it
flows out

INDIAN BROOK / IN'JINIAT :
indian lot



Model depicting point at which fresh water meets and mixes with salt water (information from Barnett 2002)



Model depicting point where water flows both north and south on the Shubenacadie waterway (information from Louder and Bean 2020)

Water Flows

This thesis can be viewed in three different site scales. The first is at the scale of the whole Shubenacadie waterway. The second scale started with the identification of two points.

1) At the highest point of elevation along the Shubenacadie, at the top of Lake Charles, the waterway splits. Water to the north of this point flows towards the Minas Basin, while water south of this points flows towards the Halifax Harbour (Barnett 2002 3).

2) Named *Siskuk*, meaning at the muddy place, the waters near Milford begin to change. It is here along the river where tidal water flowing up from the Minas Basin mix with freshwater flowing north from Lake Charles.

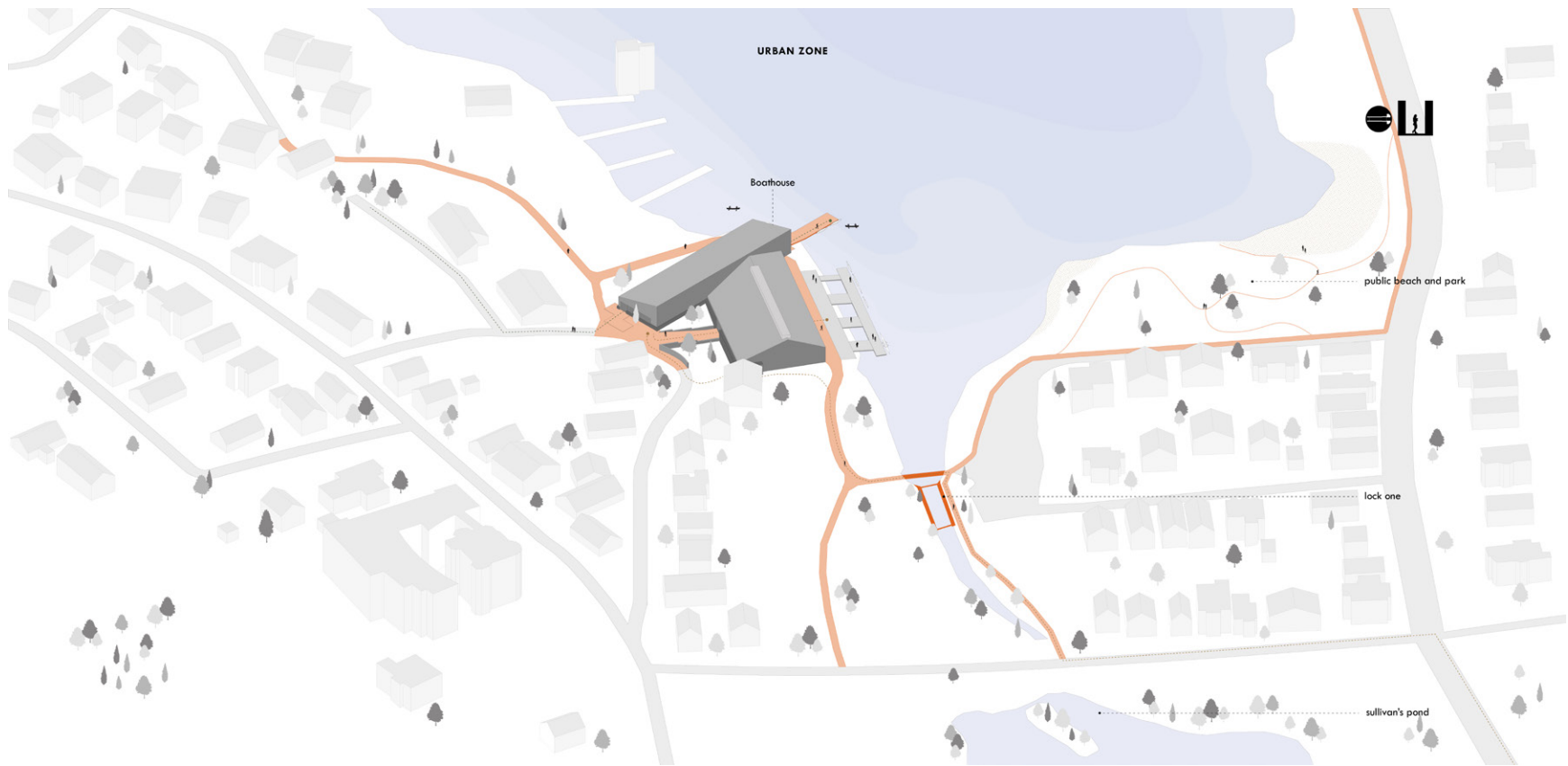
By identifying these two points, bookended by Banook and Maitland, this thesis divides the Shubenacadie into three zones: the Urban, the Forest and the Farm. The Shubenacadie Pathway then acts as a thread, weaving together farm, forest and urban landscapes. The final scale are the sites chosen to interact on a human scale within the three zones.

The Sites

The Urban

Lake Banook, Panuk, meaning at the opening, is the location of the first of nine locks along the waterway. Banook is known as a place of aquatic recreation, being the home to four boating clubs. The clubs are situated at the south end of the lake, along the water's edge.

The new Urban Boathouse will be a building for all four clubs. Shared boat storage and rental, facilities, workout



Urban Zone (base map from NSTD 2019)

areas, and community space fall under one roof. Clubs can maintain to operate as separate organizations and continue to practice rivalry through healthy competition but will share the resources this new boathouse offers.

Combining the four existing clubs into a singular shared site allows for greater public access to the water's edge. Former private beaches are now accessible to the broader community. Aligning with the finish line, a set of stairs ascend into the water, acting both as public access into the water and observation seating during races or a place to rest and reflect. New casual park space is created and linked to existing greenspaces through the Shubenacadie Pathway.

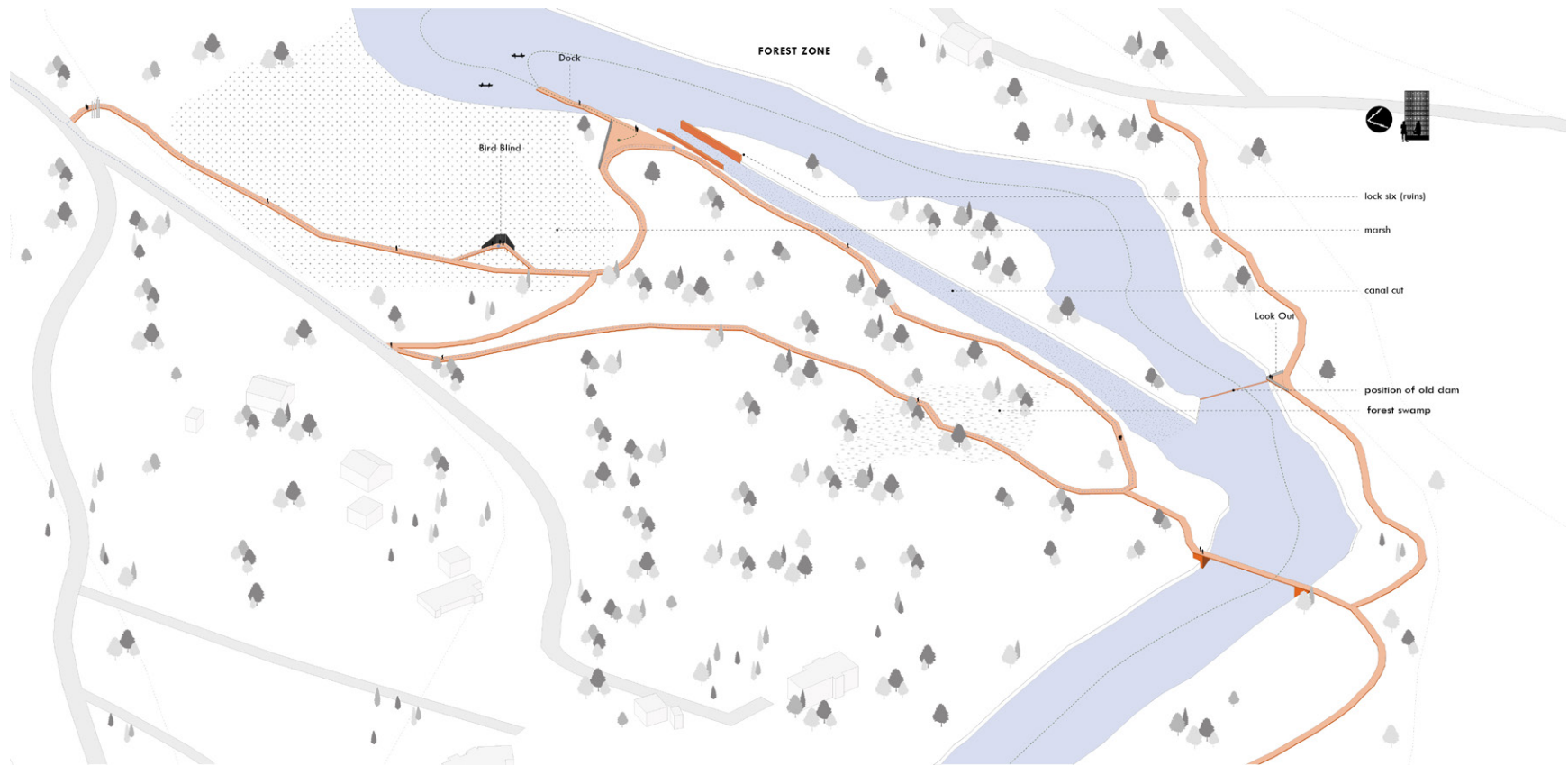
The Forest

This site is located at Lock Six Park in the near Horne Settlement, *Jioqjimusikek*, meaning place of white maples. Unlike the lock one, which remains mostly intact, the traces of lock six are fragments of stone walls in the banks of where the canal cut through the land. The former damn is only just visible as a faint line beneath the water. Existing paths circles the site, through forest wetlands and mixed forest, and opening up crossing over a sedge marsh. Here visit come to seek various species of birds, such as the Swamp Sparrow, Red-Winged Blackbird, American Bittern, and Northern Waterthrush.

Marking the halfway point of the Shubenacadie, the Lock Six Park is used in this thesis as a narrative tool. This site will offer visitors a place to rest, take shelter, and bird watch.

