

Black Tracking a Landscape Topology:
Extension to Boat Harbour

By
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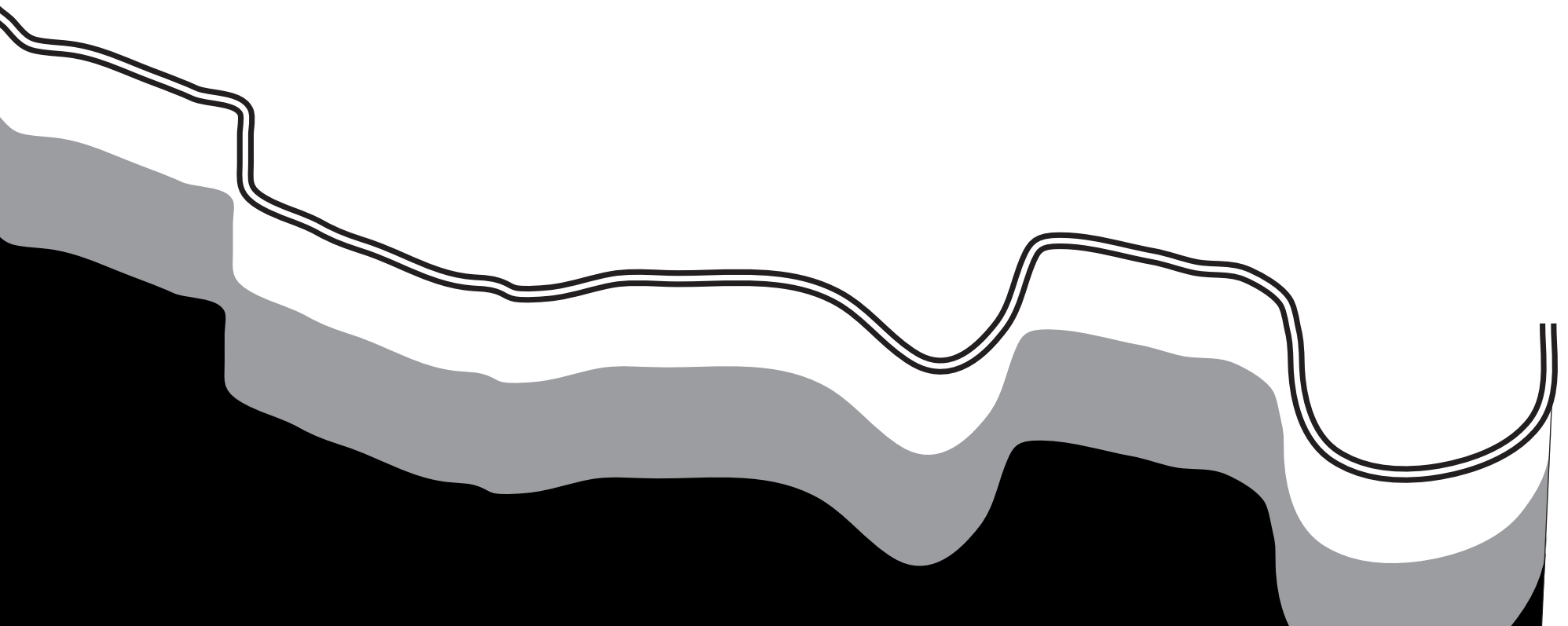
Master of Landscape Architecture

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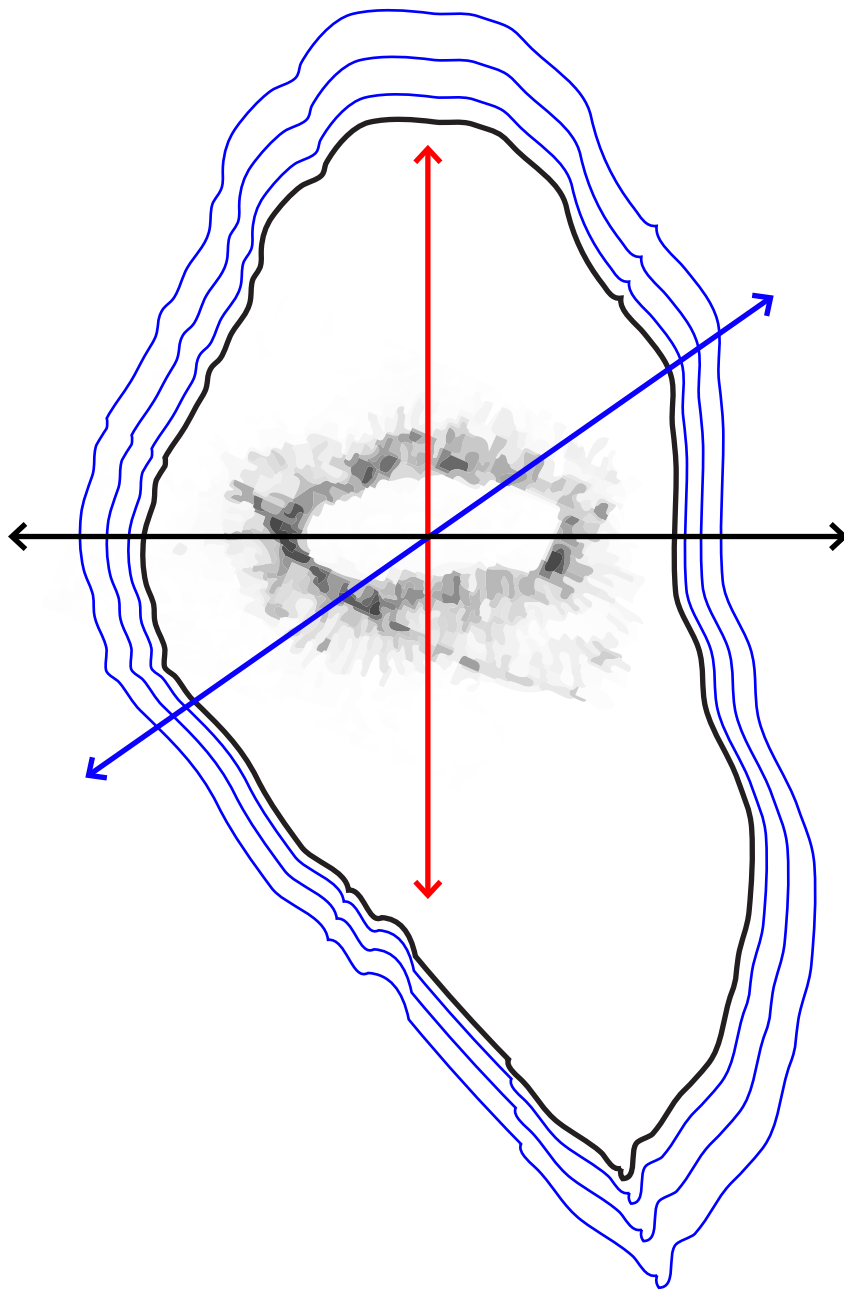


fig.1 Eidetic mapping of the mound intersection

Abstract

Black Tracking a Landscape Topology: Extension to Boat Harbour is a path of personal experience and design utilizing both lived and geometric spaces of a design process. The practicum explores and applies landscape topology as a hermeneutic phenomenological approach for designing points along a rejuvenated rail corridor for visitors to engage with a cultural landscape. Three terms associated with mathematical topology convergence, connectedness and continuity are applied to define three interpretive phases of my design process. The three terms are used to bridge actions of geometric and lived space affirming a pragmatic approach inclusive of qualitative and quantitative research that I believe is necessary for design and landscape architecture. Convergence reveals my definition of landscape topology through literature reviews and personal thought. Connectedness is where personal interpretive and experiential research of the cultural landscape occurs, uncovering a typology for the design process. Continuity applies both convergence and connectedness in the development of the design concept for the sites. The Black Track design consists of a path that transects twenty six kilometres through a unique coastal landscape with nine specifically located and designed places intersecting with the layers of natural ecology, past industrial coal mining, and First Nation cultures. This project gathers exposed site elements and celebrates the spirit of place for a design that rehabilitates the rail bed for a heritage trail experience. The trail reveals the unique cross section of this heritage landscape with subtle signals for experiential discovery design interventions that engage the dimensions of perception and place.

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I Acknowledge

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Thank you to my friends and family for all the love and listening to my ramblings about landscape architecture.

This work is dedicated to my son Lachlan Royal Gidden who has ignited a beautiful inferno in my soul.



fig.2 View through the trees in the Nanaimo River estuary 2011.

CONVERGENCE CONNECTEDNESS CONTINUITY

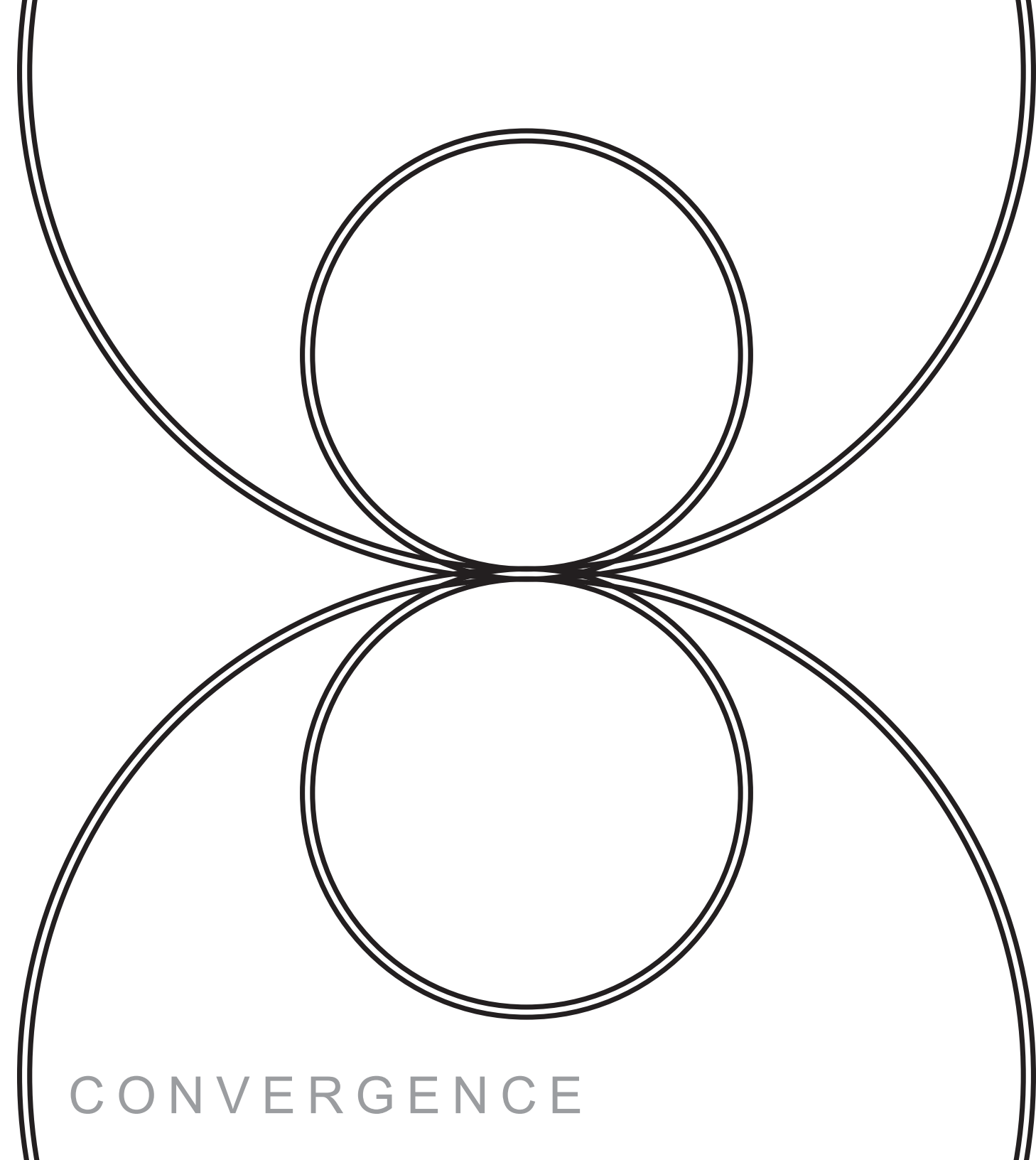
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CONVERGENCE



fig.3 Coal to water 1 - sitting and watching - perception project

I gathered coal from the site on the island, water from the Nanaimo River and initiated an abstract engagement with materials. Coal was ground to a powder and floated on top of the water in a basin. I gently placed water colour paper under the floating coal which gravitated in a unique and random pattern to the paper.

con·ver·gence noun

1. The act, condition, quality, or fact of converging.
2. Mathematics The property or manner of approaching a limit, such as a point line, function, or value.
3. The point of converging; a meeting place
(Convergence, 2013.)

Thoughts on Convergence

To intersect, merge, combine, unite, collide, meet, focalize are the actions behind the definition of convergence. Convergence is the result of an action of one or more phenomena, idea, concept, molecule, data set or pretty much anything, interacting and producing an outcome dependent on the things that converged. Convergence is typically a term used in mathematics to describe abstract data sets or more recently used to describe the intersection of technologies like those found on a smart phone. I utilize the term convergence as part of a larger concept of topology, which again has dual meanings applicable to landscape. Topology defines geometric space through which data can be plotted in three dimensional spaces and is also used to describe characteristics and physical features of a landscape such as valleys, mountains, rivers and forests. The terms convergence, connectedness and continuity are used in the mathematical definition to describe the different relationships nestled within the spatial data. A common way of showing spatial relationships is through the use of Venn diagrams (similar to those illustrated on the chapter title pages in this document) where two or more circles are overlapped revealing a geometric relationship. I feel these three terms can reference physical and cultural landscape topologies as well as cultures and physical features can share the same space creating unique relationships. Using a map, it is easy to start drawing shapes representing



fig.4 Nanaimo River reflections



areas of similar and defined cultural or physical features and, as more shapes are drawn, overlapping, intersecting and connecting relationships emerge. Character defining elements within the landscape converge through experience and create connectedness resulting in continuity. Elements can be represented in both spatial topology or through the descriptive landscape definition. These terms are used within this practicum to define the process of design utilizing topology as a methodology for a hermeneutic phenomenological approach.

Convergence, such as a meeting with a friend, can be a calculated action with the result being highly predictable, but convergence can also be random, invisible and spontaneous with uncontrolled outcomes. Convergence is exciting as it creates gravity between things, develops the new out of the old and combines pieces to unify a whole. Convergence can be viewed as a positive, negative or insignificant event. When convergence occurs, connectedness and continuity transpire. Even if divergence is the result of convergence, the connectedness of the divergence has created continuity. Convergence is the split second before you see or touch something, as when an object and your body are in close proximity and convergence through contact and connectedness quickly follows. The excitement of convergence is the invisible energy of anticipation between the unknown. Once there is shared knowledge there is connectedness and continuity.

Cultural convergence is a concept that implies that as cultures become continuously mixed due to globalization, immigration, migration, communication, and technology, human culture will become homogenous. This is obvious as certain cultural icons, images, fast food chains, movies, websites and TV shows connect almost all places to each other. This shared global culture is superficial and placeless as it doesn't define one specific place whereas significant cultural and ecological landscape topologies remain deeply rooted in place.

Edward Relph (1976) defines placelessness as “the casual eradication of distinctive places and the making of standardized landscapes that results from an insensitivity to the significance of place” (preface). I believe that the placeless global culture surrounds us shrinking our perception of the earth, which is why it is so important landscape architects take opportunities to integrate cultural and historical elements into designs to anchor culture, history, and people to place. Globalization, the “increased possibility for action between and among people in situations where latitudinal and longitudinal location seems immaterial to the social activity at hand” (Scheuerman, 2010, p. 1), is accelerating with outcomes that could extend the placeless perception. Thoughtful place making and identifying and elevating the profile of heritage landscapes through careful and thoughtful design demands serious attention from planners, architects, politicians and landscape architects in order to avoid the obvious, but subtle shift towards a global placelessness.

Cultural landscapes inundate us with convergence of the unknown through the continuous sensory input through our bodies and minds. Convergence is an integral step to our ability to perceive the world. We process convergence in real time and produce connectedness with everything around us. The experience of convergence, like perception, is unique for every individual, but humans do share the common ground that is formed through our analogous sensory processes. Though each human perceives phenomenon differently, the majority of humans have the same sensory abilities through which to experience the world around us. Our minds are where the abstraction, deformation, transformation and continuity are created and the uniqueness in perception is developed. Convergence is often overlooked as connectedness and continuity are much more tangible, but convergence can be designed through intentional placement of things. Landscape Architecture shifts space to place through design and provides opportunities for personal convergence or interpretive experience with objects in space.



fig.5 Extension front yard collection of mining artifacts



The Black Track Design aims to feature integral cultural, ecological and heritage landscape elements that would benefit from a focused design expanding from experience and connectedness to place. I propose the Black Track design as a heritage trail as it transects through two heritage districts and a significant cultural landscape. As defined in the Standards and Guidelines for the Conservation of Historic Places in Canada, a cultural landscape is “any geographical area that has been modified influenced or given special cultural meaning by people and that has been formally recognized for its heritage value. Cultural landscapes are often dynamic, living entities that continually change because of natural and human-influenced social, economic and cultural processes,” (Parks Canada, 2010, p. 48). I also propose this cultural landscape is also comprised of two heritage districts (Cranberry and Cedar) as they include evidence of land use; evidence of traditional practices; land patterns; spatial organization; visual relationships; circulation; ecological features; vegetation; land-forms; water features; and built features all recognized as key elements that can hold heritage value. The Canadian Register of Historic Places (CRHP) defines a heritage district as “a place comprising of a group of buildings, structures, landscapes and/or archaeological sites and their spatial relationships where built forms are often the major defining features and where the collective identity has heritage value for a community, province, territory or the nation”(Parks Canada, 2010, p.49). The Morden Colliery and mine site is the only place along the Black Track that holds a BC Provincial heritage designation (Parks Canada, 2013). Though no other places or the districts associated with the Black Track design have been officially designated, I believe through the development of a statement of significance and engaging the different levels of government for support, that many of the features could be included in an official heritage designation. Official designation not only identifies the heritage elements, but would initiate a plan for the different levels of conservation. The Black Track is a concept that would include multiple types of conservation, but again through greater consultation with the community and proper assessments of the elements and would guide the efforts.