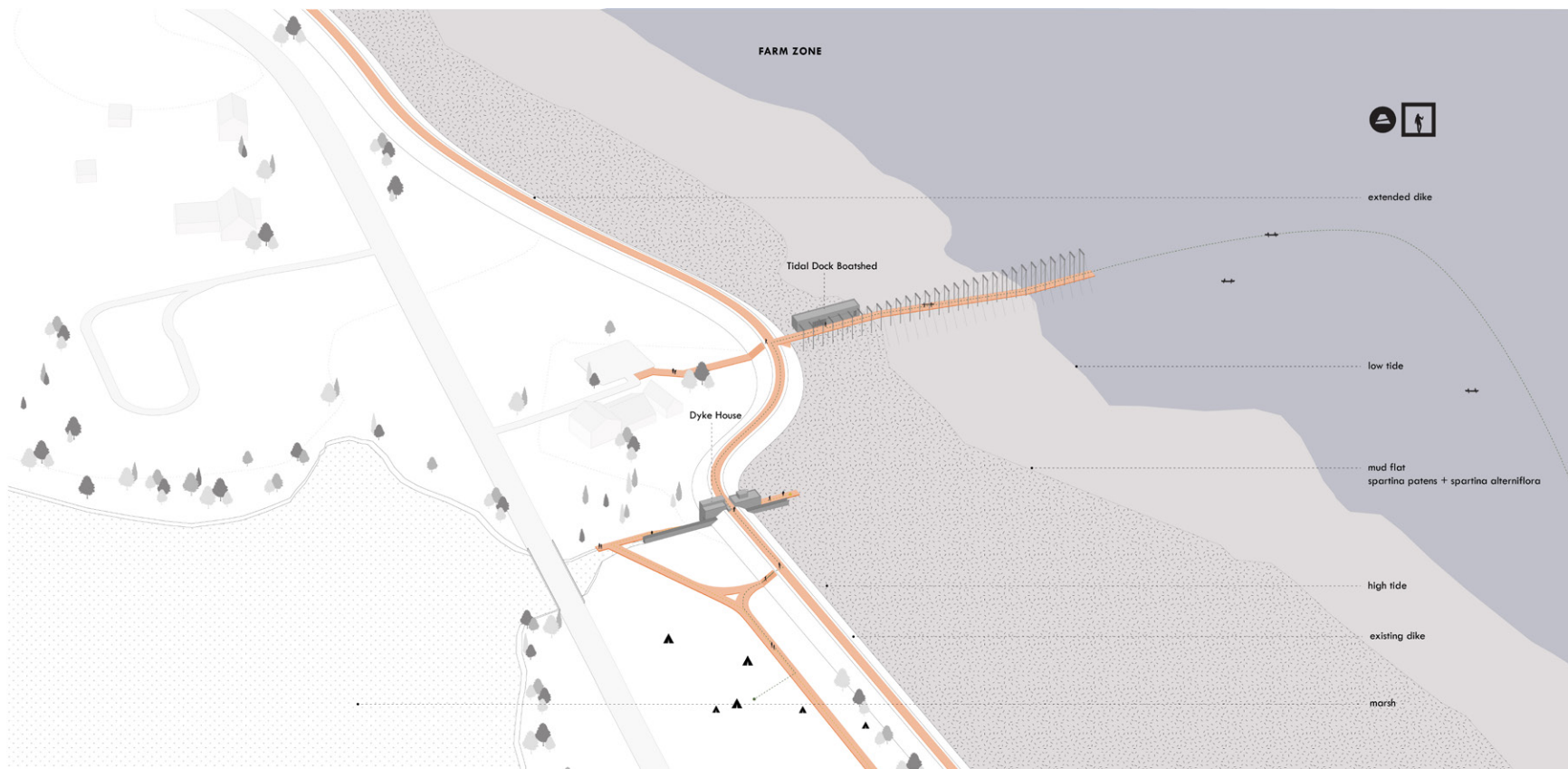
The Farm

At the northernmost point of the Shubenacadie Pathway, the river meets with the Minus Basin in Maitland, *Walnipukwek*,



Forest Zone (base map from NSTD 2019)

meaning flowing into a cove. Farmland in this area has been utilizing dyke technology to combat the tide for centuries. Currently marked by the Shubenacadie Canal Commission as a site of significance marking one of the bookends to the Shubenacadie, this site is located along an existing dyke. The dyke delineates the edge condition between the salty tidal waters and the freshwater of the marsh. This site's strategy is to extend the dyke on the northern end, expanding this landform along the coast. The height of the dyke allows for a wind-protected area located on the land side. This area is ideal for a campground. This site will become a place for Acadian dyke education and a place to begin or end one's journey.



Farm Zone (base map from NSTD 2019)

CHARACTERS



The Rower
8 km / 1 hour



The Day Hikers
2 km / 1 hour



The Day Trippers
230 km / 1 day



The Canoers
115 km / 3 days

Character profiles.

Chapter 5: Design

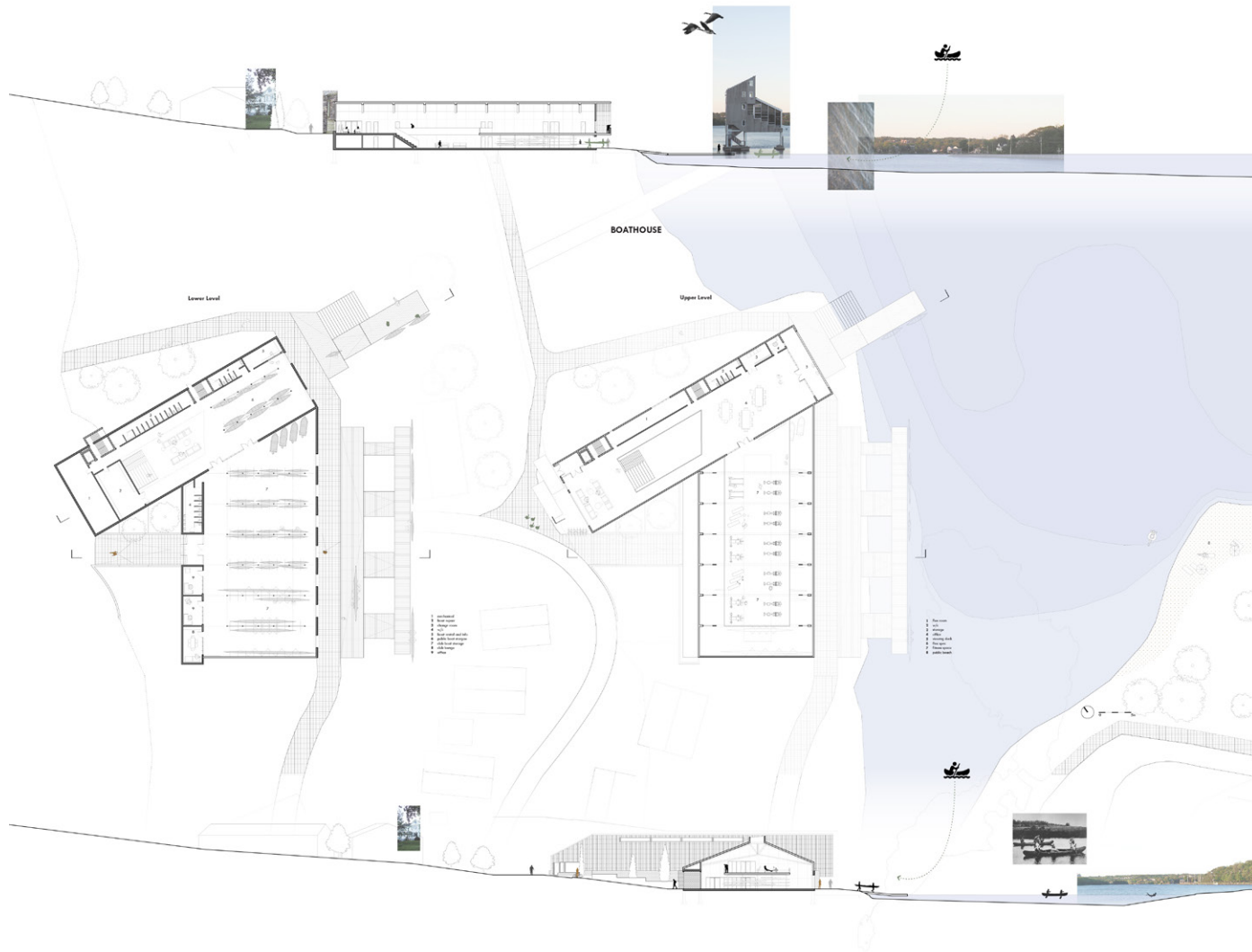
In this thesis, the architecture allows for a network of moments along the path. These moments in the landscape represent place, therefore pause, while the path that connects them will enable movement, thus space.

Characters

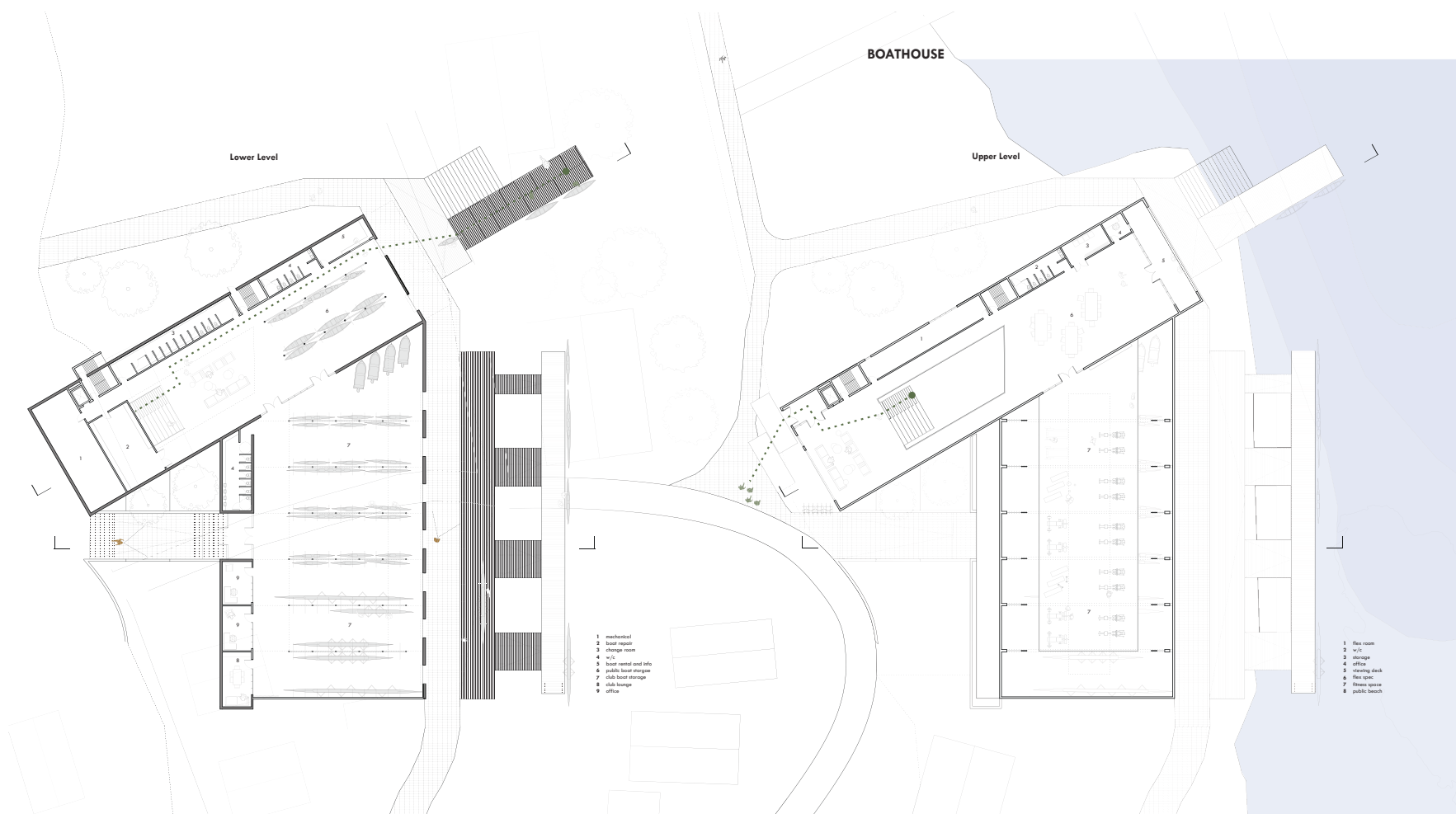
A set of characters - The Rower, The Day Hikers, The Day Trippers, and The Canoers – are used as narrative tools to describe the experiences of the Boathouse, Lock Six Park, and the Dyke House and Boat Shack. The role of The Canoers is to link each site narrative as they travel the entire Shubenacadie water path, from Dartmouth to Maitland.