The design proposal converges the concept of topology as a methodology with hermeneutic phenomenology for a design approach for landscape architecture. The design connects First Nations and mining cultures, natural ecology and placefulness within the matrix of the present vernacular landscape. Careful consideration for aboriginal cultural sensitivity included in the design process provides opportunity in the future for the Black Track proposal, through consultation, inclusion, and cooperation with First Nations, to achieve an acceptable and respectful design. The trail provides a physical journey along a path of perception and interpretation that leads towards knowledge of place. The Black Track converges and connects past to future, mountain to coast and river to sea. My thoughts, research, concepts have converged over time to produce a design that may or may not actualize, but it will continue within my mind and the minds of those who read this practicum.

A Landscape Topology

Understanding landscapes and what makes experiencing them interesting, beautiful, inviting, comfortable, intimidating, scary or dull is, in my opinion, the most important skill for landscape architects. This is a skill that can theoretically be understood, but translating that into the creation of actual environments in space and time is very subjective and ridiculously complicated. Designing landscapes to target sensory experiences is the skill I will strive for throughout my career. This skill is entrenched in theory and method with varying opinions dependent on personality and creative perspective. Tate suggests that the timeless values of landscape architecture are “understanding of a place and its context, a radical or essential approach to changing it, and an awareness of the temporal dimensions of such changes” (2005, p.67).



fig.6 Self transformation portrait

"Our domicile is the refuge of our body, memory and identity"
Juhani Pallasma (2005, p.64)

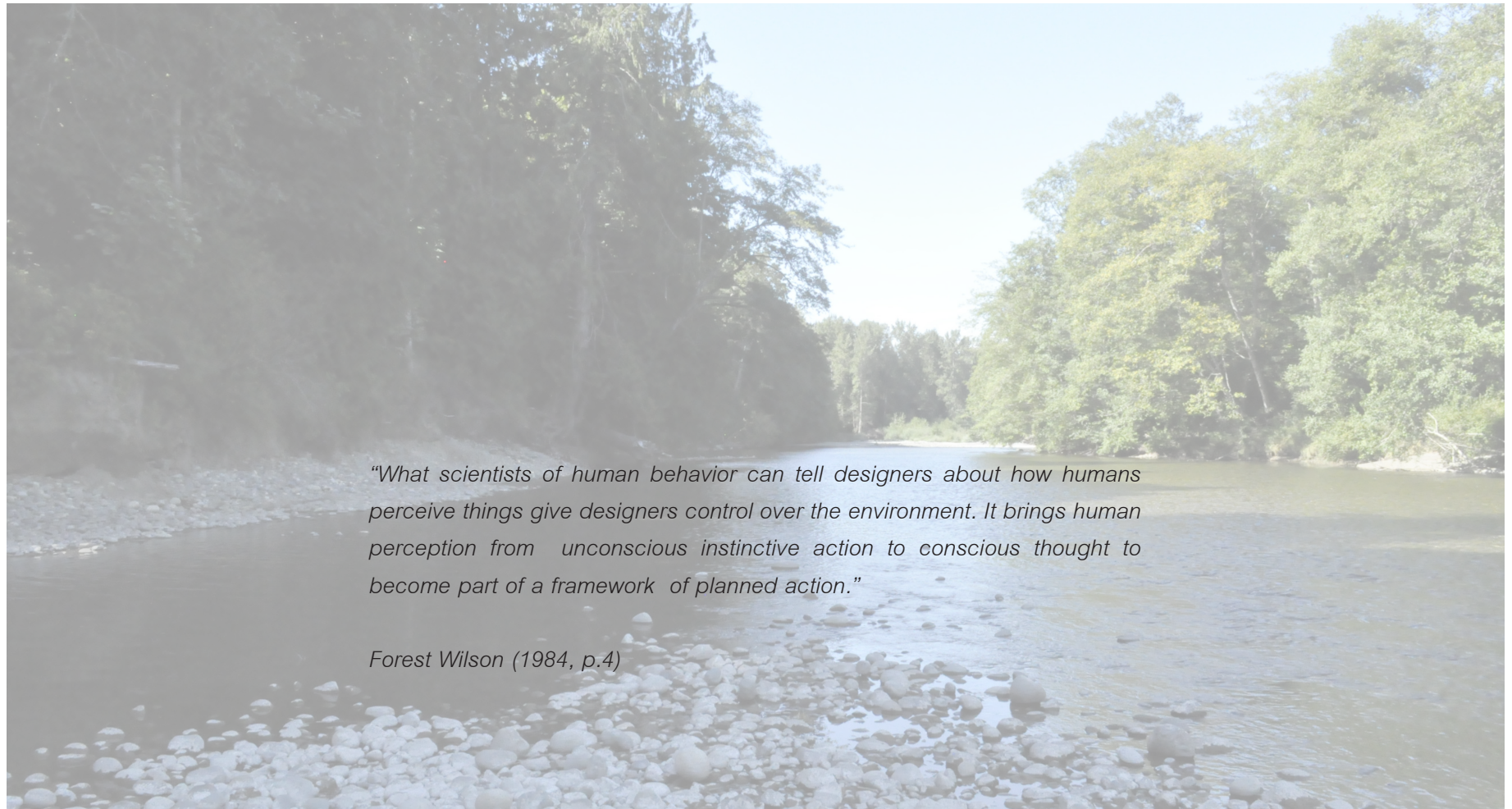
Landscape design theory has evolved from nature to aesthetic artistic styles developed from historic cultural gardens through a maze of design theories and cultural trends that have influenced and coincided with the evolution of the human built environment. According to Jellicoe G. & Jellicoe S. (1995), “the philosophy of landscape design began as belief in myth, merged into humanism based on the establishment of fact, and is now grappling with the realization that facts are no more than assumptions” (p. 398). From early landscapes of ritual like Stonehenge, to the opulent pleasure grounds of Versailles and contemporary designs like The High Line in New York City, humans have been altering their surroundings for purpose, meaning and experience. James Corner a contemporary American landscape architect attempts to shed light on the status of landscape design theory in his two papers A Discourse on Theory I and II (1990-91), Corner (1990) describes a point in time where landscape design theory separated from its roots in nature, aesthetics, myth, art and expression of culture in the 18th and 19th centuries to a “kind of technical knowledge, a methodology with attendant standards and principles” (p.72). In this separation, that I believe still exists in landscape architecture, a divide between the positivism empirical perspectives of science and technology with the creative traditions of formal art and aesthetics was created. I believe modern landscape design theory is gaining in depth and complexity, with the hyper advancement of technology furthering the ambiguous division or the coalition of streams of theoretical thought. Computers and digital technology provide access to instant information, images, and sounds as a means to advance knowledge, but can easily overwhelm creating a state of communication overload and confusion. According to Introna (2011), information technology, which includes all the gadgets we surround ourselves has become ubiquitous and ‘entangled’; within human culture technological overload “once exceeding the optimum level, can actually incur negative outcomes” (Karr-Wisniewski & Lu, 2010, p.2). I believe the technology advancement in landscape architecture can aid in understanding



fig.7 Nanaimo petroglyph - perception of self?



and communicating landscapes, but can also distract from the vital experiential interpretation of design process as well as marring the enjoyment of the results. Design approaches take form from the convergence or division of a plethora of theories, providing another reference of influence for designers to consider. Corner (1991), describes three approaches towards contemporary theory that fit amongst the muddled margins of qualitative and quantitative perspectives. The three approaches, Positivism, Paradigms and Avant-Garde, traverse the spectrum of quantitative to qualitative design processes with the bulk of most styles and subsidiarity approaches being situated in the middle as paradigms. A paradigm reflects a pattern or repeated example resulting in a trend or style. Paradigms cannot be defined as right or wrong they just become a popular approach. The trends and shifts in landscape architecture design theory, approaches and methods resulting in periods and styles are all paradigms. Corner (1991), recognizes that Positivism and Avant-Garde are also paradigms that ultimately influence other paradigms. Thomas Kuhn, a revolutionary scientific philosopher, developed the concept of scientific paradigms as a way of describing a nonlinear evolution of knowledge. He believed a habitual process of problem solving shifts to another at a critical point where the norm is no longer viewed as relevant. This critical point is where a revolution of thought and new processes emerge, gather acceptance and shifts to the new norm (Bird, 2013). Positivism is closely associated with the scientific approach where knowledge is gained through proven and tested methods. Avant-Garde is the opposite where the approach is unique, random, and not associated with a defined method or style (Corner, 1991). The term paradigm and paradigm shift have been adopted by many disciplines, including landscape architecture, as the notion explains how trends and styles in the discipline seem to change rather abruptly in time and how ideas spread quickly through societies and global cultures. These paradigmatic shifts are a result of human knowledge and experience pushing new ideas forward into discussion and accepted practice.



"What scientists of human behavior can tell designers about how humans perceive things give designers control over the environment. It brings human perception from unconscious instinctive action to conscious thought to become part of a framework of planned action."

Forest Wilson (1984, p.4)

fig.8 Shoes and socks off and feeling the Nanaimo River



fig.9 Hanging reminder in South Wellington

Topology is an abstract term commonly used in the field of geometry mathematics to describe properties of space such as connectedness, convergence and continuity. Spatially, topology is used to describe relationships between different sets of data, but is also used to define a set of descriptive terms, specific code, language or character defining elements of a place (Topology, 2013.). I believe topology, in regards to landscape architecture, can be a way of describing the relationship between objects in space, the person who is experiencing them and the interpretation of landscapes for the development of a design. Topology is a term that can be used in both the lived and the geometric space in the development of a place. Topology arises through site experience and investigation; as a means of understanding and expressing both lived and geometric space through design inquiry. I was fascinated that topologies two main definitions seemed to straddle the boundary between quantitative and qualitative boundary research and provide a pragmatic mixed approach framework for a landscape architecture design approach. Topology as an approach allows for the breakdown of the boundary that demarks the dualism of qualitative and quantitative approaches, allowing the process of topology to exist within a middle discourse.

"The challenge for landscape topology is to integrate heterogeneous fields of action that can be both physical and philosophical and scientific and poetic – integrating past, present and future potentials into a single meaningful whole. It will bring different design disciplines to work on a better understanding of landscape as a surface a space in all its inherent beauty and wonder." (Girot, 2012, p.8)

Though I developed the concept of topology before discovering Girot's research, the two concepts are similar in that they both employ the physical spatial knowledge of landscape, as well as the qualitative aspects of character



fig.10 Morden mine ruin



and culture. I suggest that Landscape Topology is a design approach of lived geometry, space and a product of phenomenological and multi-dimensional comprehension of place. Topology is a hermeneutic phenomenological design strategy formed with interpretations of unique human experience through the convergence of quantitative and qualitative analysis to form an emergent methodology for design. Stating that topology is a paradigmatic approach is currently more of a proposal than a tested theory, but with greater exposure and further definition through research exploration and application in landscape architecture, a critical point where topology is considered valid strategy may become a more common norm.

Hermeneutics is the act of interpretation and is firmly situated within the infinite unique human experiential possibilities and phenomenology is the conscious experience of the world. Yoked together, “hermeneutical phenomenology studies interpretive structures of experience, how we understand and engage things around us in our human world, including ourselves and others” (Smith, 2013, p.1). Hermeneutic phenomenology is only one type of phenomenological approach that is defined by how something is experienced; others might include transcendental constitutive phenomenology, naturalistic constitutive phenomenology, existential phenomenology, generative historicist phenomenology, genetic phenomenology, hermeneutical phenomenology, and realistic phenomenology (Smith, 2013, p.1). According to Kafle (2011), the phenomenological movement was initiated by Edmund Husserl (1859-1938). Husserl’s ontological position for human experience was divided into separate experiential functions of body and mind; he defined phenomenology as a descriptive two step response. “Husserl, known as the father of phenomenology also mentions the truth to be either phenomenological meaning the real or natural which denotes for our everyday understanding of the phenomena” (Kafle, 2011, p.184).



fig.11 South Wellington vernacular 2013



fig.12 Snuneymuxw big house 2013

Ontology is a vital component of phenomenology and its definition varies dependent on which philosophy is accepted, but in general as Hofweber (2013) states, ontology is “a philosophical discipline that encompasses, besides the study of what there is and the study of the general features of what there is, also the study of what is involved in settling questions about what there is in general” (p.3). Ontology is the study of being in the world and without ontology; hermeneutic phenomenology cannot occur as philosophically hermeneutic phenomenology is based on the assumption that human beings rather than instruments are a valid interpretive conscious medium existing in the world. Hermeneutic phenomenology is the result of concepts and theories developed by Martin Heidegger (1889-1976) that took Husserl’s dualistic view of body and mind and combined them into a single experiential act of interpretation. This single act of experience or interpretation was further defined by Hans Georg Gadamer (1900-2002), Paul Ricour (1913-2005), Maurice Merleau-Ponty (1908-1961), and Max van Manen (1942-) who created similar, but slightly differing perspectives on hermeneutic phenomenology (Kafle, 2011). According to Finlay (2009), within the definition of phenomenology exists a continuum of descriptive and interpretive strategies and methods. The continuum is influenced by those who follow from Husserl’s descriptive position or Heidegger’s interpretive position (See Maurice Merleau-Ponty (1908-1961) and Jean Paul Sartre (1905-1980) for example). Both positions are phenomenological approaches with differing ontological beliefs in how experience occurs. Topology, as I see it, is a pragmatic approach that is based on understanding landscape through experiencing phenomena and that an interpretive component is needed for the evolution and development of a design. I believe topology, as a research approach for landscape architecture, is an interpretive process and fits within Heidegger’s views on a singular cohesive automation of experience inclusive of interpretation.



fig.13 Wood flotsam from floodwater on the Nanaimo River



The qualitative experience of a situation or phenomena is temporal and is reflective on the past as well as the future. The items I collected during my site investigation, as shown in fig.15, reflect my ability to think about the histories of the objects, but also be part of their continued future. These found objects are part of the hermeneutic phenomenological engagement of the design process for the Black Track. A hermeneutic landscape as Corner (1991) reflects is “a highly situated phenomenon in terms of space, time, and tradition and exists as both the ground and geography of our heritage and change” (p. 130). According to Corner, a hermeneutic approach to landscape architecture theory might better reflect the continuation of culture and meaning/interpretation developed through unique experiences and connect with the human consciousness and existence in the world (p.132). Corner believes that meaning and significance will develop out of a hermeneutic approach providing a richness to intentional landscape architecture that could result in elevated opportunities for experience.

I believe that hermeneutic phenomenological research is fundamental for landscape architects and place makers because using our bodies and minds together to experience and interpret site is how a design process initiates and finishes. According to Howett (1993. p.72), landscape architects “need to design places in which we are invited to experience nature - and ourselves in community with nature and with each other - more profoundly, more intimately, more physically, than is possible when conventional scenographic values are enforced”. I believe a site visit for personal experience is always at the top of the list when retained for a design project, but perhaps for others, google maps is a substitute for place experience. Edward Relph (1993) states that designers task is “first to develop a sensitivity to the attributes of place” (p.38) which is I believe the definition of topology provided here, encapsulates. Representing site through interpretation of the emplaced experience will ultimately support the intended evolution of the designed site. I believe this lived experience that



fig.14 Boat Harbour beach sediment - coal and shell fragments connect at Boat Harbour



fig.15 A selection of my Black Track collection

I found many discarded and eroded objects during my walks along the Black Track. Some objects had obvious form and use and others made me question and imagine their origin and how they came to be here. After looking, touching and thinking about the three objects above, on many occasions of distraction, resulted in the above horizontal alignment. I thought of the people that once held, made or lost these things. These objects were found in different places along the Black Track and had no material connection to each other until I converged with them creating connectedness and continuity between them, myself, and the Black Track.

landscape architects apply to the design process is best described by the eight definitions of phenomenological research by Max van Manen (1990, pp. 8-14):

Phenomenological research is the study of lived experience

Phenomenological research is the explication of phenomena as the present
themselves to consciousness

Phenomenological research is the study of essences

Phenomenological research is the descriptions of the experiential meaning
we live as we live them

Phenomenological research is the human scientific study of phenomena

Phenomenological research is the attentive practice of thoughtfulness

Phenomenological research is a search for what it means to be human

Phenomenological research is a poetizing activity

Manen 's eight statements act as the method to the “sensitivity to the attributes of place “ which as Relph (1993) states is the first task for designers for comprehending place and developing a design that thoughtfully evolves spirit of place. I suggest that landscape topology as a matter of thinking, interpreting and representing a site incorporates all of Manen's (1990) eight statements for experiencing all attributes and interpreting both geometric and lived space. Beyond the hermeneutic phenomenological approach from which topology springs, topological methodology and methods are available to define actions towards place and interpret, communicate and translate emplaced experiences with an eye towards design applications and expressions of potential new evolved experiences in landscape.

The connection of phenomenology, hermeneutics and ontology to architecture and design are the foundation of Christian Norberg-Schulz's (1980) research.



fig.16 Holden Lake wetland



As Schulz states, his research intention is to provide an “Existential Foothold” in design theory (p.5). Schulz believes that the human phenomenological experience is the foundation for architectural design and that accepting the importance of ontology for the design process is the ‘foothold’ for architectural creation. Norberg-Schulz (1965) suggests that the objects that humans perceive are dependent on the attitude or orientation of the person as well as the “object levels” - a classification of importance of the objects (p.27). This ranking is different for every individual dependent on orientation, but certain objects hold an obvious essence that draws human perception to gravitate towards them. Humans perceive using our senses and certain objects direct preferred access to specific sensory experience. According to Thwaites & Simkins (2007) there are two key components in creating an ordered pattern in perception of landscape. The first, that “its intrinsically holistic nature in that people seem instinctively driven to see localized places as part of a larger coherent whole” (p.82). Secondly, “that where there is no explicit sense of coherence to a setting then order is injected into it through habitual use and familiarity” (p.82). Perception and human experience are the foundation of the spirit within all humans which is then projected outward onto the surrounding world and back again. It is this back and forth sensual interpretation between personal experience and outer objects in space that constitutes the definition of hermeneutic phenomenology. Norberg-Schulz (1980) suggests, understanding and accepting that the foundational design approach of *Genius loci*-spirit of place is an internal human unique spiritual act of hermeneutic phenomenology. I believe that *Genius loci* is a way of understanding ontology in regards to a hermeneutic phenomenology approach for landscape architecture or more simply is *Genius loci* not just a way of expressing our relationship with certain landscapes – it is interpretive – yes. Genius of place is hybrid term combining the original Latin term *Genius loci* and sense of place. The commonly referred to, in relation to landscape design, and early use of *Genius loci* by Alexander Pope is:



fig.17 Nanaimo River estuary



fig.18 Forest stairs at Morden mine

*“Consult the genius of the place in all
That tells the waters to rise or fall
Or helps the ambitious hills the heavens to scale
Or scoops in circling theatres the vale...”
(Pope, 1731, lines 57–60)*

Pope used this term poetically to reflect the pastoral and rural aesthetic during the picturesque movement of landscape design (Jivén & Larkham, 2003). This early use of *Genius loci* in landscape architecture developed into a paradigm that as Norberg-Schulz (1980, pp.25-32) defines, as a phenomenological interpretive component to be applied we are designing an environment. The most common definitions of *Genius loci* are spirit of place or the alternative sense of place. Though the meanings are similar, the two definitions reflect the evolution of the definition. *Genius loci* – spirit of place has Latin roots from Roman mythology where deities and gods were associated with everything (Norberg-Schulz, p.18). The *Genius loci* was a deity or spirit that was believed to control the positive or negative energy of a place or region (Shirazi, 2008). A contemporary definition of *Genius loci* – sense of place reflects that the positive or negative energy of a place is controlled by one who senses them through experiences (Jackson, 1995, pp. 24-27). The spirit of the individual could be conceptualized in this sense as the deity of place. The two definitions reflect on the same concepts of existentialism and experiencing the essences and character defining elements that influence theories of place making, but there is a shift from an external characterization of spirit to an internal. Dubos (1972), dissects the distinctive genius of each place and each person as very unique and personal creation. The title of his book, *A God Within*, reflects his perspective that the god or spiritual ability of humans to comprehend existence or being is the ultimate genius in the creative process. “The various microcosms, or ecosystems, with which man deals, are



fig.19 Sandstone beach form on Gabriola Island



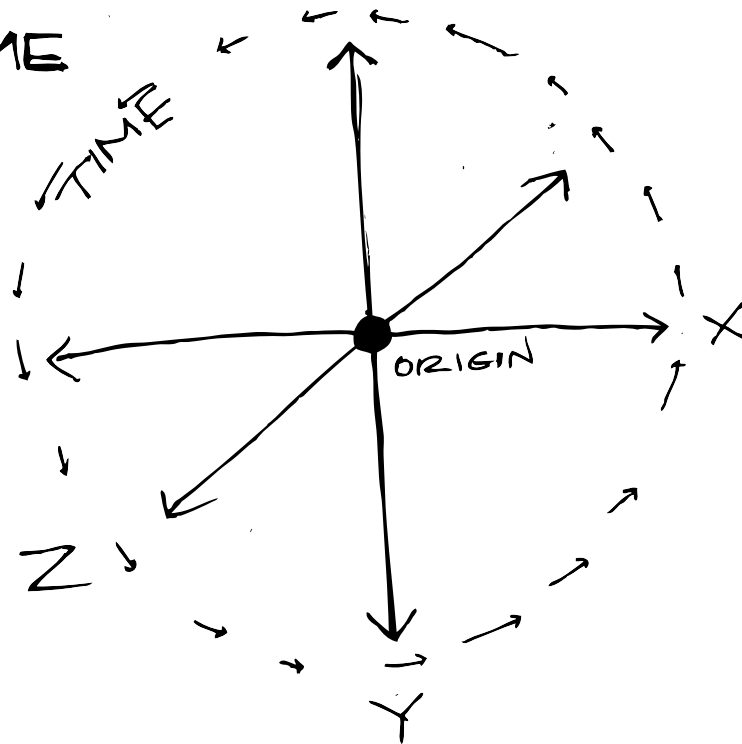
thus his own mental creations; indeed they derive their size and shape from the characteristics and limitations of his senses and conceptual apparatus. The 'spirit' or 'genius' of a place, of a creature, or of an object, is the perception of some facet of nature by the god with in the human of observer"(p.15). Ultimately, *Genius loci* is a phenomenological aspect of sensing a place and holds a distinct connection to the history and theory of landscape architecture. (For examples see, Alexander, C. 1977, Lynch, K. 1981, and Thompson, I. 2003.)

I believe that all landscape architecture paradigmatic approaches lie between the extremes of Positivism and Avant-Garde, foundationally have some influence from notions of *Genius loci*, as it is an unavoidable process of hermeneutic phenomenology of landscapes. For example, existing site characteristics and how they are perceived and interpreted through design processes are what the genius of place conceptually is. Though one can design a place without experiencing it, a designer that actually does physically experience the site should logically have a greater knowledge of the space because of the activation of an embodied, emplaced sensory experience. I also believe that landscape topology as a strategy fits within this middle ground of paradigms because topology requires site investigation through experience, understanding and interpretation. This initial site exploration is where the design process is both consciously and unconsciously adding and subtracting ideas through a creative phenomenological convergence. This synthesis of thought and experience is where a space becomes a place and where extending the experience of place through design becomes the wonderfully complex goal. As Casey (1996) states, "The lived body is the material condition of possibility for the place-world while being itself a member of that same world. It is basic to place and part of place. Just as there are not places without the bodies that sustain and vivify them, so there are no lived bodies without the places they inhabit and traverse" (p.24).



fig.20 Sword fern and Western red cedar at Holden Lake

SPACE TIME



TOPOLOGY

qualitative properties
of certain objects

CONVERGENCE
CONNECTEDNESS
CONTINUITY

fig.21 Sketching out my thoughts about topology

I agree with Howett (1993), that restoring the concept of *Genius loci* is a good starting point as “contemporary design needs to invent forms that restore equity to the nature-culture equation”(p.69). Further Tate (2005) suggests, “applied in its broadest sense *genius loci* recognizes the importance of context to the creation of places that provide utility and beauty” (p.61). I propose that landscape topology is a methodology for a hermeneutic phenomenological approach and that *Genius loci* is integral to the process of interpreting and applying knowledge of place.

Trieb (1995) defines five approaches for the processes of landscape architecture: Neoarchaic, the Genius of Place, Zeitgeist, Vernacular Landscape, and Didactic. These approaches are all paradigms because they represent central repeated occurrences of a specific design process and cover a large spectrum of common styles associated with landscape architecture. According to Trieb, (1995, p.49) Neoarchaic is associated with primitive style earthworks using natural form and materials often for a function, genius of place is spirited connection to the physical aspects of a place, Zeitgeist approaches attempt to capture the essence of a certain time or age, Vernacular Landscape utilizes the immediate surroundings or contexts for design influence, and Didactic engages with human or natural occurring processes like erosion and accretion(pp. 49-55). Trieb (1995) states *Genius loci* can be applied “in only a desultory way, since “the place” had been so disturbed over the centuries from industrial development”(p.50). He suggests that the phenomenological perspectives to the *Genius loci* by those like Norberg-Schulz and Maurice Merleau-Ponty as being a “superficial approach to connecting human inhabitants to their landscape setting”(p.50). Trieb continues with viewing the *Genius loci* as an external physical condition of a site instead of truly looking at the history of the term and its connection to experiencing landscape in the lived world. Trieb (1995) is concerned with developing meaning and significance in a place and



fig.22 Coal and shell beach at Boat Harbour



though he agrees that a designer can aid in accomplishing this he states, “that meaning condenses at the intersection of people and place and not alone in the form the designer’s idea takes” (p.58). I argue that *Genius loci* is integral to the throughout the entire process of design regardless of what approach is applied and it is not just a historical trend to be followed. Treib describes it as “a point along a path”, but I argue that the path is made up of connecting points consisting of a *Genius loci* metaphysical exchange. Yes, I elevate *Genius loci* to an intrinsic part of landscape topology and landscape architecture, but it is a term that landscape architecture as a discipline needs to take proud ownership of and define as the experiential necessity of the design process.

Landscape topology as a methodology gathers the visible and invisible elements, human made objects, and natural phenomena through experience of site to create an intersection for emplacement. Sites are encoded with physical and cultural experiential information that forms a message for person interpretation. Landscape architects decode a site through experience and then encode place through interpretation so that a certain design intentions nurtures experience. Topology is a tool associated with a hermeneutic phenomenological approach to aid in this encoding process that can result in meaning and significance. I don’t think landscapes must mean or be significant, but they certainly can and almost always do. What landscapes mean to people depends on perception; and perceptions depend on experience. If you experience a landscape, logically you perceive it and associate some level of significance or meaning even if it is unmemorable and dull. Topology and its qualitative and quantitative definitions provide a framework for a design approach inclusive of lived and geometric space. It allows for a wide range or holistic collections of mixed methods that are well suited for landscape research and design. I engage topology as a hermeneutic phenomenological methodology utilizing personal sensory experience, deep thought, walking, photography, theoretical research,

historical research, descriptive writing and conceptual drawing in developing the design practicum.

"Working topologically means examining in detail the planned site of intervention, understanding it in relation to other aspects – such as landscape, infrastructure or built structures – organizing the space landscape architecturally, and considering people. 'Space' in this sense is not understood as a mere physical and geographical dimension, but as a multidimensional network generated by culture and in many respects historically variable." (Krull, 2013, p.14)

I believe that the landscape architecture design process begins in a qualitative hermeneutic phenomenological position, as designers use corporeal senses and reflective thought to gather the essences of site; this then shifts to a quantitative as the site is experienced and the experience is reflected upon. I believe the design process is a cycle that begins in lived space, shifting to geometric space and returning then to lived space. This cycle is set within a mixed method approach with a multitude of variations of methodologies and methods because of the vast philosophical options that ground qualitative and quantitative approaches (Creswell, 2004). Landscapes require a very open pragmatic approach for holistic comprehension as well as for designing places because of their complexities of the physical and emotional connections humans have with them. *Genius loci* I feel follows and moves throughout the entire design cycle. It acts as a sensitive connection to all aspects of the qualitative as well as the quantitative. Topology and its dual definitions express the pragmatic ability to utilize this cycle as well as incorporate *Genius loci* within its definition and phenomenological approach.

If topology by its very definition shifts as a paradigm, I believe that as an approach,



fig. 23 Tuytaxun general store Snuneymuxw reserve 2013



it is firmly set in the middle of the spectrum with a close relationship with *Genius loci* reflecting a similar ontological position in phenomenology. I apply landscape topology as a pragmatic hermeneutic phenomenology methodology in attempts to include both spatial and lived space experienced by landscape architects for the design process. In this practicum I take the approach of landscape topology one step further in that I incorporate Cartesian coordinate axis and origin elements and descriptive topographical definitions into the design as a means to explore the lived and geometric space concepts. By utilizing the terms and definitions of mathematical topology as well as the definition of a language or code for a place, I aim to develop a unique understanding of place as well as a design that conveys the woven relationship of quantitative and qualitative design process. The design communicates through a site specific typology for directed experience and personal engagement with place.

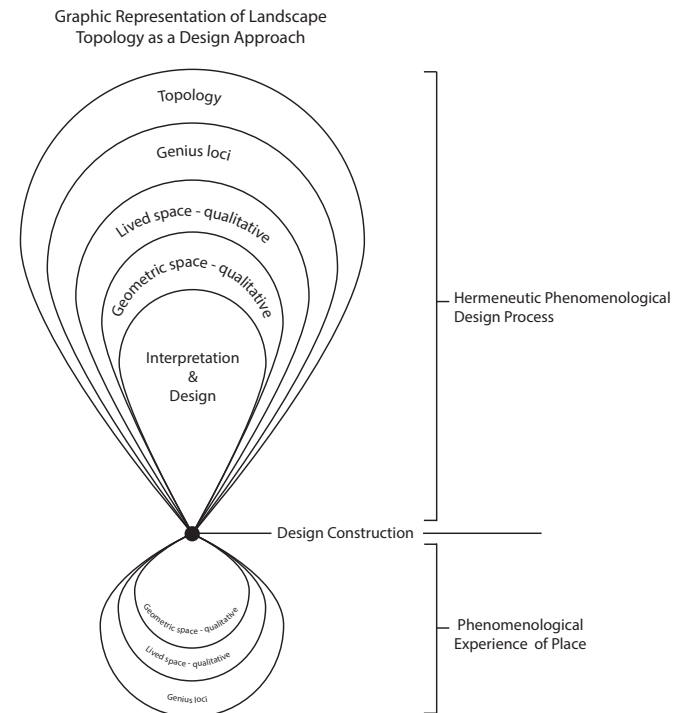


fig. 24 Graphic representation of landscape topology as a design approach

Placing Place

The shift from experience through interpretation to a created descriptive communication is how a place gathers context. A place is not necessarily a distinct definitive object; it is a location that has been interpreted as a group of experiences that usually share a spatial locale as well as character defining elements and essences. A place has a phenomenological meaning, but it also has a spatial location.

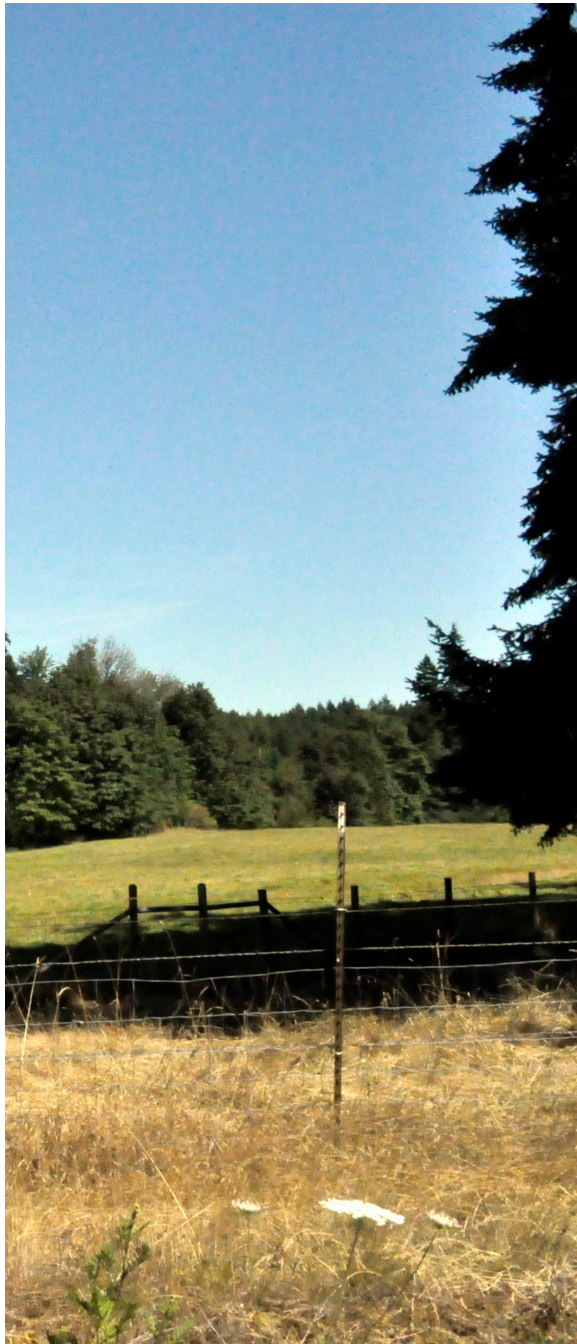
"place is not just a thing it is a way of understanding the world"

Tim Creswell (2004, p.11)

The spatial connection of place to the observer can be tenuous to universal depending on the extent of physical or mental boundaries perceived during experience and understanding. Tuan (1977) restates a common phrase "it takes time to know a place" (p.138). He refers to place as a pause in the flow of time where we have a personal or intimate experience of environments in space and where the location becomes the centre of felt values. Human experience and interpretation are the catalysts for space becoming place. "An object or place achieves concrete reality when our experience of it is total, that is, through all the senses as well as with the active and reflective mind" (Tuan, 1977, p.18). Without a human observer, space struggles to exist. The scientific empirical definitions of space time cannot be ignored as they do help explain how we experience place, but the power of the mind and the ability to transcend from space to place in thought, imagination, dreams and memories construct a lived space where place is the focus. The ability to translate and to communicate the lived experience of place design relies on utilizing the empirical spatial controls to guide the construction of environments in scale. Elevations, dimensions, and slope between two points are crucial in construction and design. It is these empirical details that control and ensure the intention of the design remains whole. The exchange



fig. 25 Wandering between Extension and South Wellington



between lived experience as a layered internal interpretation and the object oriented outer world is a cyclical process. We calculate our position in relation to endless connections and relate it to immediate objects while we absorb and interpret the different qualitative characteristics of everything. As stated by Girot (2013), "There is a dichotomy between our understanding of landscape in the scientific science, as a function normative network of ecological systems, and the existence of a place, as it appears cognitively, poetically, and emotionally for people. Topology operates with elegance at the interface of science and philosophy, combining the reading layers of history with a mastery of present uses" (p.112). Experiencing and comprehending geometric space is important to construction and is a quantitative necessity for landscape architecture. The coexistence of the lived space and the geometric space presents the dualism that intersects through the different connection of a place. Not all aspects of a place can be drawn out on a three dimensional grid nor can be described with words. There is an internal connection to an environment that has just as much significance and meaning to a place that is developed through personal experience. Dovey (1993), also describes the design process for place making as a cycle from lived space to geometric space and back to lived space (p.250). Geometric space is a tool utilized to communicate lived space. Geometric space is an integral part of place and experience, but alone it lies within a defined and empirical realm while lived experience is within a very abstract, semi-intangible and unique existential realm. "One cannot disconnect lived space entirely from geometric space without the risk that the sense of place will remain forever in the drawing only" (Dovey, 1993, p.62).