The Canoers (Part One) - Urban Boat House

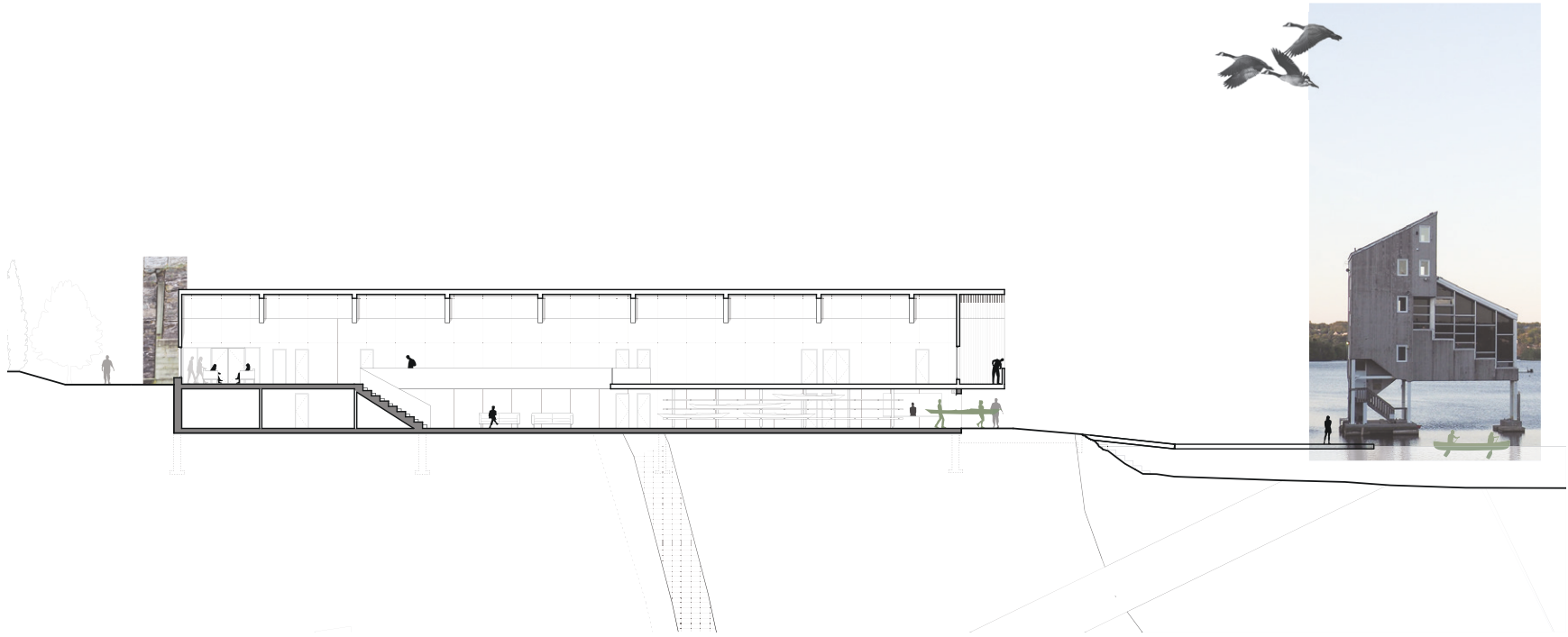
It is still dark when the four canoers arrive at the Boathouse. They are about to begin a three-day journey from Lake Banook to the Minas Basin. After parking their car, they head towards the upper entrance of the Boathouse. Passing through the stone wall entrance, they emerge into the community side of the Boathouse. Their eyes are directed down the building towards the water. The Canoers spot the stair and head to the lower level. Below they are assigned two boats and are given supplies, such as safety kits, flashlights, and route maps, that they will need for their journey. They carry their boats outside, passing across the Public Pathway, one canoer looks north up the lake and sees the tall judging tower perfectly aligned with the finish line. They continue to head out on the docks to begin packing their canoes.



The Boathouse in the Urban Zone - Full Drawing. The Boathouse is located at the southern end of Lake Banook, near the Lock One. (base map from NSTD 2019)



The Canoers' path at the Boathouse. The upper level is the public entrance to the Boathouse. Upon entry, the canoers' view is drawn down the length of the building, towards the water. A covered balcony provides a view up the lake, great for watching races. Descending down the bleacher stair, the canoers are brought to the public boat rental and supply area. Here there is direct access to the Shubenacadie Public Pathway, and public docks. (base map from NSTD 2019)



Section through the Boathouse showing the path of the Canoers. The upper level walls and roof are constructed with wood, representing the lightness of the open sky, while the lower level is grounded into the sloping land, representing the heavy stone walls of the locks (base map from NSTD 2019)

The Rower - Urban Boat House

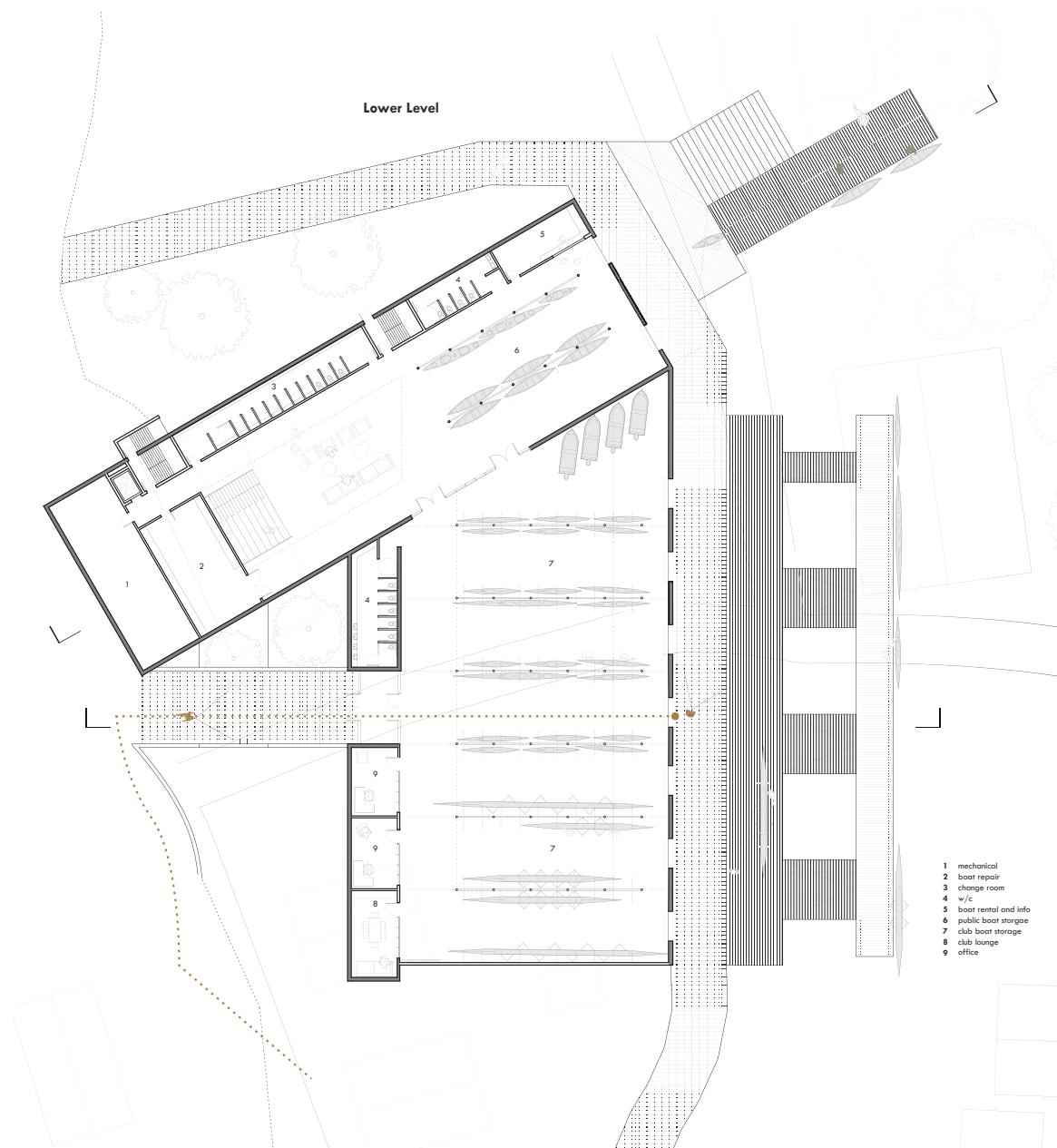
During a mid-summer morning, the rower departs from her apartment in Downtown Dartmouth. The sun is just beginning to come up, and it is just her and the distant twitter of birds. She is travelling by bike and knows her route will only take five minutes along the Shubenacadie Pathway. Biking past the Dartmouth Incline Plane, the change of texture beneath the wheels of her bike changes from the smooth concrete to the stone tiles marking the beginning of the Shubenacadie Canal system.

Just past Sullivan's Pond, the rower bikes past the two stone plinths marking the entrance to the first of nine locks, the path texture again changes to mark significance to a remnant of the Shubenacadie. She soon approached Lock One. The large granite blocks create a slice through the land, connecting the lower pond to the higher elevation of Lake Banook, Panuk, meaning at the opening.

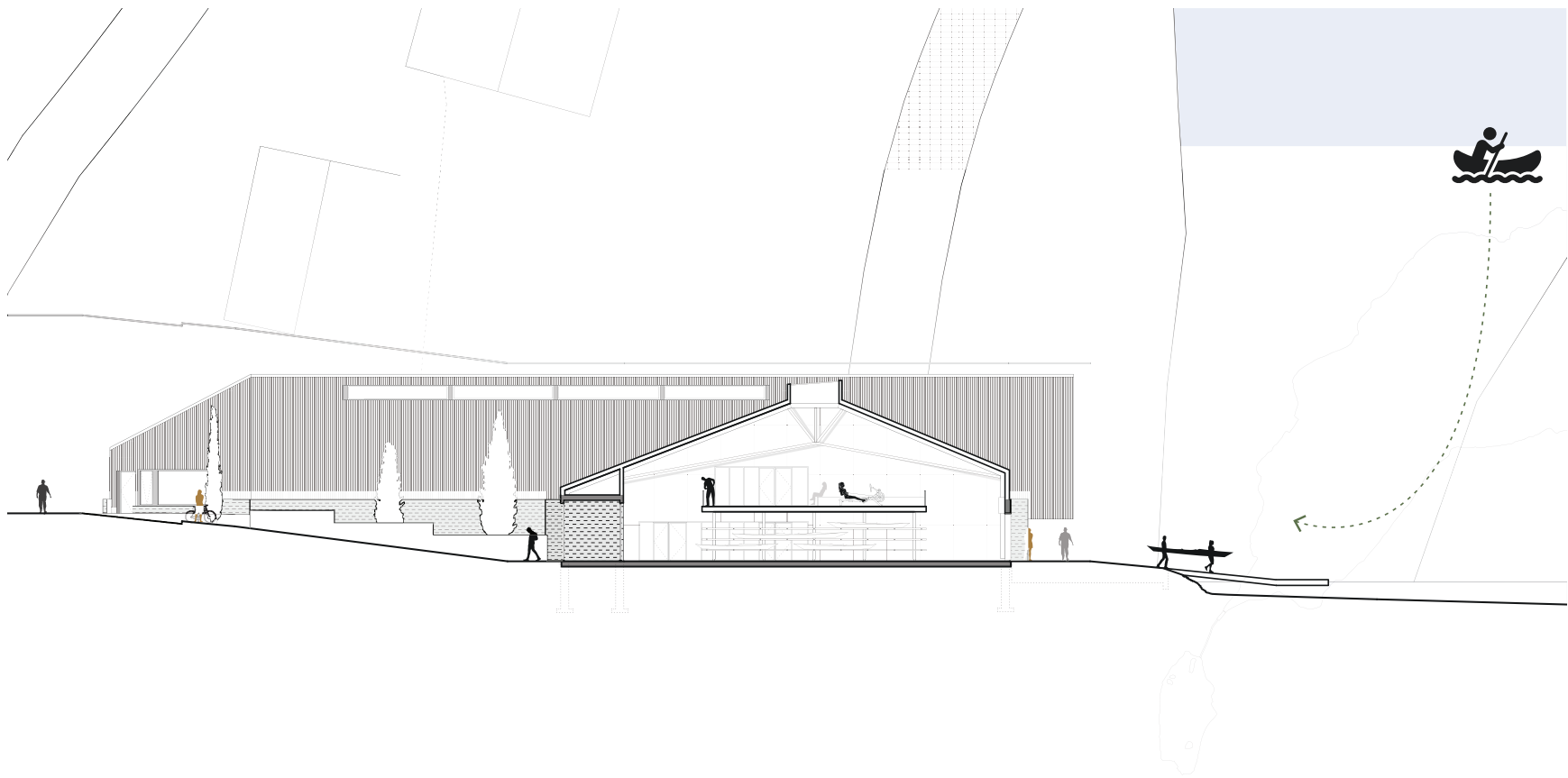


Entrance to the Boathouse

Though she travels along the tiled stone path, which runs adjacent to the old lock, she imagines being between the two high walls, open upwards towards the bright sky, like the canal boat captains did decades before.



The Rower's path at the Boathouse. The tiled stone path continues down the rap leading to the lower level entrance to the club boat storage area. Heavy stone walls are embedded into the land, mimicking the stone walls of the lock which sliced through the land. (base map from NSTD 2019)



Section through the Boathouse showing the path of the Rower. The entrance cuts through the heavy stone walls. A large skylight punctures through the wood roof, flooding the space with light, mimicking the open sky above the walls of the lock. Large doors link the boat storage to the Shubenacadie Public Pathway and to the club docks. (base map from NSTD 2019)

At the top of the lock, she sees her destination. Like the lock, the Boathouse is grounded into the slope of the land leading towards the water's edge. After locking up her bike, she passes through the heavy stone walls at the entrance, and into the Boathouse, large skylights flood the open room with light. The rower shoves her bag into a locker, quickly greets her coach. She walks through the stacks of boats washed in the morning light from the window above, and straight towards the water. The rower stands at the edge of the public Shubenacadie Pathway, linking the Boathouse to the docks. Already her teammates are setting up for practice, she looks up the lake and notes the calmness of the water's surface, knowing this will be a good practice. Going back inside, she grabs her set of oars, returns to the water's edge, and sets them down on the dock. To her left, she notices four canoers preparing to launch their boats off the docks.



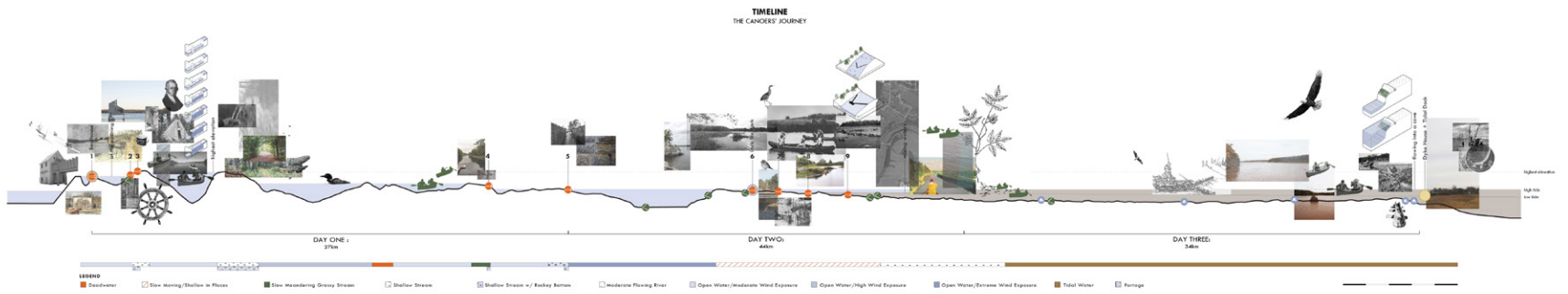
The Rower - Standing on the public Shubenacadie Pathway looking north up Lake Banook.

The Canoers (Part Two) - The Fresh Water

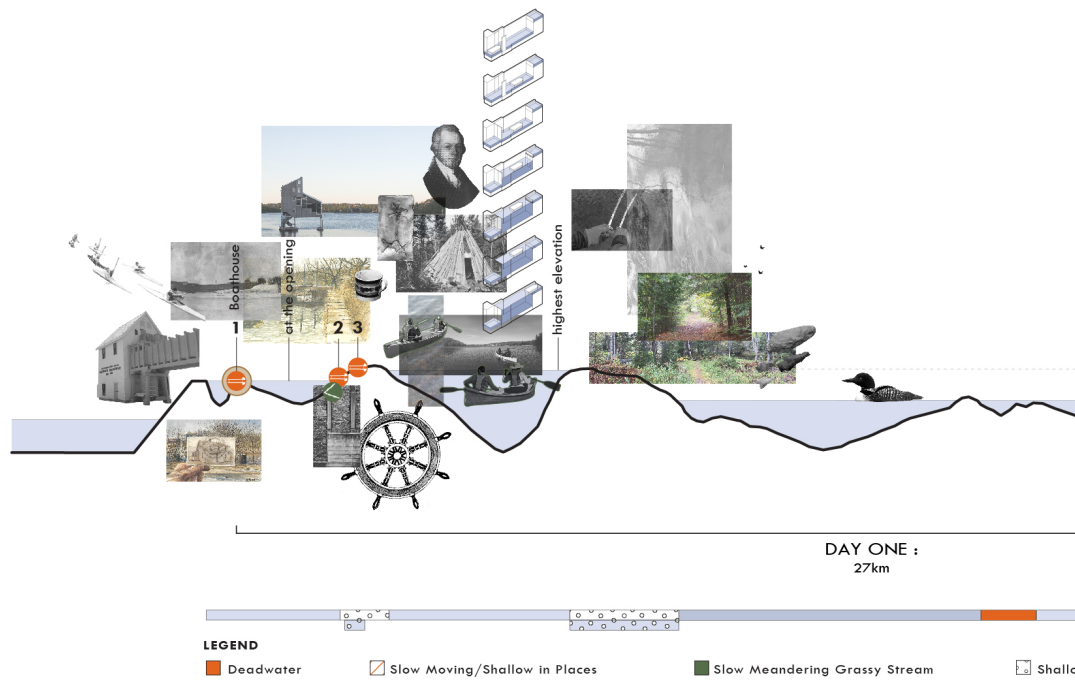
Shortly after sunrise, the four canoers push their boats off the docks at the Boathouse. They notice a group of rowers down the dock preparing to set off for a morning practice.

The nearly empty water allows them to paddle the length of the lake quickly. The canoers soon pass under the eight-lane highway, through a narrow passageway connecting Lake Banook to the larger Lake Micmac. The Avery, once found itself grounded in this same spot. Paddling up the lake, they feel the wind begin to pick up, creating wavelets on the lake's surface. At the end of Lake Micmac, they come across the small rise on the shore bank, where Mi'kmaq tents once perched. They arrive at the first of four portages. They take boats out of the water and continue on foot. At Lock 2, they travel along a tiled stone path. One canoer thinks about the opening ceremony of the Shubenacadie canal in 1860, where Francis Hall handed the ceremonial shovel to Michael Wallace. As they walk towards Lock 3, they notice the ruinous foundations of the labourer houses that once formed a bustling community. At the top of the lock, they slide the canoes back into the water and travel along The Deep Cut. They are soon engulfed by a canopy of maple and birch trees whose root poke in and out of the remains of the ancient embankment walls along the cut. Emerging from the protection of the narrow canal, they enter the vastness of Lake Charles. The northern end of the lake marks the highest elevation point, at nearly 100 meters above sea level. Water north of Charles runs towards the Minas Basin, while water on the south runs towards the Halifax Harbour.