The bifurcation of the design process is similar to the dualism created in the body mind paradox philosopher Maurice Merleau-Ponty (1968, p.137) bridged while developing his research on phenomenology and ontology. According to Flynn (2011), Merleau-Ponty created new language in that he understood that phenomenology was constructed of body – an exterior Cartesian object is of

space and mind – an interior experience created by the amazing powers of the brain and soul of a human. The middle ground or exchange of body- mind, interior-exterior, lived space and Cartesian space is what he referred to as flesh (Merleau-Ponty, 1968, p. 137). Using the human body as the focus, the flesh of a human represents the sensory element between the inner mental workings and the complete outer workings of the body. The flesh describes the single action of experience of the unique partnership between body and mind. “There is, most generally, the difference of the sensing and sensed. Merleau-Ponty insists that we must admit that (from one side) our body is a thing among things and also (from another side) that which sees touches things. The body therefore unites two properties within itself and has a double belongingness” (Jensen, 2007 p.193-194). Designing landscapes using a phenomenological hermeneutic approach again engages a synergy of sensing the interior, mind, lived space and the external Cartesian space through a single experiential process.

Place is a complicated concept dependent on endless philosophical perspectives and is discussed in variety of disciplines (Creswell, 2004, p.16). As Dovey (1993) suggests, place is a difficult concept and describes it as a “knot of meaning in the fabric of human ecology” and “develops over time through human environment interaction (p.250). I believe place is anthropocentric and is created through experience and perception. The body and mind are the tools in making place and thus can change a place. A place can change or evolve in our minds through knowledge from experience with no physical change at all. A place can also change through the physical act of construction altering objects in the Cartesian space, but it is the experience of the space and objects that create a complete sense of place. There is a syzygy between the physical construction and emotional human experience of place. A place needs both physical and experiential constructs to exist and as Creswell describes, “Place is the raw material for the creative production of identity rather than a priori label of identity” (2004, p.39). A personal gravitation of mind, body and subject/object



fig. 26 An old mining cabin on the Nanaimo River is occupied by a local woman during the summer months.



create the experience and perception of a place. As, Juhani Pallasmaa (2009) states, "The experience of a place or space is always a curious exchange; as I settle in a space, the space settles in me. I live in a city and the city dwells in me. We are in a constant exchange with our settings; simultaneously we internalize the setting and project our own bodies, or aspects of our bodily schemes, upon the setting. Memory and actuality, perception and dream, merge. This secret physical and mental intertwining and identification also takes place in all artistic experiences." (p.27).

This intertwining, exchange or middle ground between body and mind between interior and exterior space is the beautiful convergence of hermeneutic phenomenology or as Merleau-Ponty (1968) describes as flesh. This experiential convergence provides the anchor or foothold necessary for using this approach for design. Landscape architects who engage with the constructs of place making understand the complexity of the topic as it depends on the individual unique experiences. The dualism between the internally perceived and external Cartesian space is recognized as a paradox that is unavoidable while understanding the process in defining place. Lucy Lippard (1997) defines place as "A layered location replete with human histories and memories... place has width as well as depth. It is about connections, what surrounds it what formed it what happened there, what will happen there" (p.7). The connections that Lippard refers to are the relationships of the different essences/objects have with the site, the observer as well as with each other. It is the connectedness of the physical objects in space, but also the connectedness our bodies and minds develop while experiencing the site. Once we process and acknowledge all the swirling sensory input and interpret and imagine the future, a somewhat holistic understanding of the site is founded and a place is made in our minds. According to Casey (1996), place is more of an event than a thing which allows for a unique interaction of things. He describes places as an event, gathers experiences, histories, language and thought and is a generative and regenerative process dependent on human perception and experience (p.26).

Site Discovery - stumbling and awake

Today the sky is missing again. Expanding clouds fill the spaces between everything as silhouettes of fence posts drift in and out of sight. The fog sits firmly on the ground and the quiet calm drips down the single pane windows in my cabin. I no longer hear the crackle of the stump placed on the fire hours previously by my wife as she headed out the door to work. The lack of sun makes these gray days completely timeless and I might have slept past noon for all I know. I stare out to the floating fence posts and the weeping willow in the yard, wondering what adventure I should conjure up today.

It's not raining, but I am walking in the rain. The fog sticks to my clothes and the moisture seeps to my core. Vancouver Island in the winter is known for the wet and stormy west coast weather, but on the east coast of the island the land is protected by the spine of mountains that run down its length. The storms slamming in from the west manage to push through some of the river valleys, but the drenching punch is often reduced to a sopping smear here in the Nanaimo River Valley. I have decided to explore up river from my house along a stretch of private land that my neighbor farms.

Without a directional breeze, the fog doesn't move like fleeting clouds in the sky, but it pulses and shifts unpredictably causing objects to appear and disappear in the landscape until the sun's warmth evaporates the hanging moisture. The sound of the river jumping along the smooth cobbles is clearly audible as I step down into the flood plain. The underbrush is thinned here because the floods scour the banks during periods of high rainfall matched with high tides. As the flooding swell of water races towards the terminus estuary it is often met with a

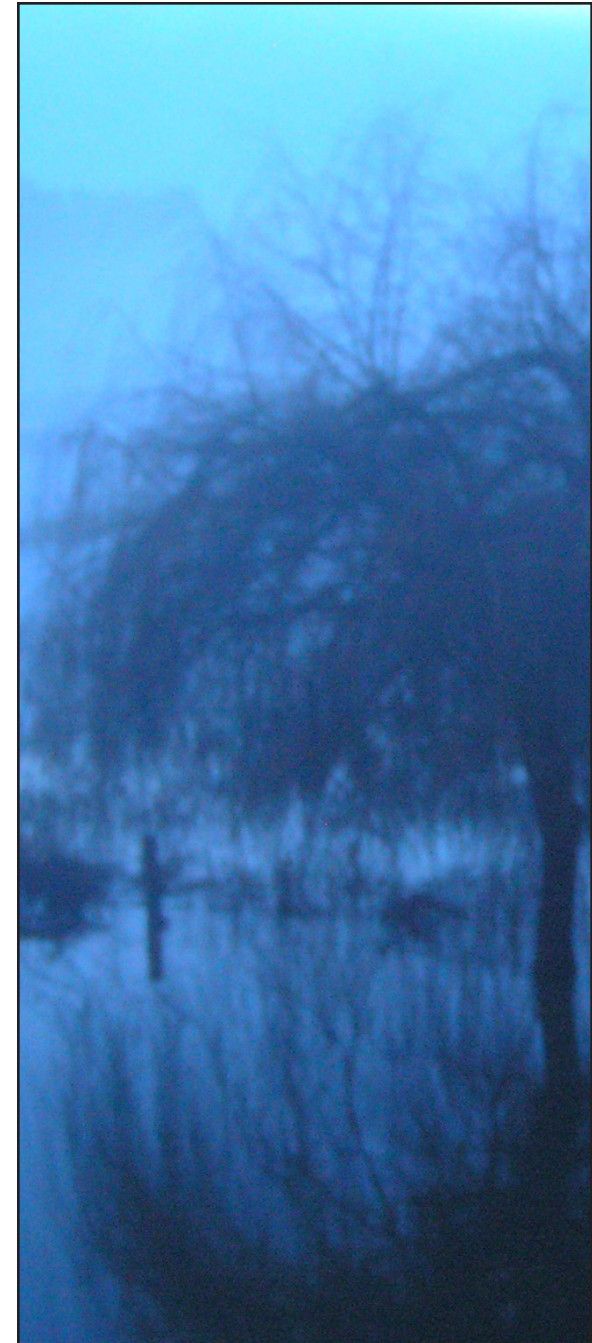


fig.27 My foggy window view



fig.28 Looking south up river and toward the island

wall of water pushing in from a spring tide. Spring tides and the heavy rains in the fall on Vancouver Island cause the lower section of the Nanaimo River and its channels to back up and flood. This year a flood event occurred at the tail end of the Coho salmon spawn and confused fish were found in ditches, backyards, and ephemeral puddles created by the backup of flow.

The river is at below normal levels as a winter high pressure has been hovering over the coast. Clear skies bring cool evenings and warm spring days which clash causing this fog or low level condensation. The hardy riparian willows, though beaten down by the floods, are showing signs of budding. The gravel flood channels still contain the remnants of the spawning salmon that ended their life journey here months earlier. Their skeletal remains are scattered in grooved hollows amongst the stones like an old puzzle dumped again with noticeably less pieces than before. The beavers have obviously been busy with freshly chewed bits and debarked branches strewn everywhere. The main river channel seems rather narrow here as I stare across to the opposite bank. I look back downstream and see a much larger river channel and realize what I am looking at is a large wooded island located in the middle of the river. My curiosity gets the best of me and I remove my socks and boots throw them in my backpack and start wading across the channel. My legs are numb, but the crossing will only take a moment. I stride through my last steps in hip deep water and up the muddy bank onto to the island.

I scan the forest that is no different than the flood plain I just left with towering moss covered cottonwood, Douglas fir, Western red cedar, and the odd grand fir. I am on an island on an island. For a moment this thought seems novel and strange, but as I start my exploration I realize this is just one of many unique features of this place. I circumnavigate the island finding wonderful sandy beaches, gravel bars, huge sword fern groves with no traces of human activity.



fig.29 Skeletal remains of salmon nestled between fawn lily and salmonberry on Origin Island

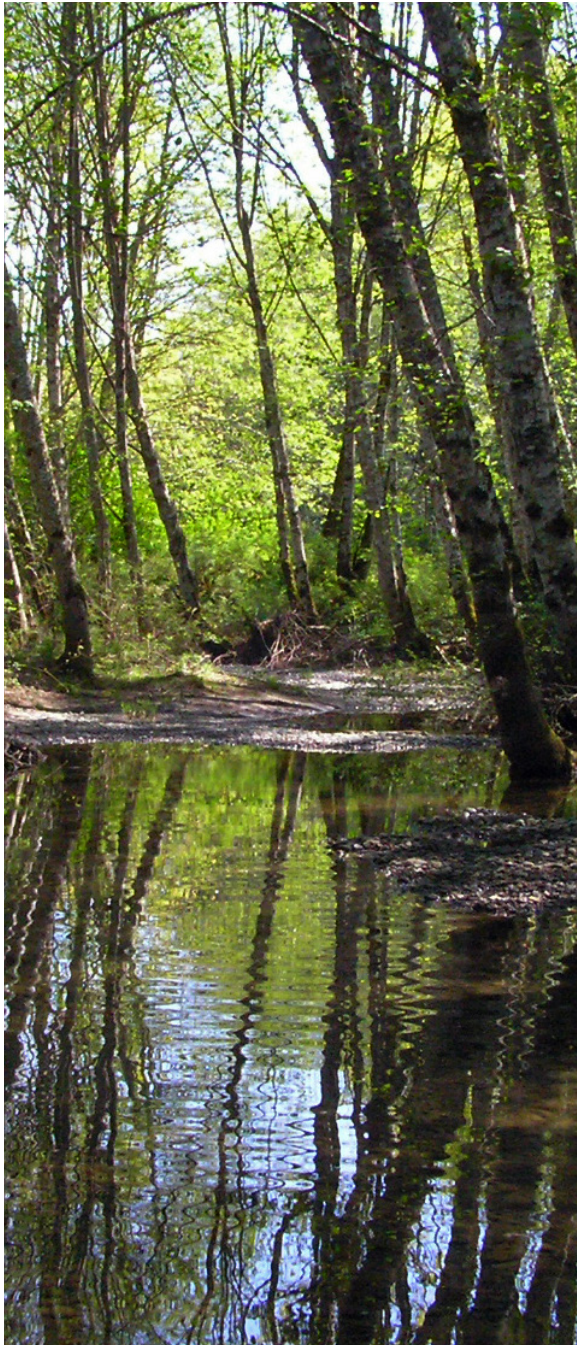


fig.30 Flood channel on the island

The island is beautiful and secluded. I can only see one cabin perched above the river about a kilometer upstream. Having the river separation to the rest of civilization creates a wonderful feeling of intimate connection to it. The surrounding riverbanks are forested and quiet. The island must be almost ten acres. As I continue walking and absorbing the island experience I realize the rather flat topography of the island is interrupted by a mound running the width of the island. As I stand on the mound with large trees sprouting along its back I start wondering about its origin. The trees growing out of the mound are at least fifty years old so the landform must predate the trees. As I stand at the base of the mound, which rises at least 3 meters above my head I notice the mound is not made of mud or wood, but of rock chips; black rock chips. I kick deeper into the side of the mound and sure enough more black rock.

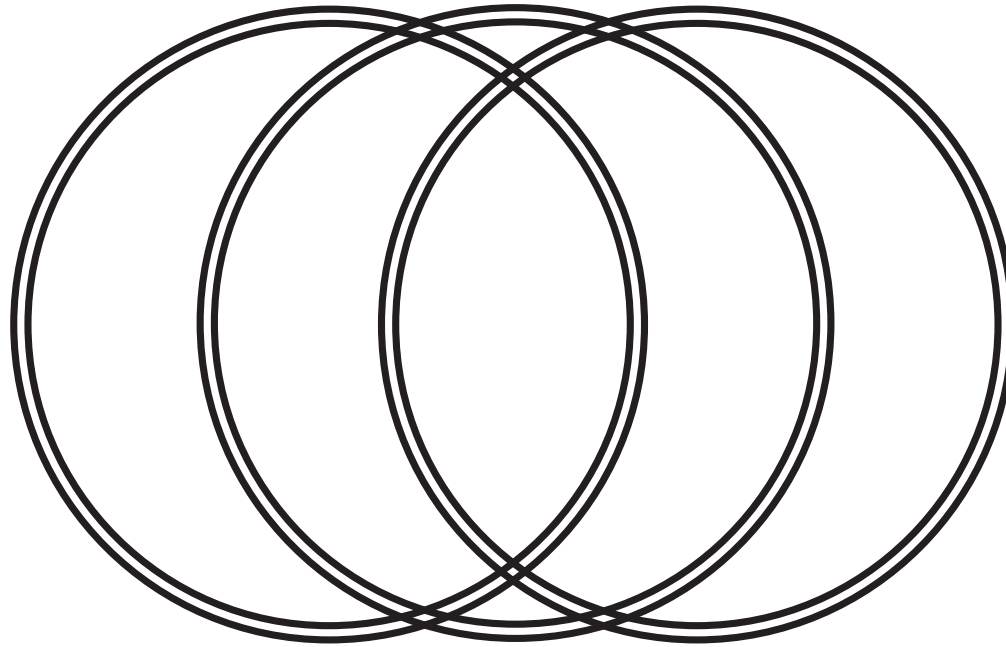
After some confirming research, the mound was created to support the Pacific Coast Collieries Mines rail line and wooden trestle across the Nanaimo River. The black rock is coal slag, which is the undesirable bits of rock created when excavating the shafts. The site of this rail corridor is located 10 km south of Nanaimo on Vancouver Island. The island I had wandered onto is in the middle of a 26 km rail corridor and now the origin for my landscape experience. The rail line linked multiple coal mines to the East coast of Vancouver Island where it was loaded onto ships early in the 20th century and linked three villages that were settled to support the labor forces at the mines; Extension, South Wellington and Cedar. This line ran perpendicular to the main E and N line controlled by the coal baron Robert Dunsmuir. After reviewing a older maps of the region that revealed the location of the railway, I decided that walking the route was the first and most important step in experiencing this site.



fig.31 View northward towards the west side of the island in the Nanaimo River



fig.32 View to the east side of the island and the cross section of the mound.