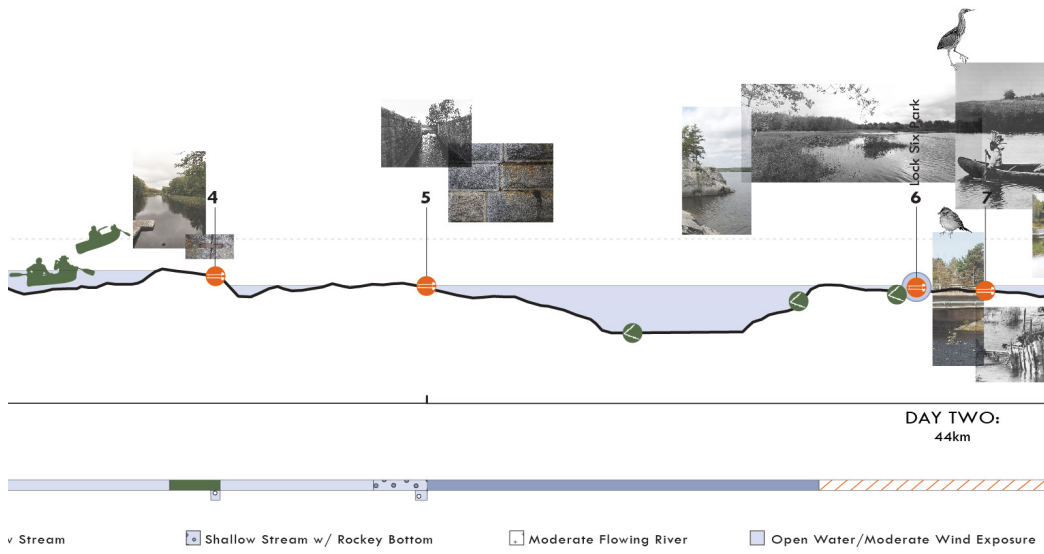
Just past noon, they reach the beginning of the Portobello inclined plane and another portage. A stone path emerges



The Canoer's path along the Shubenacadie (section line based on image from Barnett 2002)



The Canoeer's path along the Shubenacadie part one - Fresh Water



The Canoeer's path along the Shubenacadie part two - Fresh Water

from the water leading them along a clearing where vessels were once lifted ashore. The former infrastructure slowly emerges on either side of the path, though in bad condition, the old damn still stands. By the end of the day, they navigate across Lake William, Thomas and Fletcher, passing by Locks 4 and setting up camp at Lock 5.

The next morning, the canoers set off early onto Grande Lake. They pass by Laurie Provincial Park, marked by a rock formation the Mi'kmaq have named Kukumijinaq, meaning grandmother rock. They are soon searching for the Shubenacadie River outlet. Hidden at first, it soon opens up on the eastern shore, and their canoes are quickly picked up by the current. The first stop of their day is at Lock 6.

The Day Hiker - Lock Six Park

After a ten-minute walk from Enfield, a couple of day hikers arrive at the north entrance of Lock Six Park. They notice a marker in the woods just off the path, indicating a site of significance. This is Horne Settlement, meaning place



The Day Hikers - Place of White maples entrance.

of white maples. The day hikers pass through a stand of maples, the light filtering through the trees. Soon their view opens up onto a cove shape marshland. Just beyond the edge of the marsh, they can see the river. They continue along a boardwalk, floating above the marsh. They know this park to be the home of many bird species throughout the year, especially in the summer. They spend some time behind the bird blind, hidden from the view of a pair of American Bitterns looking for food amongst the marsh grass. After the birds have their fill and fly away, the ay Hikers decide it is time to move on. They head towards the dock at the opening of the old lock six, where two canoes are tied up. The old lock walls are falling away, but they still mark where boats would have passed through years ago. The Day Hikers follow the path that runs adjacent to the canal cut. After taking their time completing the walk through the park, they find themselves back near the edge of the marsh. A group of mallard ducks swim on the shallow water along the marsh landscape. Just beyond, a group of 4 canoers are heading north.



The Day Hikers - Bird Blind at Lock Six Park

The Canoers (Part Three) - The Salt Water

After a short rest and some hot coffee, the canoers set their boats back into the water. As they approach the Enfield bridge, they notice a group of men attending to their fish weirs. They exchange brief greetings with the men as their boats pass by. After a sharp bend, the river seems to straighten. The shores are dotted with more fishing weirs making traditional use of the river's resources.

As they pass by Lock 7 and 8, one canoer barely notices the few wood pilings remaining of the locks. They see a school of Shad following their boats; they stay close to the haul for almost two hours. As they approach Milford, the water starts to become silty and soon becomes entirely brown from the mud of the banks.

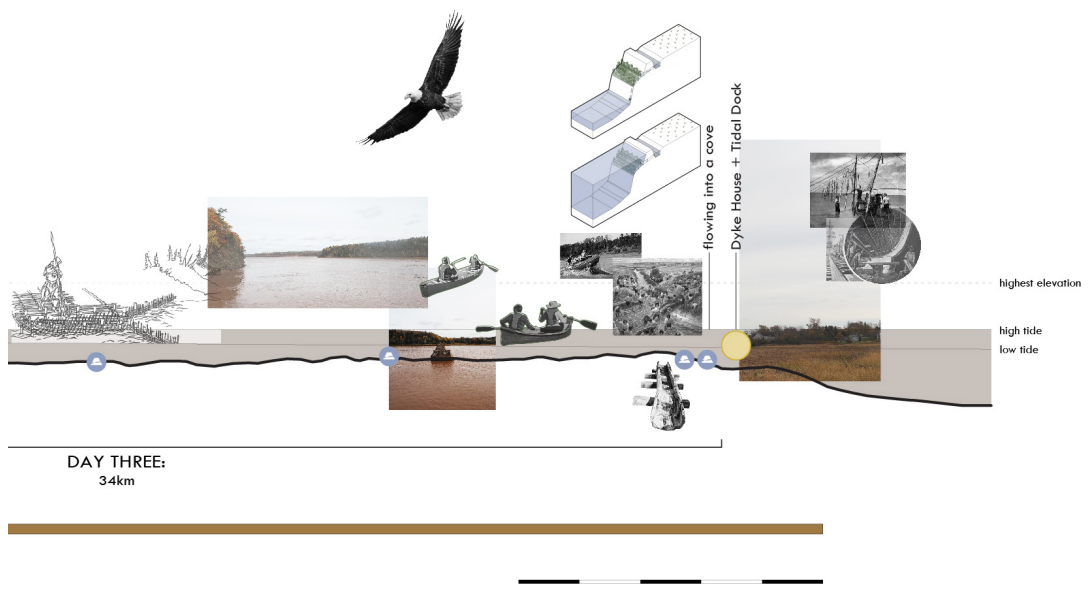
As they emerge from the wooded part of the river into farmland, they noticed several groups of hikers and cyclists travelling along the Shubenacadie Pathway that runs alongside the river. They soon approach the community of Shubenacadie /Siknikt, meaning drainage place, where they will be spending their second night along the river's edge.

The canoers take their time the next morning as they want to plan to get back onto the river with the retreating tide. The river begins to widen significantly, and the banks become steep.

In no time, their boats are getting closer to the mouth of the river. They navigate around the sand bars visible due to the low tide. A bald eagle soars overhead. Up ahead, they see Eagles Nest Point, known to the Mi'kmaq as Kitpue'Katik, meaning place of eagles. The canoers are joined on the river by a few guided rafting boats, now enjoying time in the calm



The Canoe's path along the Shubenacadie part three - Salt Water



The Canoeer's path along the Shubenacadie part 4 - Salt Water

water after the excitement of a tidal bore. The approach to the Minas Basin is expansive.

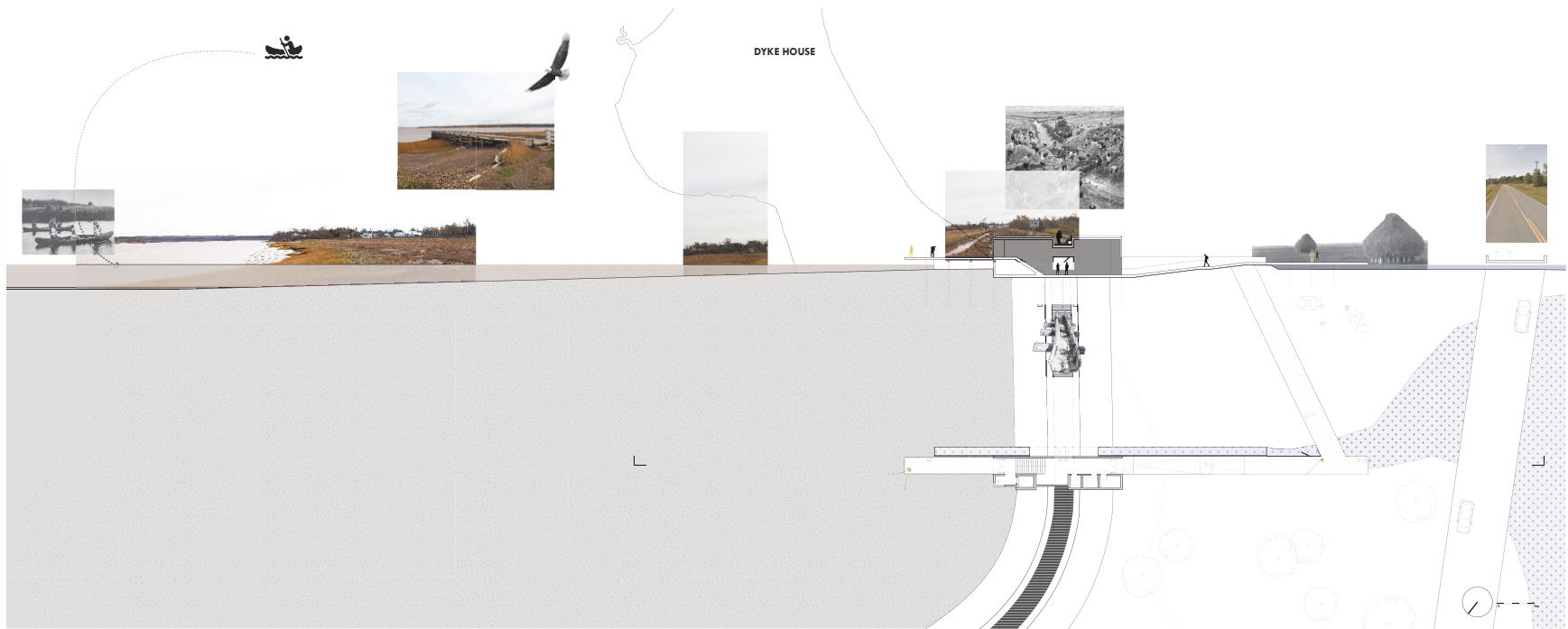
The Day Trippers - Dyke House

After arriving in Maitland, two day-trippers continue northbound on the Gloscap Trail, towards the dykeland. They feel like they haven't been driving for too long after only about an hour's drive from Halifax. To the east, the Shubanacdie River joins with the Minis Basin, the water a rich brown from the tidal mud. Through the trees, they begin to see the dyke running parallel with the shoreline, the landform now blocking the view to the water.