CONNECTEDNESS

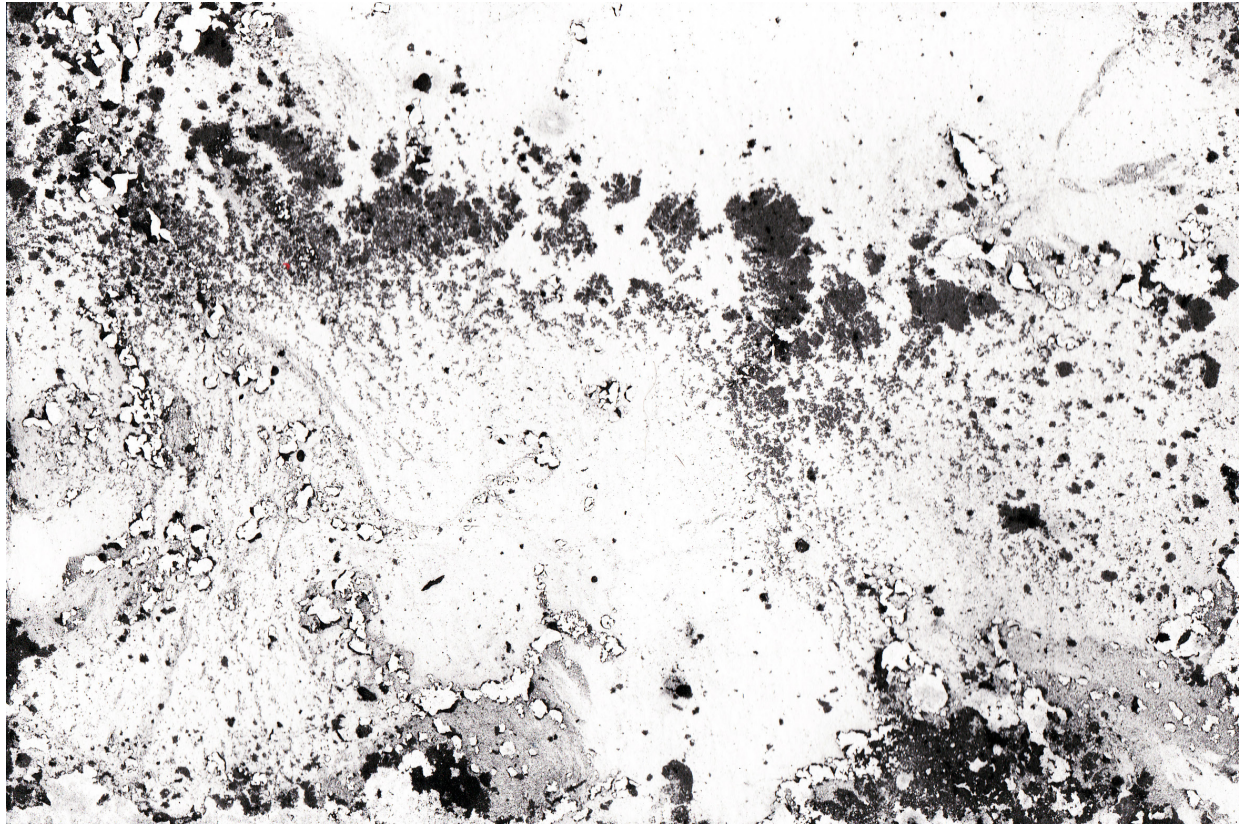


fig.33 Coal to water 2 - intentional exchange of something - perception project

con·nect·ed·ness noun

1. the state of being connected
 2. a relation between things or events (as in the case of one causing the other or sharing features with it)
- (Connectedness, 2013.)

Thoughts on Connectedness

Life is based on connections. We are physically connected to the world around us down to the invisible elemental chemical reactions that constitute our body construction and are mentally connected through our amazingly unique human consciousness. Human consciousness is truly the highest function for connecting everything in the world to us and to other objects. Our minds create connections to go about our daily routines. Other living organisms have the ability to make connections too, which is why the life cycle of organisms on earth is so dependent on each other, global actions and human influenced phenomena. Humans have a very powerful control of connections and through experience, research, and a continuous expanding knowledge we extend our connections and the definition of our world. Connectedness is an undefinable quantification of the connections anything has with anything else and is personal and completely subjective. Connections are relationships that are constantly evolving and can be bilateral, multilateral or omnilateral. Defining the interaction and connections to things is abstract as it involves perception, thought and personal preference. Connectedness is oscillating in every moment in time consciously or unconsciously.



fig.34 This series is a result of manipulating the found coal grains from the beach at Boat Harbour to create patterns of connectedness



In geometry, connectedness refers to a spatial relationship of a set of numbers or data and in the context of landscape and connectedness can refer to the character defining elements that define a place. Connectedness is used in this practicum to reveal interpretations of the site and to nurture an intended experience through design. Specific cultural and biophysical elements have been elevated to reveal relationships they have with the landscape. The three key subjects that are interpreted in the design are local First Nation culture with a focus on resource gathering in the marine environment, the local coal mining history and its relationship to resource extraction, and the diverse natural biogeoclimatic zone the Black Track traverses.



The site for this Practicum incorporates the greater region that an abandoned rail line transects, south of the city of Nanaimo on Vancouver Island. The site is within the Cedar and Cranberry Districts, just beyond the city limits of Nanaimo. The site traverses a beautiful and diverse landscape from upland Douglas fir forests to the semi-arid coastal bluffs on the east coast of the island. The route intersects three small communities that have their roots in the extinct coal mining industry and crosses through the heart of the traditional territory of the Snuneymuxw First Nation. After discovering the mound on the island in the Nanaimo River, I walked and wondered from Extension to Boat Harbour experiencing, discovering, and interpreting the unique rural landscape.



The current cultural impressions are the most predominant, but fragments of the past mining and First Nations culture still surface with close observation. The industrial relics and cultural debris from the many mining settlements are scattered along the route. The First Nations culture is somewhat hidden along the Black Track though the entire landscape is within Snuneymuxw traditional territory. On entering Snuneymuxw reserve lands in Cedar, the vernacular First Nation culture is obvious, but the connection to their extensive cultural

past on Vancouver Island involves much more research. The natural ecology is the foundational connectedness of the two cultures. The landscape is now a shared space with shared places, but has evolved from separate cultural uses, meanings, and place making approaches. The elements of the heritage components of the two cultures as well as the natural ecology that attracted both cultures to the area will be explored in the Connectedness section of this practicum.

The connectedness of the cultures to the landscape is something that is not evident when currently walking along the Black Track. The Black Track meanders through four distinct sub-biogeoclimatic zones that provide beautiful sensory impact and comprehension of the diverse natural habitats of the region. The existing abandoned rail bed, as I discovered, is like a crack or fissure waiting to be split opened to reveal what lies beneath. The sedimentary geological formation known as the Nanaimo Group is where the seams of coal are found. It is the same formation where the unique sandstone outcroppings that blanket the coastline, the indigenous people carved their rock art known as petroglyphs. The natural landscape beneath my feet on my Black Track hike is the origin of connectedness of culture in the Cedar and Cranberry Districts.

The aboriginal culture found the landscape here providing in all aspects and settled in multiple villages in the region. Their places were developed in proximity to food resources, spiritual locales and for safety. The mining culture developed purely for the gain of wealth through extraction of coal and other industrial opportunities. Once coal mines were established so did the necessary amenities of an emerging community hub like hotels, bars, stores and blacksmiths (Norcross, 1979). Both cultures were drawn to the region by the resources the landscape provided. Mining sites and communities emerged along the coal seams and lands were surveyed and mapped for settlement.



fig.35 Mining relic in a farmers field - South Wellington 2012.

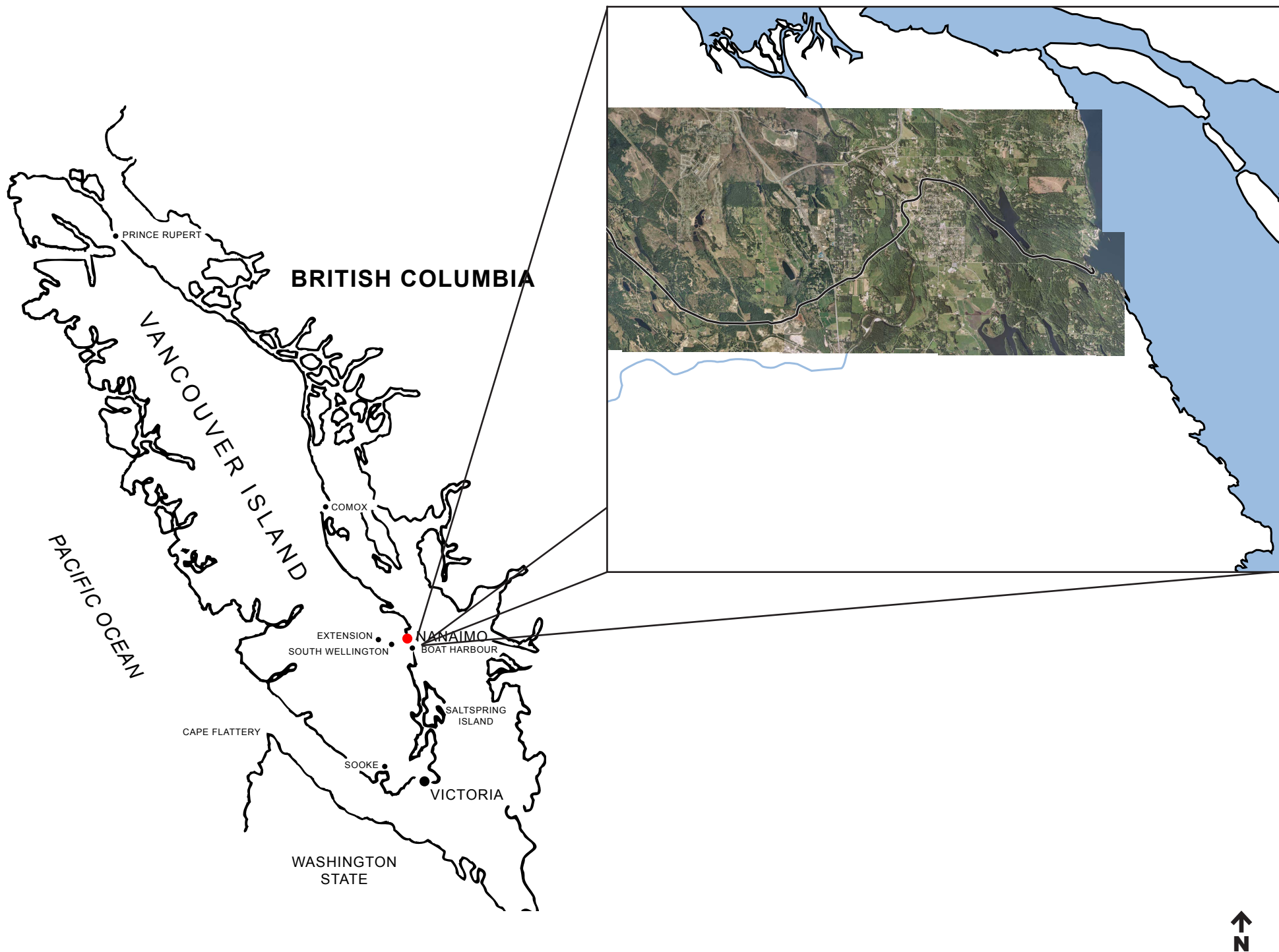


fig.36 Site location map collage

The two cultures collided when coal was discovered in the Nanaimo area in the late 1800's and the First Nation's traditional territory was forever changed. The heritage landscape here is evolving and gaining acceptance through openness resulting in celebration and recognition of both cultures within the same place. It is odd that the mining culture, though short lived, has had a very deep impact on the landscape lasting longer than the mining operations themselves and seems to overshadow the aboriginal culture that has flourished for thousands of years. The landscape is rich with history, but the narrative is difficult to experience without an intentional design that promotes the significance of place. The Black Track weaves both cultures together with distinction, but develops shared places for both cultures to be experienced. The natural ecology of the area is subtle, silent yet unique and powerful, and is the foundational adhesive to the connectedness of the cultures and the heritage of the Cranberry and Cedar districts.

The mound on the island guided me towards the mining history connected to the abandoned rail corridor and the natural landscape. I located maps that identified past mine sites, but when I arrived in these locations it seemed mining had been erased from the landscape. Beneath the vegetation and under my feet was more coal slag. In some locations it was piled 30 to 40 metres high and completely re-vegetated. The slag was my directional marker for confirming the sites. During further exploration along the path I found relics, ruins and artifacts of the past. As I walked and located the fragmented historical route from Extension to Boat Harbour, the wonderful diversity of vegetation of the upland hills, a major river valley, and a coastal bluff displayed its founding beauty. The route of the Black Track is a perfect cross section of the unique Coastal Douglas Fir Biogeoclimatic Zone. This zone is characterized by prolific and fast growing Douglas fir, but also the smooth peeling bark of arbutus, crooked gnarly form of Garry oak, ground cover of Western bleeding heart, salal, mahonia, and flowering

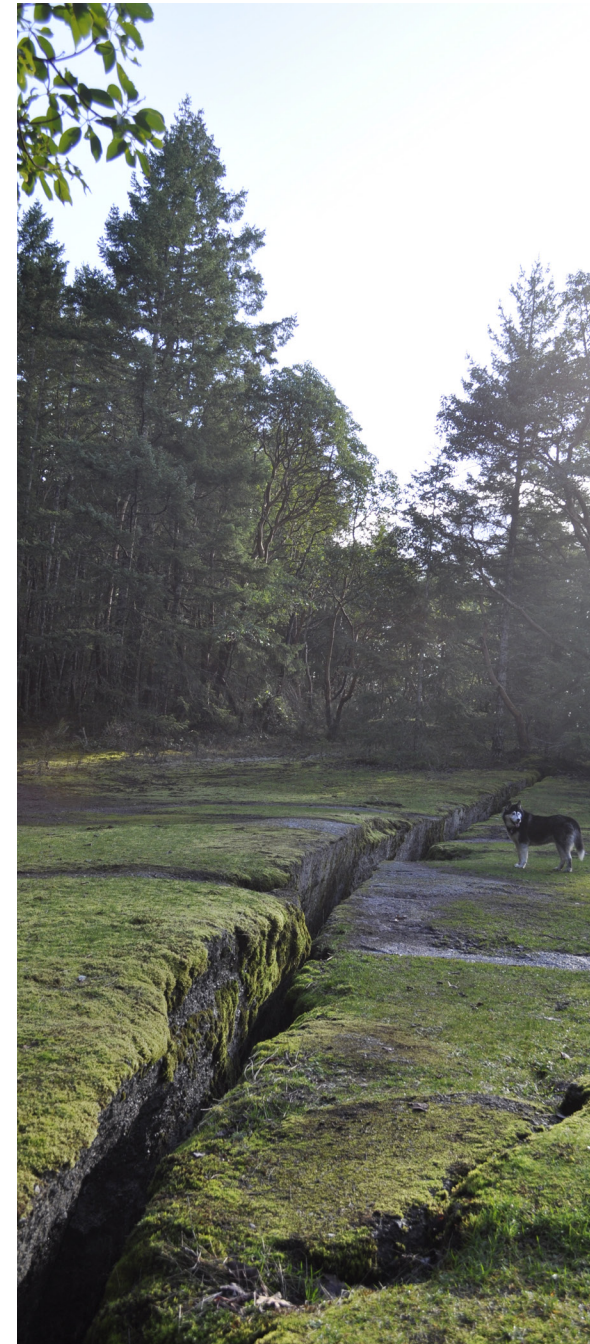


fig.37 Harewood abyss - Extension Ridge 2011.



fig.38 Extension coal slag mound 2013

perennials of foam flower, Western trillium, and fawn lily. The geomorphology reveals sedimentary rock outcropping along ridges, bluffs and coastline. Beige sandstone and cobble conglomerates are the most visible rock types within this geological series known as the Nanaimo Group. The coal seams that attracted the mining in the region are also part of this group.

Biophysical Interpretations

There are a multitude of landscapes and places the Black Track intersects along its 26 km journey. The natural environment provides a wonderful cross section of the ecological diversity found within a short distance in this coastal region. The natural landscape has been greatly impacted by forestry and mining industries as well as the expansion of settlement, but still holds the unique characteristics that define this coastal estuarine lowland. The Cranberry and Cedar districts are located on the eastern slope of Vancouver Island which has a unique coastal temperate climate. The districts have small rural populations centered on a handful of villages that were developed around industry in the early 1900's. Both districts are within the Coastal Douglas Fir (CDF) Biogeoclimatic Zone which is the smallest of the fourteen ecological zones in British Columbia covering a small portion of Vancouver Island, Gulf Islands and the Southern mainland. It is confined to an area below 150 metres on the leeward rain shadow side of Vancouver Island. The CDF zone experiences warm dry summers and mild wet winters with an annual average rainfall of 647 to 1263mm (only 5% falls as snow) (Nuszdorfer, F.C., Klinka, K., Demarchi, D.A. 1991). The Black Track travels through all four common site associations of the CDF zones: 1. Douglas fir – Salal, 2. Douglas fir – Shore Pine – Arbutus, 3. Red Cedar – Grand Fir – Foamflower, and 4. Red Cedar - Skunk Cabbage. These four site associations differ and are dependent on the available moisture for vegetation. The CDF zone is also the only biogeoclimatic zone in Canada that supports the rare and endangered Garry oak ecosystem. Only 0.5% of the original old growth CDF still exists on Vancouver Island and is considered at risk or endangered due to human impacts. Regenerated CDF forests continue and can retain the natural diversity of unique plants, but invasive vegetation that also thrive in this accommodating environment are now a serious concern for the fragile and shrinking CDF zone.

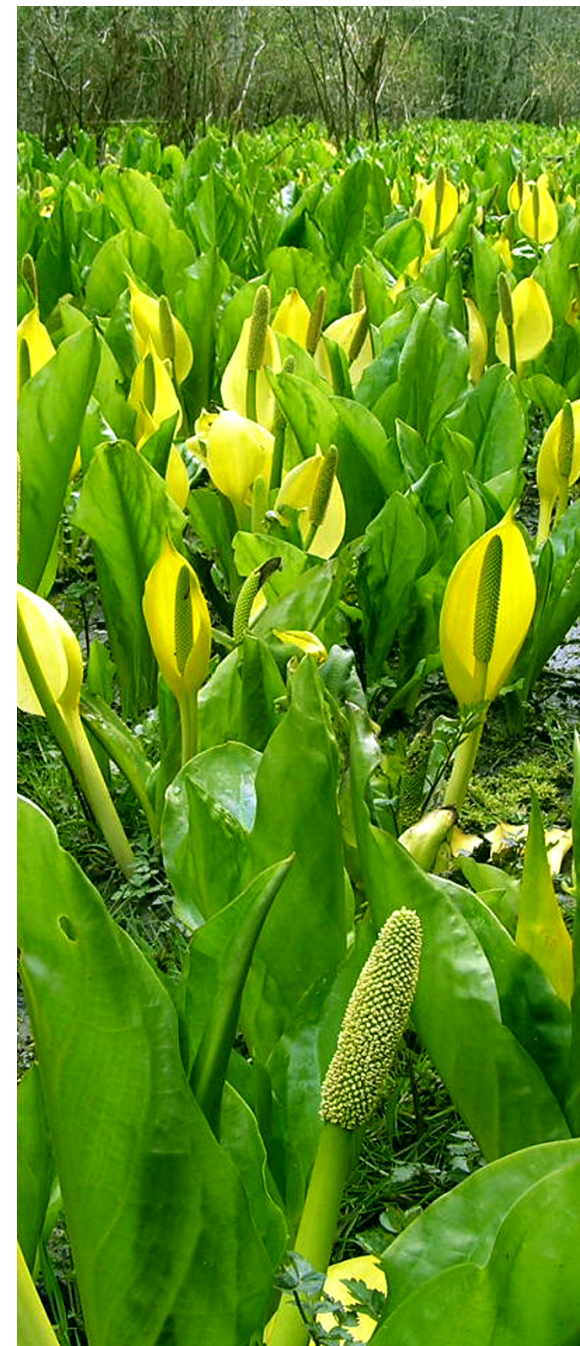


fig.39 Skunk cabbage - *Lysichiton americanus* at Morden Colliery Trail 2011.



fig.40 Douglas Fir - *Pseudotsuga menziesii* South Wellington 2012.

The Douglas fir - Salal sites are associated with drier conditions and usually higher elevations. Douglas fir is the predominant tree species, but grand fir, Pacific dogwood, red alder and Western red cedar may be found. The shrub layer is dominated by the evergreen salal that can grow into extensive thickets covering the forest floor. Other shrubs found in these sites are dull Oregon grape, red and evergreen huckleberry, and baldhip rose (Nuszdorfer, F.C., Klinka, K., Demarchi, D.A. 1991). The area around Extension at the west end of the Cranberry district is predominantly this type of CDF forest.

The forest quickly changes travelling east from Extension with the slight loss of elevation and the presence of small low-lying wet areas. Arbutus, Shore pine, and Garry oak emerge along the rocky ridges and bedrock outcroppings. The arbutus trees stand out in the forest views with their peeling, smooth, and tan bark and contrasting bright evergreen leaves. The crooked lichen covered frames of Garry oaks are eye catching as they appear in bluffs and openings in the usually dense forests. The shrubs within this zone, like the trees, become more diverse and include ocean spray, Indian plum, Nootka rose, black hawthorn, salmonberry, and tall Oregon grape, adding to the range of herbaceous perennials in the understory. Settlement and mining have fractured the forests within this area, but there are beautiful remnant CDF forests along the route.

The wide Nanaimo River flood plain extends for a kilometer on either side of the river; with pockets of side channels and ephemeral wetlands, both Western red cedar – Grand fir – Foamflower and Red cedar – Skunk cabbage sites are experienced. The soils remain moist in these areas for most of the year and the herbaceous flower perennials cover the forest floor in the spring and early summer. The canopies of giant black cotton wood and big leaf maple trees fill the flat river valley and all the shrubs and trees that were experienced in the other drier upland sites are still present, but at a much less density. Sword

ferns grow to 4 feet in height and equally as wide and can cover huge areas blocking out all other understory growth. The small provincial park that holds the ruins of Morden mine extends into this forest type a kilometer from the river. The diversity within these areas is fantastic and the wildlife that is attracted to the river and the surrounding forests makes this site, the most exciting to experience. In the spring the forest in the river bottom is alive with bird calls, animals rustling through the shrubs, buzzing insects, with moisture dripping from the canopy above. It reminds me of the diversity I have experienced in tropical jungles of southern latitudes. The ecological power of the Nanaimo River is obvious through all seasons attracting all the diversity of plants and wildlife as well as human settlement for its ability to provide. The Nanaimo River is the foundational connection to all life in the Cranberry and Cedar districts and is the most defining landscape feature along the Black Track.

The beautiful Nanaimo River starts its journey 70 km inland from the coast and gathers water volume from multiple creeks, streams and lakes as it meanders to the east coast of Vancouver Island. The river drops 1500 metres in elevation from its headwaters to the estuary. The Nanaimo estuary is the fifth largest on the BC coast and the largest on Vancouver Island covering nearly 900 square hectares (Shaw, 2012, p.169-179). The Nanaimo River supports all five of the coastal salmon species of chinook, Coho, chum, pink and sockeye, as well as steel and cut throat trout. These fish species are foundational for the natural food web in the region. During spawning seasons hundreds of birds of prey perch in the trees above the river feasting on the fish. The Nanaimo River and the natural vegetation buffer within its flood plain provide a wilderness corridor that connects the inland forested hills to the coast. Deer, elk, beaver, black bear, cougar and wolf use the corridor to access key seasonal habitat areas.

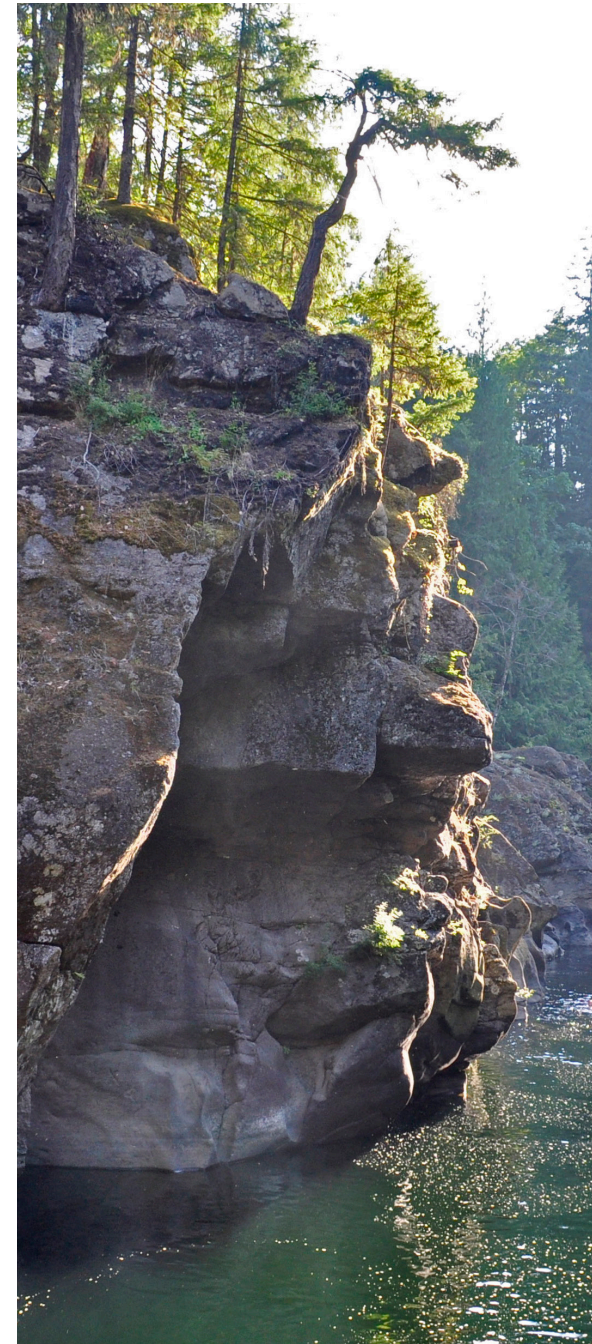
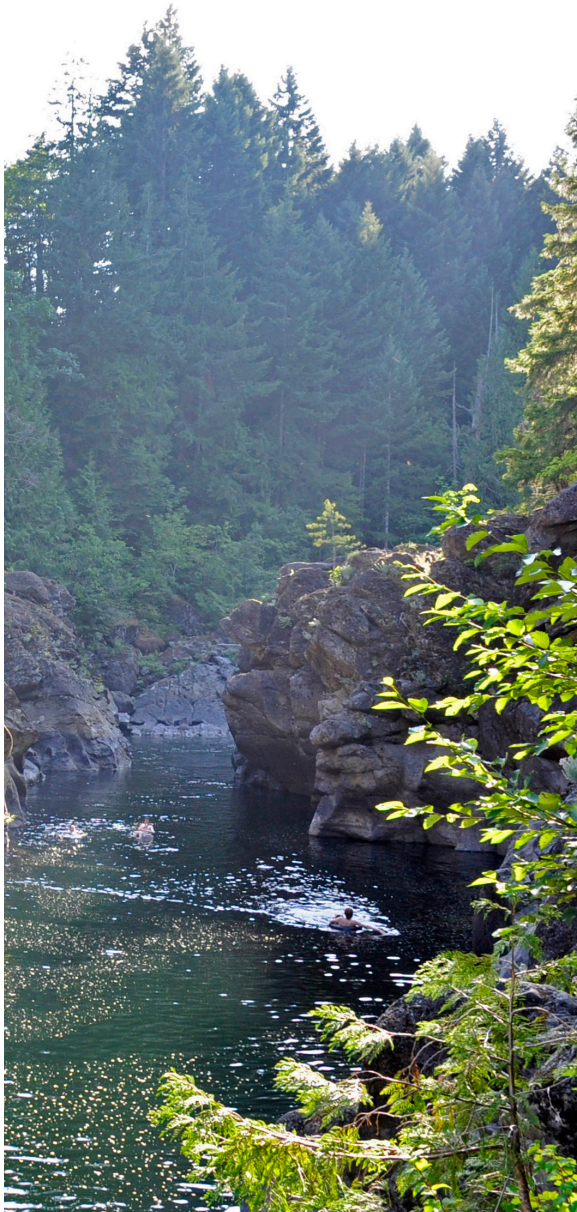


fig.41 Nanaimo river canyon 2012.



The forest returns to the Douglas fir – Shore pine – Arbutus mix travelling east out of the river bottom with variations due to the underlying soil depths and bedrock out-croppings. Along Holden Lake, the Black Track travels through Hemer Provincial Park which contains a beautiful stand of old growth Douglas fir. The park also has four natural wetland features that expand the ecological experience along the route as wetlands are rare within CDF. Once the Black Track leaves the park boundary, it travels through an extensive Garry oak forest along the sandstone bluffs above the coastline. The Garry oaks continue to the shore, growing within metres of the sandstone outcroppings perched above the beaches. The intertidal habitat provides trail users engagement with terrestrial salt tolerant sedges, but also the beautiful tide pools full of sea life. The shoreline is a gateway to the marine environment that defines Vancouver Island. The coast is where the terrestrial connects with the marine and where the fresh water mixes into the salty Salish Sea.

The plant species of the CDF forest shift with moisture, but also with soil and rock types. The Black Track route crosses over undulating, folding and faulting sedimentary geology that amends the glacial parent material of the soil. The sedimentary rocks have eroded over time providing a matrix that combines with the glacial till from two periods of glaciation and organics to create the different types and depths of soils. The sedimentary geology beneath the Black Track is part of a specific collection of rock type called the Nanaimo Group. The Nanaimo Group is a series of rock deposited in shallow marine or estuarine environments basins during the late Cretaceous Period 66 to 100.5 million years ago (Rahmani, 1965, p.4). The basin sediment and organic matter was compressed overtime into different layers of sedimentary rock and the coal seams that characterize the Nanaimo Group. Interest in the Nanaimo Group was initiated by the discovery of coal in the late 1800's and extensive geological survey of the Cedar and Cranberry districts followed. The three coal seams Wellington, Newcastle and

Douglas were discovered at various depths across the districts. The coal seams vary in quality and thickness, but it has been estimated that the coal reserves within the Nanaimo basin deposit is 1.3 billion tonnes (Clapp, 1914, p.14). To date only an estimated 43.5 million tonnes have been mined leaving much of the coal underground (Bickford, 1987, p.449). The Nanaimo Group also provides the sandstone that lines the coastline in the area and through different coastal erosive actions has produced amazing natural sculptural formations. The sandstone was mined for a building material in the late 1800's and early 1900's, but quickly fell out of fashion with the popularity of reinforced concrete.

One of these sandstone formations named the Malaspina Gallery is by far the most notorious. It was noted and sketch by José Cardero in 1792 when the Spanish Galiano-Valdés expedition under order under Alejandro Malaspina visited Gabriola Island east of Nanaimo. This is the first recorded First Nation Snuneymuxw contact with Europeans (Humphrey, 2005, p.3-6). The gallery today is 305 ft (93 m) long; and the depth varies between about 10 ft. (3.2 m) at the floor, and 17 ft. (5.2 m) at the deepest part. It is about 16 ft. (5 m) high (p.3-6). The soft sandstone also provided a medium for local First Nations to communicate through rock art called petroglyphs. Petroglyphs are found throughout coastal BC, but greater occurrences follow the outcropping of sandstone along the intertidal areas. Petroglyphs depicted many coastal animals, people, as well as spiritual beings.

The natural occurring ecologies and native materials provide a massive palette of landscape elements to interpret in developing a connection to the place within the Cedar and Cranberry Districts. The rough bark of the huge Douglas fir, the delicate fawn lilies growing along the edge of the swift and sultry Nanaimo River, the salmon, the ravens, the twisted branches of Garry oak and gritty sandstone connect as a very unique cross section of this beautiful region



fig.42 Malaspina galleries on Gabriola Island 2010.



fig.43 Boat Harbour sandstone 2011.

of eastern Vancouver Island. These elements occur naturally along the route, but the material is interpreted and developed within a design in an altered and useful state. Using natural occurring material within the design connects visitors to the local character and uniqueness of place and the biophysical elements exposed along the Black track provide an excellent cross section of the unique Coast Douglas Fir biogeoclimatic zone and its connection to the local cultures.

Aboriginal Interpretations

When I returned to Vancouver Island from my initial masters work in Winnipeg, I rented a suite on the top floor of a quirky stilted house within the flood zone of the Nanaimo River and unknowingly 60 metres from the Black Track. One night during my first winter, I was woken by a strange sound of chanting and drumming. I stood on my deck and listened to this eerie sound echoing up and along the river. For a moment I thought it was in my mind or maybe it was the babbling turbulence of the river as it was rhythmic and mesmerizing. It sounded like a distant celebration, but it was so incredibly stirring and meaningful. The next day, I ventured into the area where I thought the sound originated and I found myself on reserve lands of the Snuneymuxw First Nation. I discovered a big house where winter dances and ceremony take place. On calm winter nights I often hear this compelling rhythm and it gathers imagery and energy within my mind and body of the past and present culture that has existed in this area for thousands of years. The Black Track traverses through the cultural centre of the Snuneymuxw traditional territory.

The Snuneymuxw people are part of the Island Hul'q'umin'um' language group and the greater Coast Salish division of the Salishan Language Family (Nation, 2013). The city of Nanaimo is named through an English adaptation of Snuneymuxw pronounced Shnah-nay-mo. The Snuneymuxw origin beliefs are that their ancestors were delivered from the sky, emerged from the earth and were super natural beings that engaged in magnificent creative acts and experiences. Oral histories of creation are directly connected to the mountains, forests and beaches around the Nanaimo Area. These early humans from a time beyond earliest dating of ten thousand years or more are still fixed to the land through direct descendants and the oral histories of place. The Snuneymuxw traditional territory extends 1000 square kilometres centred from the mouth



fig.44 Salmon petroglyph at Jack Point 2013.



of the Nanaimo River. Today the Snuneymuxw people live on 4 of 6 reserves totaling 266 hectares of land in Nanaimo and on Gabriola Island. Ethnographic research over the past two hundred years has gathered partial components of Snuneymuxw culture; interpreting an ancient culture, suppressed since European settlement has resulted in a mosaic of understanding. Published documents with detailed specifics seem to all reference the brief Nanaimo ethnographic over view of Franz Boas in 1895 and though it is the oldest record, it accounts for a time where the culture was least influenced by the outside world (Boaz, 1895.).

The Snuneymuxw culture has obviously been influenced and forever altered since the first European ships weighed anchor off Gabriola Island 250 years ago, but the land and its key physical features in which their culture is foundationally connected, remains. The landscape surrounding Nanaimo is integral to the culture and the culture to it. The Snuneymuxw people originally comprised of five named groups all having summer village or family sites on the lower Nanaimo River and all families wintered in Departure Bay (Bouchard, 1992, p.5). Wintering in Departure Bay provided easiest access to the food sources provided in the ocean during the cold winter months. In March, the herring arrive marking the seasonal change and providing an abundant fishery the Snuneymuxw people have annually depended upon. Traditionally they used herring rakes which were wooden poles with a flat blade and spikes and would swing it through the water impaling herring. Traditionally in April, they would venture further along the coast and to adjacent Gabriola Island to dig clams, jig for cod, fish for salmon and other species as well as hunt seals (Bouchard, 1992, pp.8-10).

During the spring they also harvested camas (*Camassia quamash*) bulbs, a vital starchy food source found in the coastal meadows. Each family had their own their own camas bed in which they managed (Bouchard, 1992, pp.8-10).

The summer months provided good weather and a bounty of blooming plants and berries for gathering. In August the Snuneymuxw would cross the Strait of Georgia to the Fraser River to their own seasonal villages or camps for the salmon runs. Schyl-Tahl is the Hul'q'umin'um term associated with this migration to the mainland. Schyl-Tahl translates to 'Moon when the salmon are ready' and the time when all went to the Fraser River (Bouchard, 1992, p.10). In the fall the Snuneymuxw would return to the Nanaimo River for the chum salmon harvest and would remain at their village sites until December and the eternal life cycle would start again. An ancient ceremony, which still continues today, coincides with the run of the chum salmon. The ceremony involves a specific person within the community painting and feathering a male and female salmon with accompanied traditional drumming and singing. Once the ceremony is conducted the Snuneymuxw are permitted to smoke-dry the salmon (Bouchard, 1992). Tools were very important for harvesting the sea life and for each type of activity, the tools were designed specifically to increase yield. The traditional tools were made from various types of wood, shell, horn, skin, roots and bark. Tools included fish weirs, basketry traps, 2 pronged harpoons, 2 and 3 pronged fishing spears, salmon gaffs, halibut hooks, cod jigs, clamming sticks, fish clubs, herring rakes and dip nets (Stewart, 1994). These devices remain in use today with traditional practices being promoted to strengthen the culture and connection to the landscape.