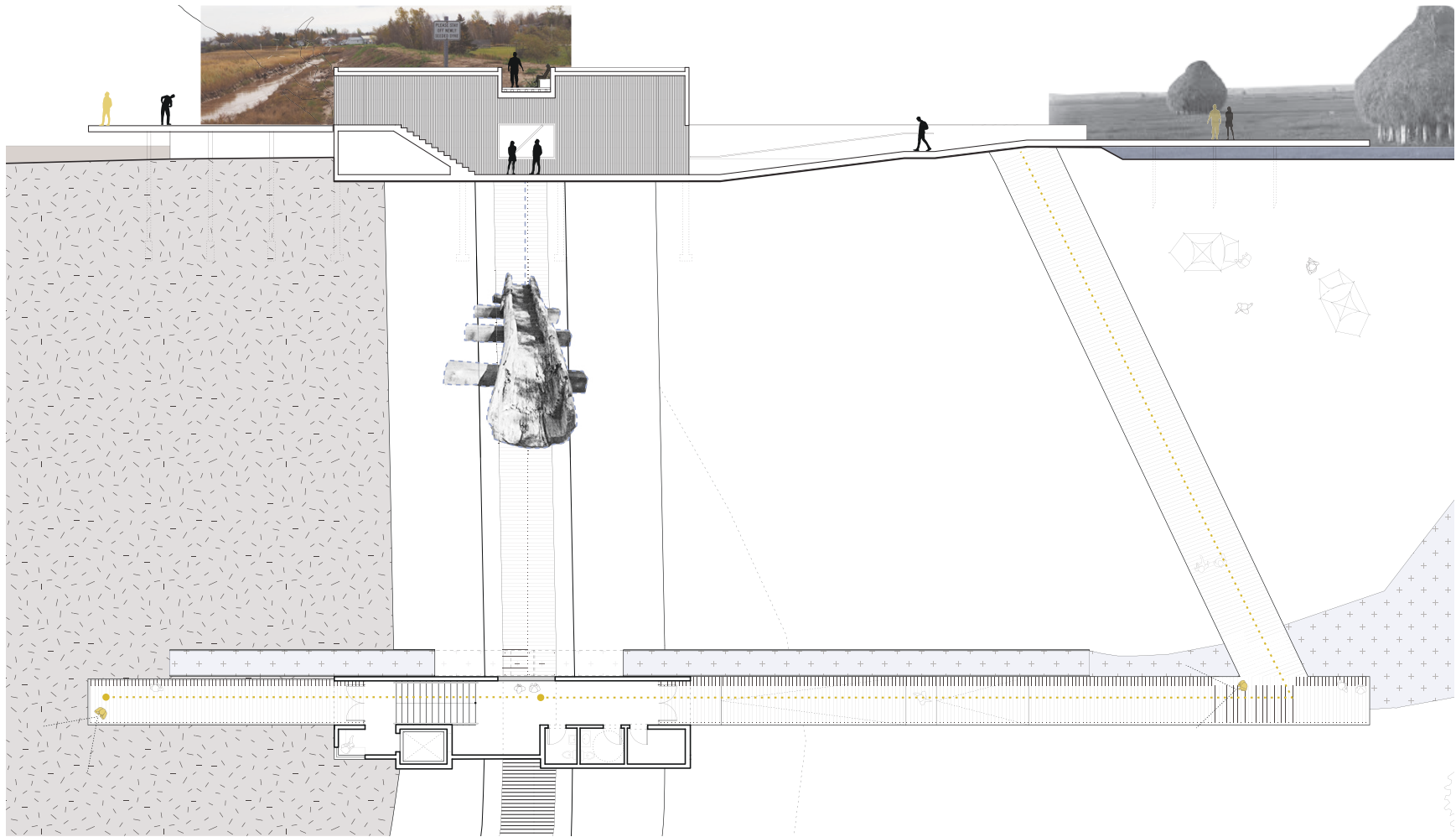
The driver turns the car into the parking lot near the campsite. The day trippers follow a raised wooden path towards the Dyke House. Below their feet, the freshwater from the adjacent marsh runs towards and into an exaggerated sluice, extending outward from the side of the dyke. The intervention acts as an aboiteau, the technology the Acadians used to take advantage of the marsh's natural drainage patterns. The day-trippers continue following the



The Day Trippers - Entrance Into the Dykehouse



The Dykehouse in the Farm Zone - Full Drawing. The Dykehouse is situated within a dyke in Maitland, NS. The architecture acts as a sluice, cutting through the dyke formation allowing fresh water to drain into the Minas Basin at low tide. (base map from NSTD 2019)



The Day Tripper's path at the Dykehouse. The raised wood path leads to the entrance of the Dykehouse. Passing over and along the sluice, the day hikers descend into the Dykehouse. The interior walls are clad with wood, the main building material of past Acadian houses. They are now completely within the dyke. A glass plane in the wall offers up a glimpse into the sluice, where a clapper dictates the flow of the fresh water. A set of stairs brings the day hikers back into the light and towards the water. Again a wood path leads the day hikers out over the mudflats. Here they can see the expanse of the Minas Basin, a view previously hidden behind the dyke formation.(base map from NSTD 2019)

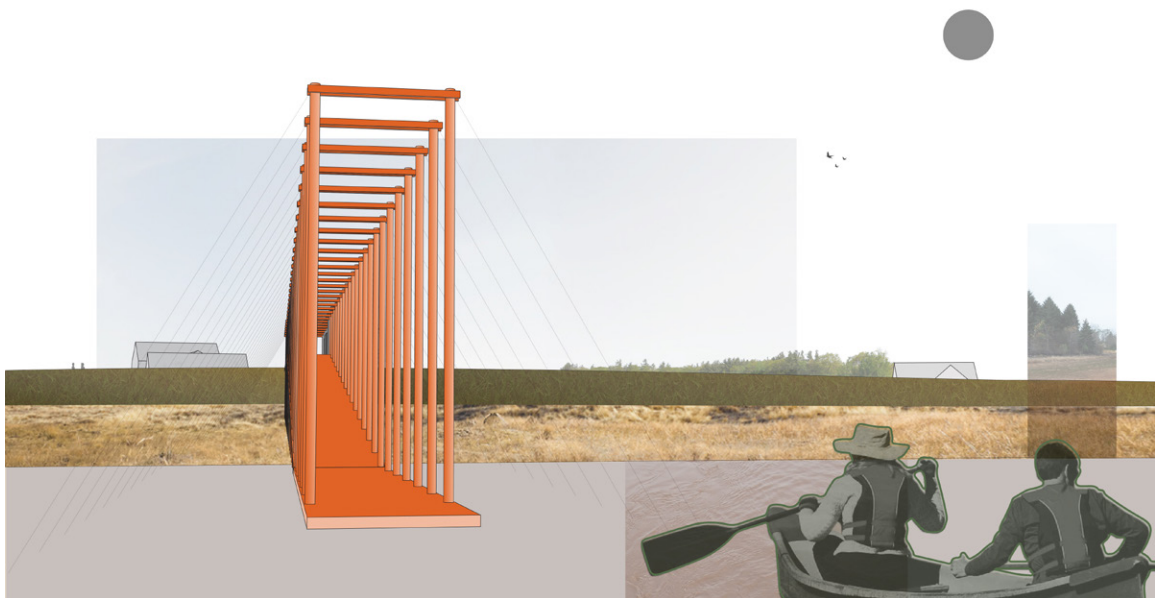
path as it descends into the landscape and the enclosed building. Like the aboiteau, the building slices through the dyke landform. Inside, the day trippers continue forward. They pause at a glass plain, a view to the interior of the aboiteau where the clapper dictates the flow of the waters. A set of stairs brings them back up into daylight. Exiting the building, and the raised pathway reaches out over the mudflats. Looking down, one of the day trippers notices the freshwater depositing onto the mudflats from the sluice. While they take a moment to kneel for a closer look tracking the freshwater as it finally meets with the saltwater, the other day-tripper is drawn to the expansive view northward towards the Minas Basin. They notice a group of four canoers approach the Tidal Dock 100 metres away.



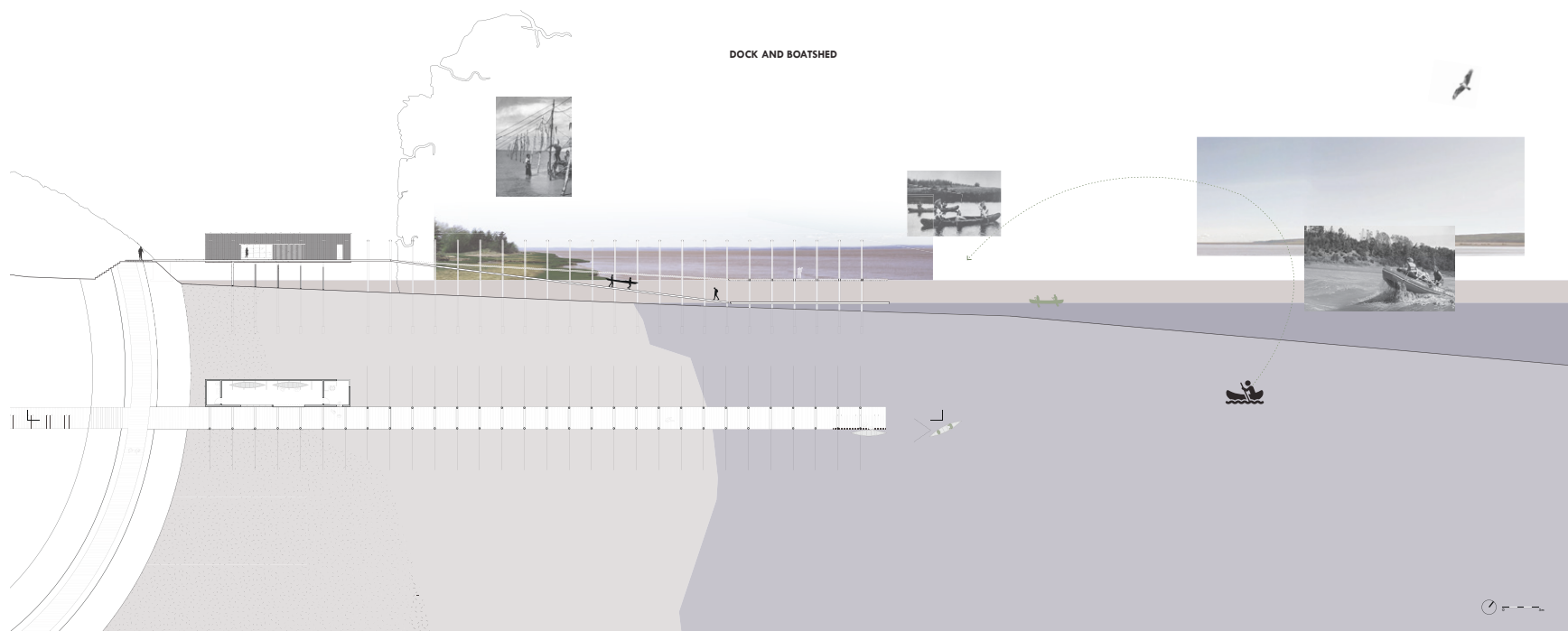
The Day Trippers - Looking towards the Tidal Dock