The Snuneymuxw have a profound connection to the land and their places which have evolved since time immemorial. These places range in scale from small sacred bathing sites to regional mountain ranges. In Dr. Brian Thom's (2005) thesis, *Coast Salish Senses of Place: Dwelling, Meaning, Power, Property and Territory in the Coast Salish World*, he explores this powerful connection and sense of place that is so integral to the Coast Salish people.



fig.45 Snuneymuxw cemetery on Nanaimo harbour reserve 2013.



"In Coast Salish peoples' experiences of dwelling, place is the centre of relationships with mythic stories, spirit power, ancestors and other beings. These senses of place run through the expressions of property and territory that underlie traditional Coast Salish economies and inter-community relations."

(Thom, 2005 p.1)

The cultural identity of the Snuneymuxw is based within the landscape and the extent of their territory is connected to the knowledge of it through lived experience. The Coast Salish have a unique interchange between the spirits and non-human entities of the landscape that can provide them with spirit powers which in turn bestow enhanced abilities and elevated real life experiences. This interchange can occur at special known places or almost anywhere in daily life. It can also occur within dreams and imagination, which can transcend into real life. Stories of transformation of animal to human to rock, tree or water are all common within the Coast Salish oral histories. This connection of real world and dreams to the spirit world and non-human entities is a dimension of the landscape that constitutes Coast Salish culture. Like the concepts of *Genius loci* - consistent with other occurrences / held secret by those, the spirit of experience is outside as well as inside and individual perception and readiness to accept spirit power phenomena determines the interchange or connectedness to place.

Large stones and inscribed rocks known as petroglyphs are spirit power connections scattered throughout the Coast Salish territories. Stories, people and spirits are connected to the petroglyphs. The images on the petroglyphs range from mythical creatures and humans to fish and deer. The petroglyphs are often hidden within the landscape and held secret to those who are attached to them. The stones hold power and there are stories that once a stone has

been moved adverse actions can occur (Thom, 2005 p.190-193). The stones and images are sacred, but due to the rapid erosion of sandstone many of the petroglyphs have almost vanished. Replication of the images has been contentious with the Snuneymuxw disapproving of most replication especially for economic prosperity. Making casts for educational purposes to protect the original art and the spirit powers associated with the rocks and sacred places has been accepted. Respect for the images, even if they are casts or rubbings of casts, has been requested by the Snuneymuxw elders and that undistracted engagement occur while viewing the images (Adams, 2001, pp.1-3). Petroglyph locations like other Snuneymuxw places have names associated with them. Names for the Coast Salish are not only descriptive they have compiled multigenerational evolved stories attached to them. These stories extend to the people that find themselves attached to these places with Snuneymuxw people being named after sacred places. The history of the petroglyphs and who may have made them has been lost over time. There is a story about a man who lived at a location where a grouping of these petroglyphs exists. This man would return from his fishing trips and carve pictures of his catch into the sandstone. His canoe and himself were turned to stone and are still present in the nearby landscape. There are many petroglyph sites around the Pacific Northwest, but the concentration of them around Nanaimo and on Gabriola Island are distinctly associated with the Snuneymuxw. Gabriola Island has also been labelled Petroglyph Island with 120 known petroglyphs with hundreds more known around the Nanaimo area (Adams, 2001, pp20). The prolific occurrence of rock art could be because of shared art form within a community, the availability of soft sandstone or the focused spirit power in the region. The age of most of the petroglyph art has been associated with the Marpole Culture sequence of the Coast Salish 2400 – 1000 BP (Roy, 2007). The Marpole culture is by far not the oldest dated sequence and evidence of culture on the coast, as there are different sites has material dating to almost 10,000 BP (Curtin, 1984.).

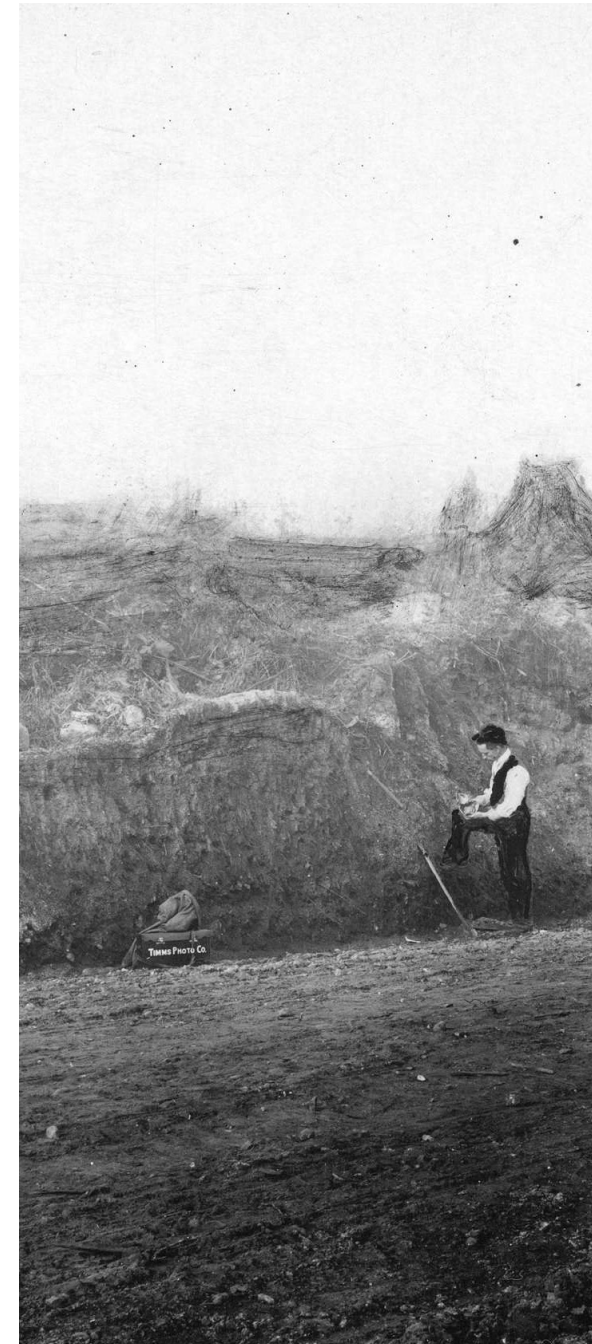


fig.46 1908 A man examines bones that were exposed when the Marpole Midden was plowed - City of Vancouver Archives AM54-S4-: Str P388



fig.47 Mound of oyster shells in Ladysmith harbour 2013.

The Marpole Culture is a sequence of cultural time that has been dated and has distinct connections to different First Nations communities along the coast. The Marpole Culture is named after the most famous midden site in southern British Columbia discovered within the delta area of the Fraser River 1884. The site originally known as the Great Fraser Midden and now known as the Marpole midden was originally reported as covering an area of 4 acres and at depths of 5 to 15 feet (Roy, 2007, p.2). Midden is a deposit of cultural material from prolonged sustained and permanent dwelling. The midden along the coast is filled with layers upon layers of bivalve, fish and organic debris as well as human remains, tools, and other cultural artifacts. Middens are the most important insight into the past culture on the coast of British Columbia. The Marpole midden has provided an amazing amount of information about the First Nation's cultural history and provided a reference to other sites and artifacts uncovered and discovered around BC (Roy, 2007.). Middens not only mark the place of First Nations culture, they tell a story through time. The cultural sensitivity of the excavation of middens is obvious and most have been left untouched though identified. The Marpole midden site however was excavated with artifacts being removed and shipped around the world at a time where sensitivity to the Coast Salish culture was not considered. Marpole culture was a term given to the cultural context of common artifacts during a specific sequence of cultural progression. The Marpole culture has been connected to the Nanaimo and Gabriola Island petroglyphs through similarities of artistic style or form (Adams, 2001,p.35). The Marpole midden location at the mouth of the Fraser River was a seasonal home for the Snuneymuxw people and the exchange of ideas, language skills, and stories obviously occurred as the assemblages found at the Marpole midden and assemblages on Vancouver Island have been described as indiscernible (Adams, 2001,p.35).

Midden has been documented at most beaches in the Nanaimo Area. Boat Harbour is also a site of multiple middens that reflect the importance of this harbour and section of the coast to the Snuneymuxw. A midden has also been recorded along the black track at the south end of Holden Lake. It would have been a natural corridor to travel from Boat Harbour up the creek to Holden Lake which connects through creeks and wetlands north to the Nanaimo River Estuary. Boat Harbour faces the southern end of Gabriola Island where large concentrations of petroglyph and midden sites are situated. Middens are culturally sensitive and mostly remain hidden below accumulated organics and vegetation. Traditional tools, midden and petroglyphs mark the landscape of a time past. They are important for understanding the historical culture of First Nations on the coast as they connect the present with the past through the landscape and connect to a culture that has a cohesive relationship with the landscape. The Snuneymuxw culture is still vibrant within the region, but the landscape that is integral to their culture has altered and evolved through settlement, industrialization and private land ownership.

Nothing changed the landscape more than the discovery of coal in 1850 during a period where world exploration was driven by exploitation of minerals, timber, food commodities and a transition from wind powered to coal driven ships was increasing the speed in which the goods made it to market. Between 1850 and 1930 the landscape of Nanaimo that was for thousands of years a managed wilderness and home to the Snuneymuxw changed with rapid industrialization, population boom and greed. The landscape was no longer viewed in the First Nations perspective with long term integration of culture, but as a commodity that resulted in wealth.



fig.48 Ki-et-sa-kun (Coal Tyee) monument in Nanaimo 2013



fig.49 Coal Tyee and his Tillicums - BC Archives D-07259

Coal Mining Interpretations

The story of the discovery of coal at Nanaimo involves the First Nations people informing the European explorers about the black rock in the region. As stated on the plaque and memorial in figure 48. Two Snuneymuxw men Ki-et-sa-kun (Coal Tyee) and Hay-Wa-Kum, took a blanket full of coal by canoe to Victoria from Nanaimo to show Sir James Douglas. Once coal was confirmed in Nanaimo, mining operations overwhelmed the landscape. Coal along with gold was causing rushes of immigrants to wilderness locations all over the west coast of North America. In 1851 Sir James Douglas was the governor of Vancouver Island and become the governor of British Columbia in 1858 (Norcross, 1979, pp.1-13). Douglas controlled the expansion of settlements as well as the exploration and exploitation of the provinces natural wealth as part of the Hudson Bay Company. Exploration and survey teams scoured BC making notes on the landscape and were always in quantification terms for agricultural, forestry, and mining industry. Most survey notes made comments of the First Nations, but it was far from ethnographic research (Clapp, 1914, p.6). In 1864 Robert Brown, a botanist from Scotland, wrote a journal of a four month expedition of the southern portion of Vancouver Island. His journal notes, though focused on the physical landscape and resources, also included some early records of the First Nation culture in the region (Hayman, 1989).

The early production of coal was conducted by the Hudson's Bay Company running operations in Nanaimo Harbour where the coal was mined and transported with the greatest ease. First Nations labour was used to develop these early mines from digging to loading waiting ships by canoe. The city of Nanaimo developed around these early mines and the current city centre, South Wellington and Extension are built above abandoned mines shafts. The Snuneymuxw signed a land agreement shortly after the European settlement

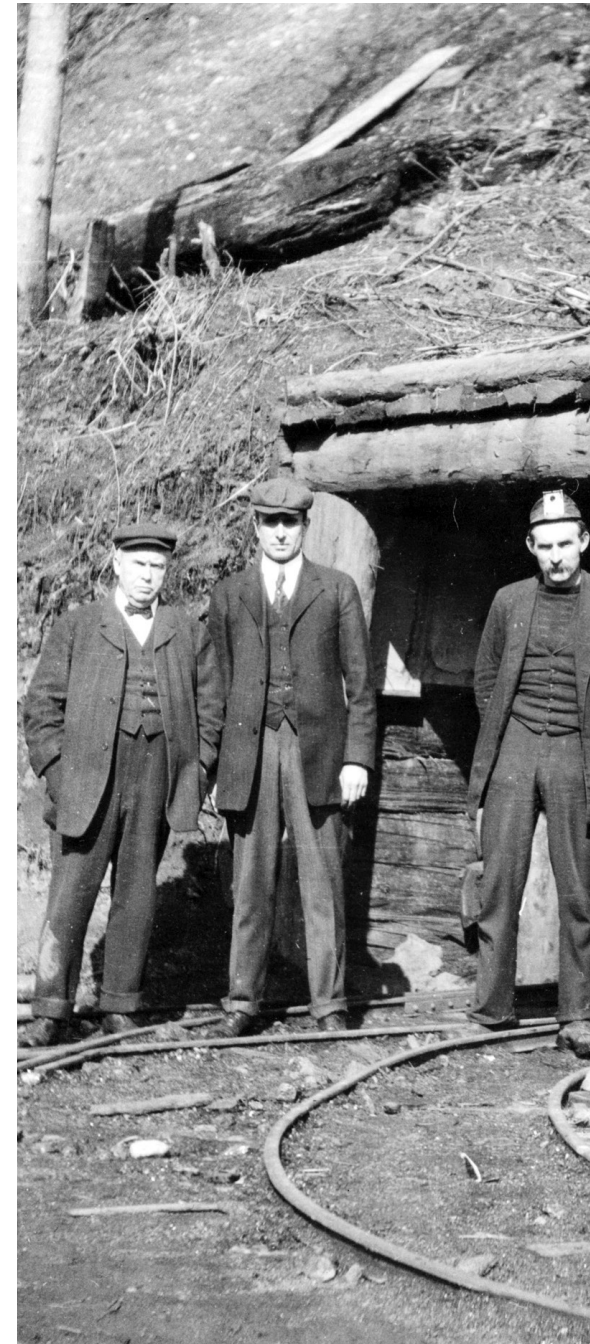
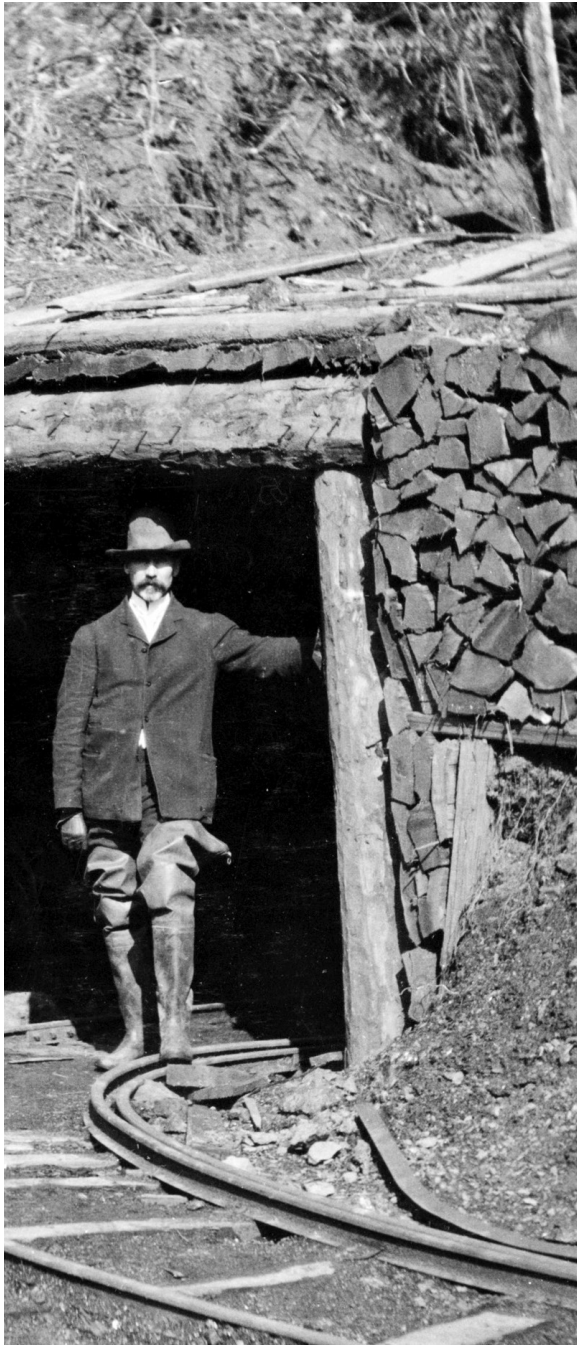


fig.50 South Wellington Coal Mine Ltd. BC Archives A-04413



providing lands 12 miles south of the harbour as well as to the north in exchange for goods and money(Norcross 1979. p. 14). This agreement secured the land for mining which was just starting to emerge as a stable commodity at this site. The coal seams were outcrops near the shoreline, but quickly dipped into the hillside behind the harbour leading to underground mining. Hudson's Bay Company controlled by the mining and exploration on the west coast and set up the operation under the name of the Nanaimo Coal Company (Matheson, 1950, p. 9-14).

Hudson's Bay sold their mining company in Nanaimo in 1862 to the Vancouver Coal Mining and Land Company where a young Robert Dunsmuir was working. Robert Dunsmuir soon went out on his own prospecting for coal in the Nanaimo Area. He discovered a new seam of coal with excellent quality and quickly set up his own company. Robert Dunsmuir became the most famous coal mine and land owner on Vancouver Island (Hinde, 2003). He started as a mining migrant from Scotland and progressed in the BC frontier to one of the wealthiest men on Vancouver Island. He developed mines and mining operations in the Departure Bay and Wellington Areas as well as South Wellington and Extension. He not only controlled the mining industry in Nanaimo he developed the town of Ladysmith south of Nanaimo to support his mining operations in the Cranberry and Cedar Districts. The coal found in the Nanaimo area was high volatile bituminous coal and was used for steam and a gas as well as for domestic applications (Leynard, 1982, p.4-8).