The Canoers (Part Four) - Tidal Dock

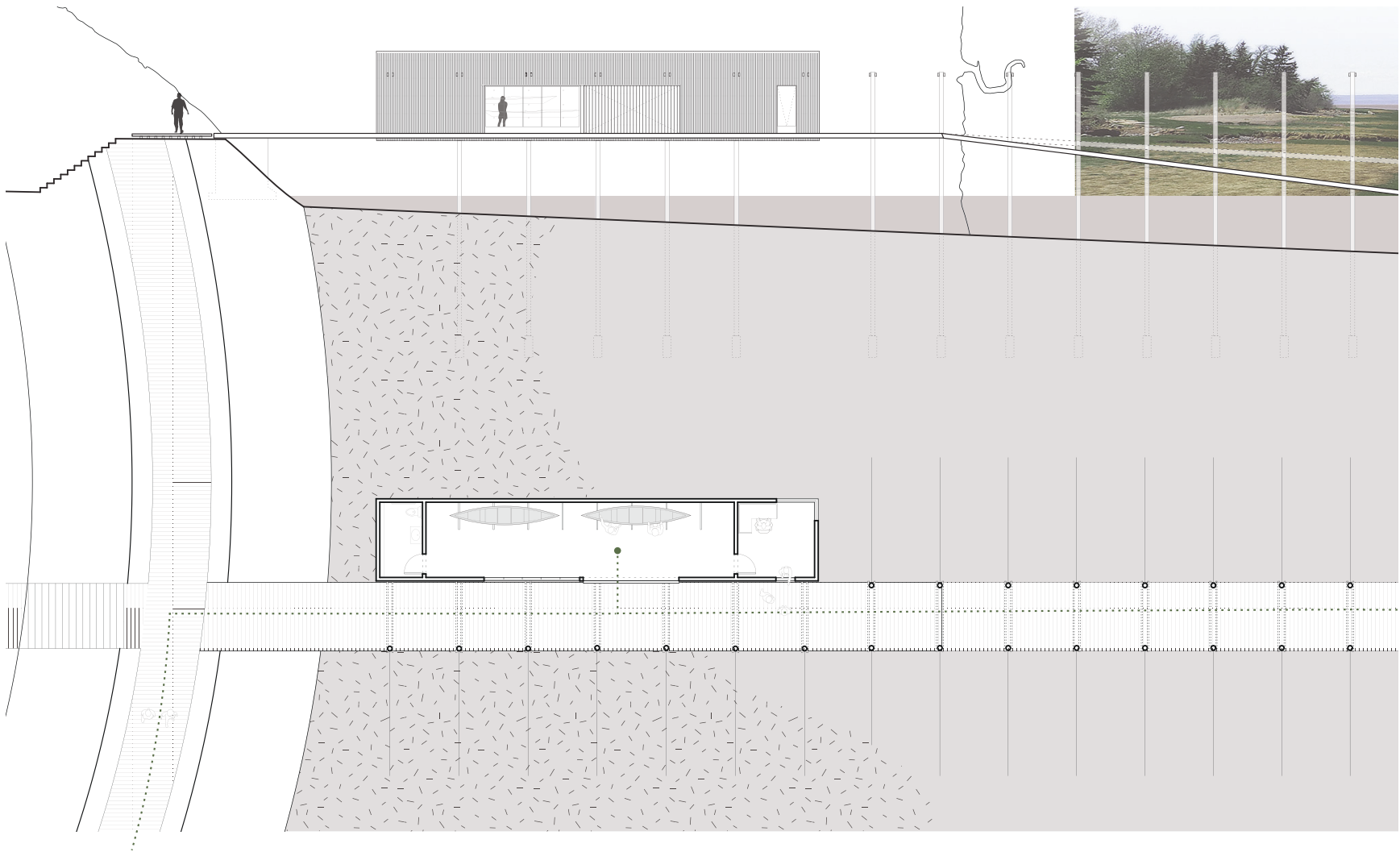
Off in the distance, the canoers see the outstretched dock of their destination. A set of stationary wooden frames, jut outward from the shoreline, defining the path leading to the boatshed. The structure uses tension chords pinning the portals into the floor of the river to prevent wracking. This mimics the wood fish weirs once used by the Acadians adapted from local Mi'kmaq weir design. Supported by the wood frames, a floating dock rises and falls with the tide, granting access from the shore to the water throughout the entire tidal range. This intervention focuses on the daily tidal phenomenon that happens in the Minas Basin. It allows visitors to experience the changing water conditions the Acadians overcame and worked within long ago. The canoers dock their boats and carry them up the path through the frames arriving at the boat shed. After returning the canoes, they continue along a raise wooded path following the contours of the dyke towards the campsite that they will spend the last night of their journey.



The Canoers - Portals of the Tidal Dock



The Tidal Dock and Boatshed in the Farm Zone - Full Drawing. The Tidal Dock runs perpendicular to the dyke. The wooden dock is linked to the path that runs along the top of the dyke, allowing travellers to experience how Acadians navigated along their farmland. The Boatshed is perched off the top of the Tidal Dock, again constructed from wood to as a connection to Acadian building construction. (base map from NSTD 2019)



The Canoeer's path at the Tidal Dock and Boatshed. After docking their boats, the Canoeers travel along the Tidal Dock towards the Boatshed. The large wood portals give insight to the drastic tidal changes that occur in this area. At the Boatshed, canoes and kayaks can be rented and returned by visitors who want to experience the changing waters of the Shubenacadie. (base map from NSTD 2019)

Chapter 6: Conclusion

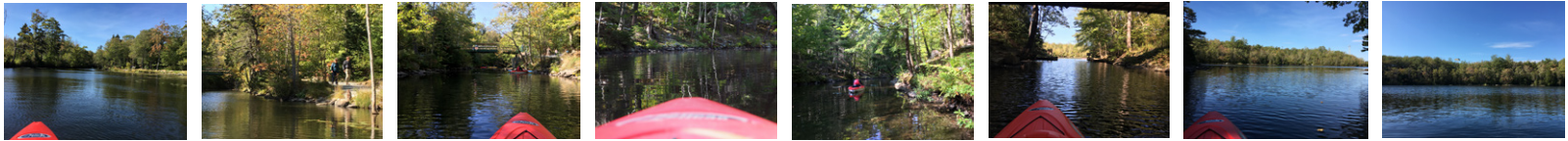
The interventions encourage travellers to visualize how differing cultural groups adapted, developed and lived within the waters and landscapes of the Shubenacadie. Architecture is a marker within the landscape revealing things beyond itself, which otherwise would be left unseen. The path takes a traveler on a journey, where past and present co-exist and are linked together. It simultaneously frames time and occupation within and of the Shubenacadie landscape.

The landscape becomes a series of relational places (pause) linked by paths (movement) and combined with cultural narratives. This thesis strengthens these relationships, between the natural and cultural histories, embedded within 'place', reconnecting people to the deep connection that landscape plays in place making.

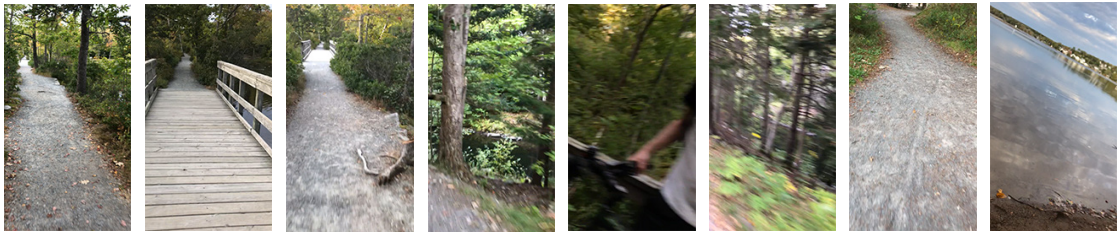
My proposal can never be fully complete, without the journey, the completion of inhabiting, or the duration in a place. I have chosen to focus on two main sites, "at the opening" and "flowing into a cove", and a mid-point, "place of white maples", as places for investigation and to pause, but I envision this as a starting point for more places to connect, to continue design and to mark moments along the path. There are many more stories to be discovered and told along the Shubenacadie.

Appendix A: B1/M5 Charette

KAYAK



BIKE



WALK



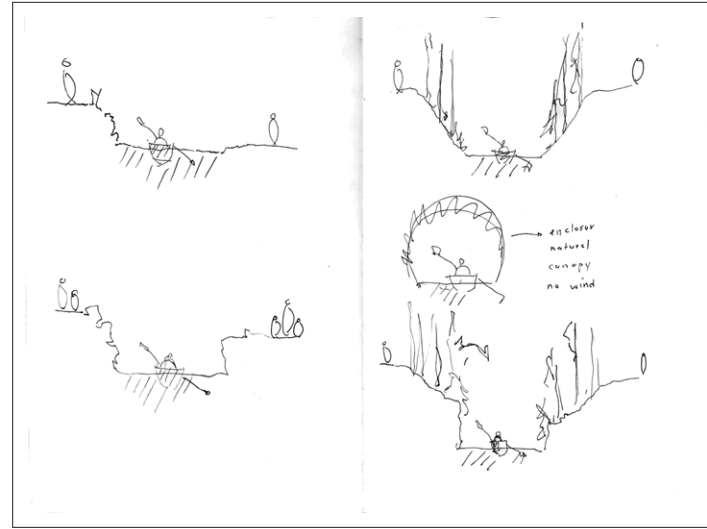
Images depicting three different modes of travel (kayak, bike, and walk) along the same path in Shubie Park. October 2019

Kayak

- seat open
- sounds of people children wind ducks highway
- sitting in boat by leg pads
- slow meander
- "poker stop"
- a breathe in silence children yelling

the cut

- wind highway chipmunk
- sound of stream running into the canal
- inability of being below
- a water is so calm
- separation from the trails water is crisp
- stone walls can see water like on stones
- water is shallow you can see the bottom



open lake

- full sun light breeze no protection
- Windy water is deeper no longer can I see the depth of water
- wind taking my boat open to go where ever
- like sign

highway chipmunk from the shore wind in trees children off in distance

Walk

- strong belly walk
- stagnant water
- small boat
- dirtfall stop

some of water going through lake gate

→ walking on small gravel walking on wood plank bridge → hollow soundings

→ bright sun less protection

→ 3 ft path. Some times 4

→ path change site a bit wider

→ gravel w/ wood slats

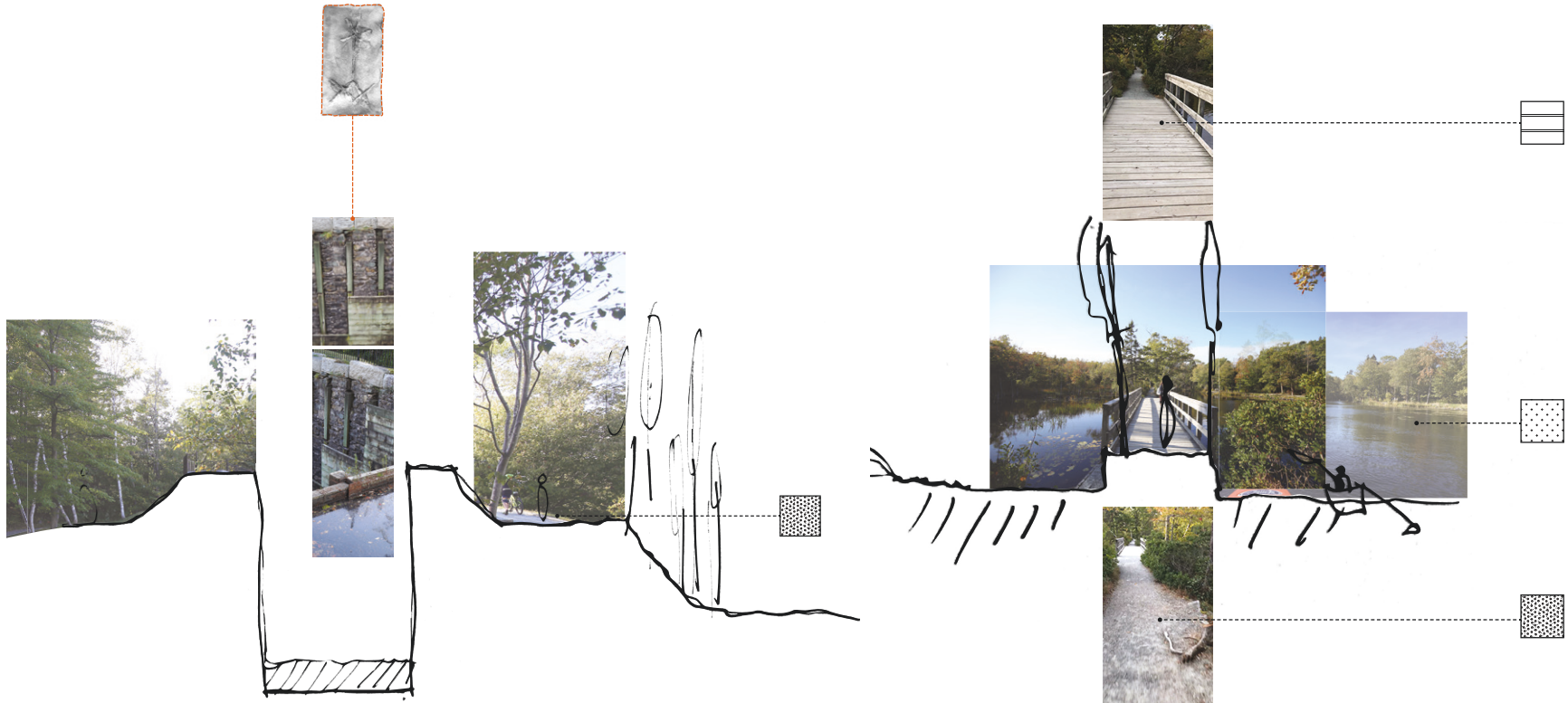
→ blue jay

→ more wood wet damp less light wood smell

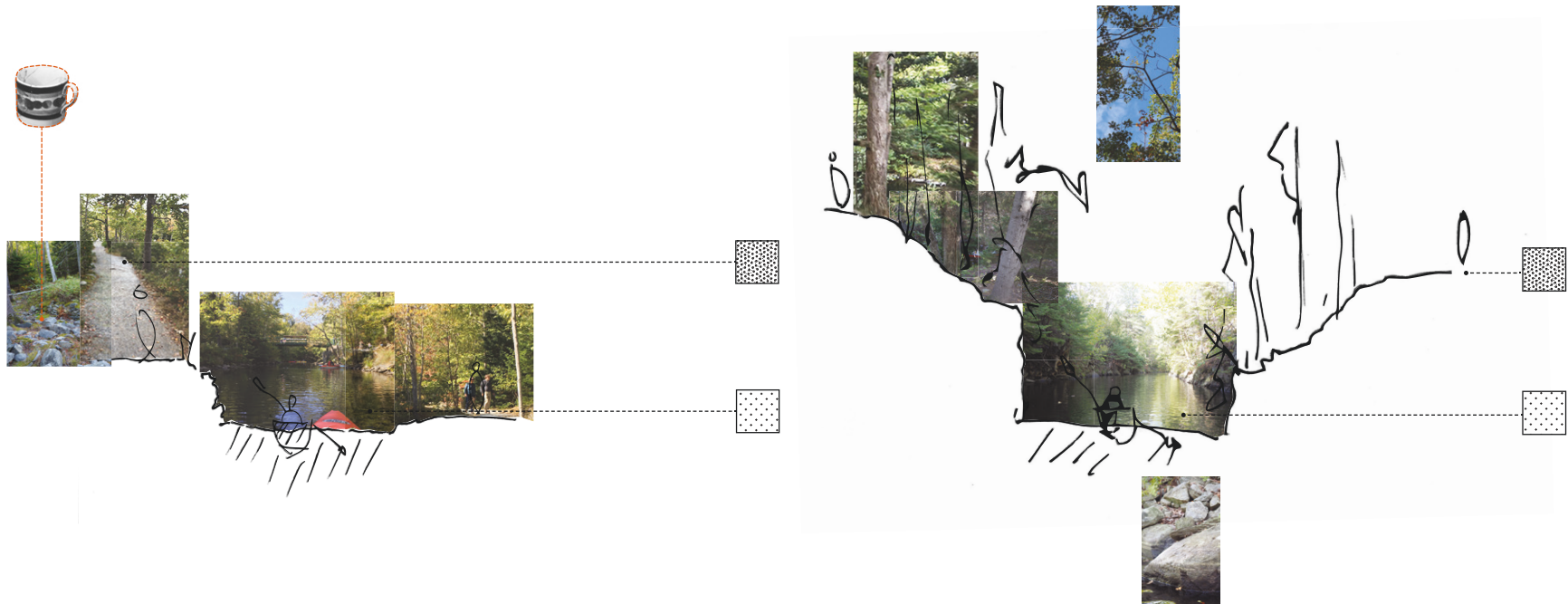
→ falling occurs

- lake deeper but still protected under trees
- return side is less connected to the canal, visually
- stream entirely canal → sound of the water
- suffer → less focus on nature
- blips of canal lack of smell (noticeable) → sound of the fully lit bell that dings when I hit a bump
- trying to clay on path → mind strictly to run to keep to path one avoid other people → trees moving by quickly
- predominant small sound of fire wheels on gravel → trying to ward hitting a squirrel
- wind in my face
- thoughts of childhood

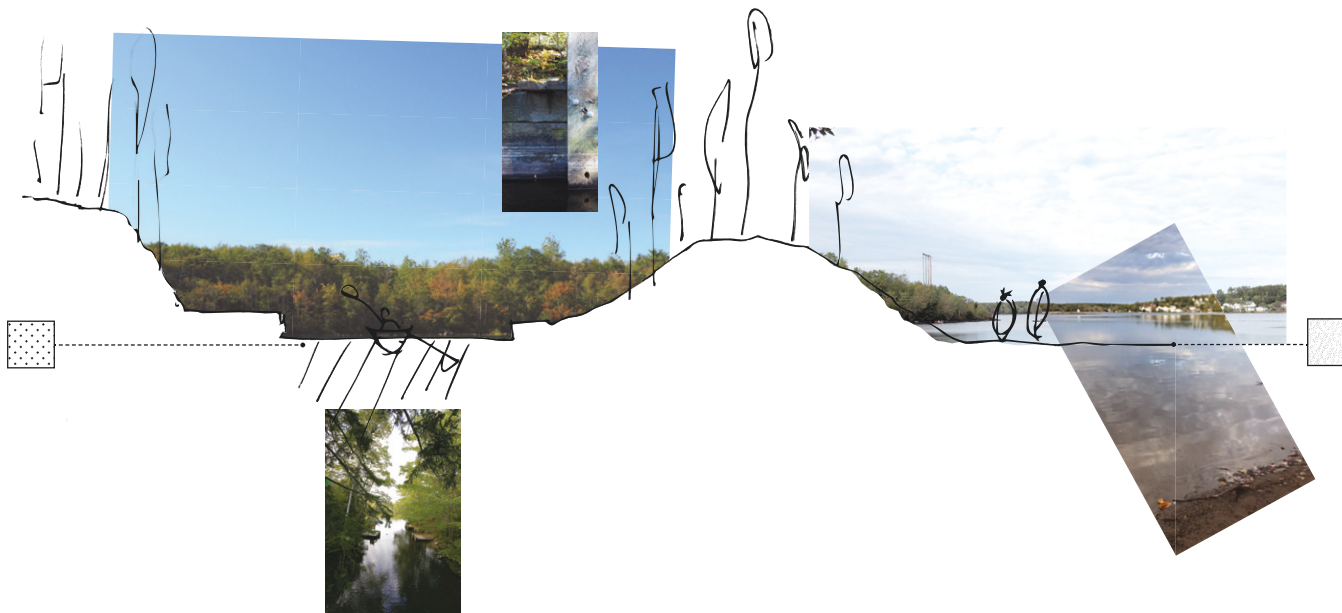
Appendix B: Developing the B1/M5 Charette



Beginning of layering process using images, sketches, and notes taken during the B1/M5 Design Charette. January-February 2020



Beginning of layering process using images, sketches, and notes taken during the B1/M5 Design Charette. January-February 2020



Beginning of layering process using images, sketches, and notes taken during the B1/M5 Design Charette. January-February 2020

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