The mines were extremely dangerous places with coal dust and gas always presenting hazards. Ventilation was vital for fresh oxygen and removing the unwanted airborne hazards. Coal miners risked underground conditions as well as the dangers of dealing with an extremely volatile substance without any protective equipment. There were upwards of 50 different mines scattered across



fig.51 Part of a days output from Extension mines taken from tipple, Canadian Collieries - BC Archives E-01616



fig.52 Tipple at Morden mines near the Nanaimo River - BC Archives F-04252

the region resulting in land clearing for timber and an underground labyrinth of tunnels and shafts. Tragedies and death were common due to explosions, shaft collapses and floods constantly impacting the small communities of immigrant settlers. When large explosions occurred, the mining communities were greatly affected leaving widows and orphans to fend for themselves in the rough mining frontier. Tragedies escalated the conflict with miners emotions of loss being compounded by the drawn out rescue missions. After the 1887 massive explosion that killed 150 miners at the #1 Esplanade mine, bodies were being recovered for three months and 7 were never found (Hinde, 2003, pp.91-122). Communities had to continue mining through these losses and for some families the wait for news of recovery was long. Explosions occurred at every mine as smoking was permitted in the mine and the mines were lit by open flame candles. Out of the 13 major accidents killing 5 or more people during mining operations in Nanaimo, 10 were fires or explosions. The explosion in Extension in 1909 killed 32 men out of the 34 that went to work that day. The cause for the explosion was due to the gases being ignited in the shafts. In total 105 miners lost their lives at the Extension Mines alone. The effects of mining are evident in the cemeteries in Nanaimo and Ladysmith (Hinde, 2003.).

Robert Dunsmuir became a very influential man in politics and business in British Columbia. His social stature opened the door for the largest land transaction on Vancouver Island in the 1870's. A railroad was desired and the Province of BC offered \$750,000 plus 2 million acres of land on Vancouver Island to the company who would fulfill building a rail line from Esquimalt Harbour in Victoria to Nanaimo. Robert Dunsmuir took on the task and received a massive piece of southern Vancouver Island as private land as well as the money (Bowen, 1987, p.246). The creation of the Dunsmuir lands was by far the largest influence on the landscape on Vancouver Island. The grant was also to include "the foreshore rights in respect of all such lands ... and which border on the sea, together with the privilege of mining under the foreshore and sea opposite any such land"



fig.53 Concrete ruin at Morden mine site 2012.



(Morales, 2007, p 9). The one thing the grant did not include nor consider was the traditional territories of the island's First Nations. The traditional lands were now owned by a company and the connection the First Nations had to the land was to be severely altered by private ownership. The Esquimalt to Nanaimo Railway (E&N) deal was struck in 1883 and the last spike on the railway was driven by John A. MacDonald in 1886.

The mining industry shifted around the region following the discovery of outcroppings and coal seams. Railways including the E&N transported coal to waiting ships in various locations around the area. Dunsmuir coal was loaded in Departure Bay and then Ladysmith. Dunsmuir mined at Extension with his main company camp in Ladysmith. The town of Extension was developed by miners who did not want to travel back and forth to Ladysmith. The settlement pattern remains today as an ad hoc camp style radiating incidentally around the main mine area. Similarly, the village of South Wellington developed out of proximity to the mines and railway. The settlement layout in South Wellington is very disjointed with old rail corridors and strange lot shapes on either side of the still existing E&N railway (Hinde, 2003.).

Robert Dunsmuir (Canadian Collieries) as well as the Pacific Coast Coal Mines (PCCM) developed the main mines in South Wellington. Dunsmuir developed the Alexandra mine, No. 5 mine, and No. 10 mine and PCCM developed the Morden, Fiddick and Richardson mines. The Alexandra mine opened in 1885 and was closed 1902 whereas the two PCCM mines opened in 1908 and continued until 1917. The No. 5 and No. 10 mines were started in 1917 and closed when work started at the No.10 mine in 1937. The No. 10 mine closed in January 1952 after 13 years in operation hauling over two and a half million tonnes of coal at depths of 1000 feet below the mine entrance (Tilley, 2010, p.27). Mining during this period did become safer with better ventilation and safety standard but injury and death were still part of the mining life.

Pacific Coast Coal Mines was not permitted to utilize Dunsmuir rail lines for transporting their coal to the coast to be loaded on ships so they had to construct their own rail system. PCCM developed the route from South Wellington through Morden across the Nanaimo River and down to Boat Harbour. This route is now known as the Black Track as the rail bed of black coals slag is still very evident. This route runs perpendicular to the E&N line and a tunnel had to be constructed to go under Dunsmuir's railway to not interfere with his operations. This tunnel has since been filled in but the depression still exists intersecting the E&N in obscurity in South Wellington. The PCCM Morden mine 1 km east of South Wellington was developed in 1912. The coal seam was found at 600 ft below the ground making this a deep mine with ground water issues. This mine had labour, flooding, gas and collapse issues and was closed multiple times. The mine was developed with a Morden townsite concept with organized 1 acre lots and a proposed business street. The lots at Morden did sell, but the difficulties of the mine caused the proposed amenities of a town site to not develop. The 1 acre town settlement pattern still exists today still centred around the ruins of the Morden Mine. In 1930 the Morden mine was closed for the last time and was slowly dismantled and sold off. The Morden mine site is now a small Provincial Park where the reinforced concrete head frame and tippie still stand. The head frame and tippie along with a few other concrete relics are scattered through the overgrown site. The ruins are in poor shape, but grasp onto the past. Many groups are working diligently to preserve what is left but as with many heritage projects, massive costs inhibit any meaningful progress (Tilley, 2010).

The mining sites that are scattered around South Wellington and Extension were connected by the people and the coal. The subterranean life created the cultural life on the surface. The Black Track although officially only ran from South Wellington to Boat Harbour is extended through stories, people, trails railways, mines and coal to Extension. The piles of coal slag do not exist anywhere around



fig.54 1904 Extension Miners - BC Archives E-02581



Nanaimo as they do along this route; there are massive mounds in Extension and South Wellington and slag overwhelms the beaches at Boat Harbour. The coal slag mounds mark the landscape and signal towards an obscured, overgrown, and hidden past. Digging through coal slag piles reveal artifacts of metal rail tracks, rough cut timber, glass bottles and pieces of leather. The area has evolved beyond the mining days 60 years ago to a point where it is very difficult to see the history in the landscape. Through curious exploration the region has marks, signal, relics, patterns, debris and people with historical content of an industrial time that influenced and truly dictated the settlement pattern in the Nanaimo area. The coal mining life was extremely difficult on the frontier of British Columbia. It shaped the social aspect of community and place and developed a unique culture in Nanaimo. Today the vernacular landscape reveals the connection to the mining past through names on streets, tombstones, and businesses. The relics at mine sites are mostly removed and that which remains is either hidden or in a state of unrecognizable decay. The mine and ventilation shafts have mostly been closed, but there are openings scattered in the wilderness around Nanaimo. Curious heritage hunters seek out these sites to get closer to the past. Just standing near an old mine entrance evokes fighting subterranean feelings as well as an anonymous connection to the people that once worked and lived in these locations. Much of the transportation and utilities infrastructure in this regional of Vancouver Island was developed to support the coal mining industry.

Connections are relationships between things and connectedness is the quality of those relationships. The three key cultural subjects defined within the connectedness chapter have connections to each other within a defined landscape. These integral landscape elements connected with me through experience in a unique and specific way. I interpreted their relationships with each other and with me which guided me towards development of a typology for design. The typology included locations, materiality, form, space as well as theory.

As my knowledge and comprehension of place evolved through my experience, research, and interpretations, my design and the elements I wished to incorporate into the design emerged. I utilized the graphic technique of collage to create an eidetic image to communicate my connectedness to the site and to create continuity into the design phase of my work. According to Corner (1999, p. 153), an “eidetic is a mental conception that may be picturable, but may equally be acoustic, tactile, cognitive and intuitive images contain a broad range of ideas that lie at the core of human creativity”. This eidetic image was created before the final design revealed in the Continuity section of this practicum.



fig.55 Climbing to the top of the slag mound in Extension 2013.

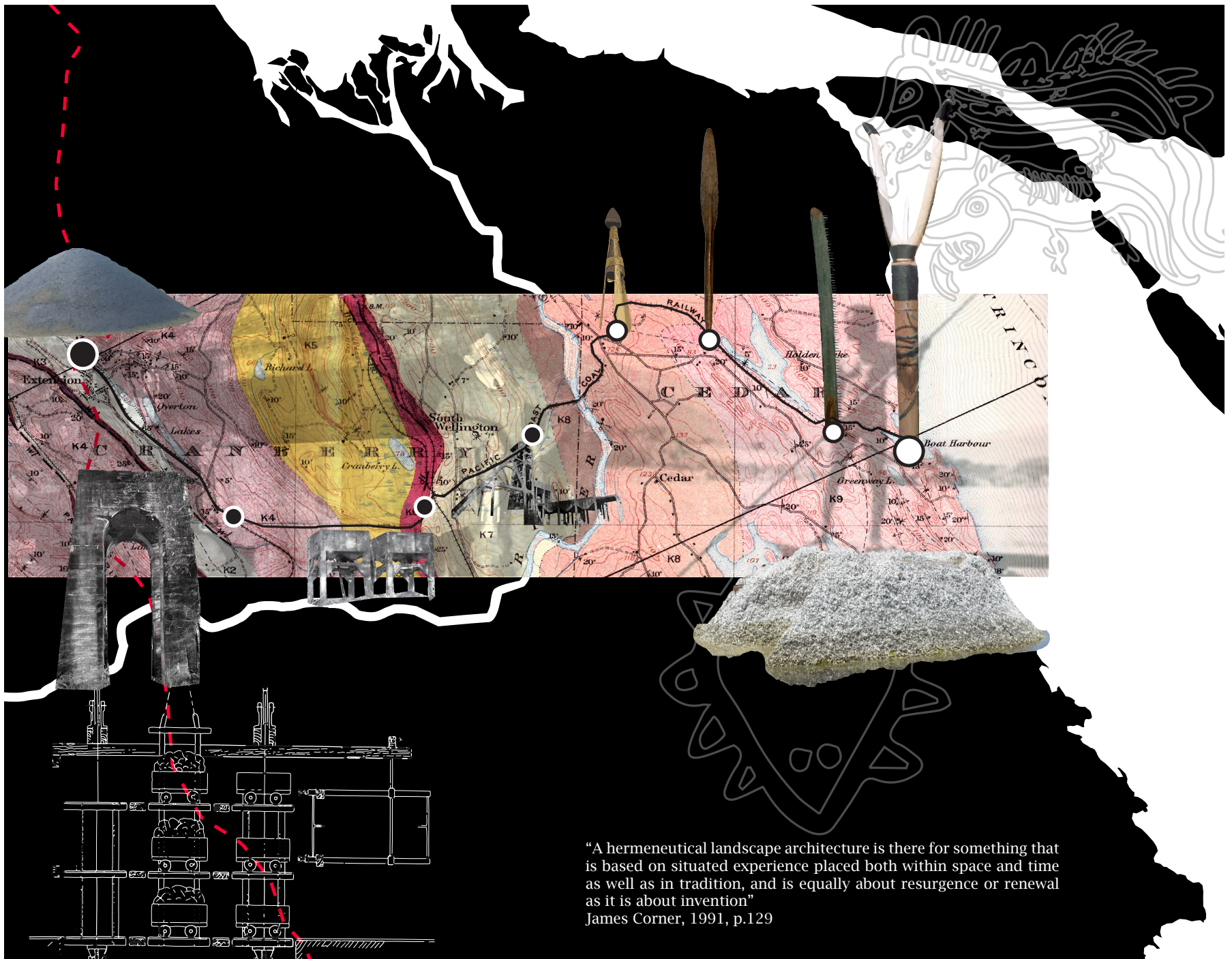
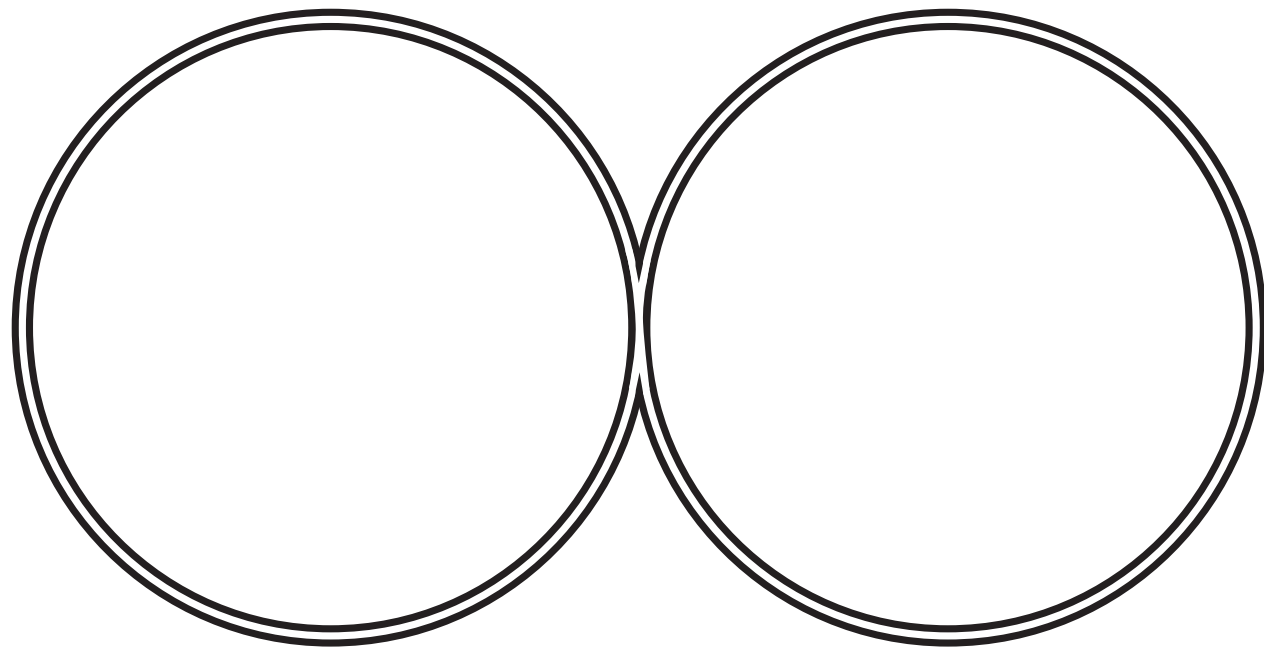


fig.56 Eidetic mapping of site interpretations



CONTINUITY



fig.57 Coal to water 2 - extended impressions - perception project

con·ti·nu·i·ty noun

1. uninterrupted connection, succession, or union
2. uninterrupted duration or continuation especially without essential change
(Continuity, 2013.)

Thoughts on Continuity

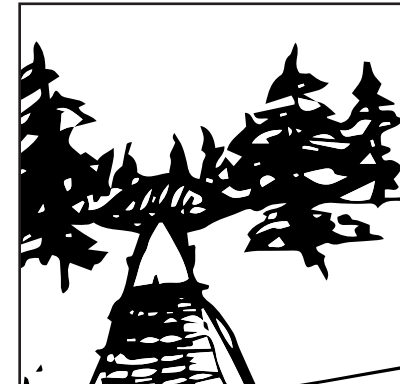
Without searching on the internet or venturing to a library, the word continuity generates thoughts and feelings of movement. The word continuity obviously has its roots in the word continue with its opposite discontinue, which would be an interruption in a movement. What has continuity? From my perspective everything I can see, hear, smell, touch and taste has some sort of continued evolution. Even something discontinued has continuity. Dreams and imagination are the only things that might not have continuity, but have the ability too through physical construction. In relation to the space time continuum, everything around us is part of a movement forward in time and part of a process that creates change.

The universe is expanding, growing, and changing as is everything in our daily landscapes. Look at anything around you and think about that object's future. My lunch is digested, becomes human waste, goes into sewage treatment, is released into the ocean and is consumed by sea life and so on and so on. Even inert or unreactive objects can be utilized and enter a state of continuity. The most inert objects on earth are the gases neon and helium and though they do not naturally react with other elements, humans do use these gases and create continuity in them. The concept of an ever expanding and changing universe is actually something I can grasp; it is the beginning of the whole thing that I find perplexing. How does something become something from nothing? There was

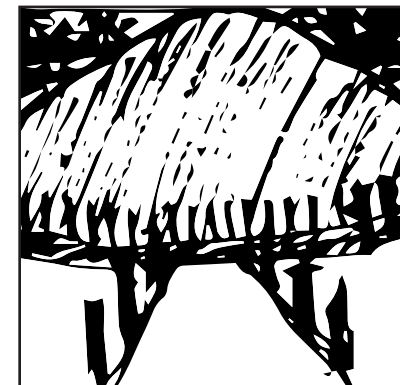
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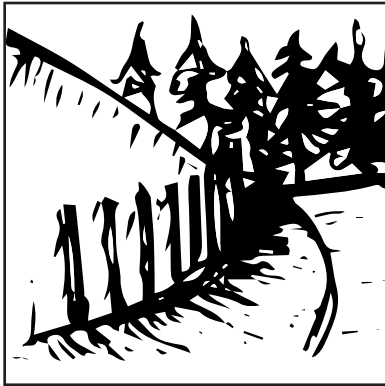


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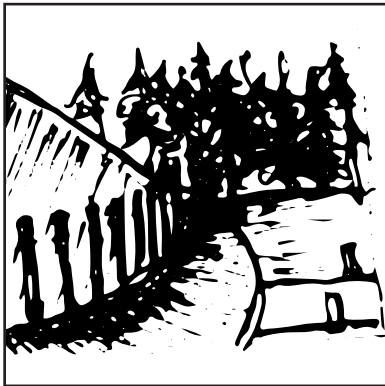




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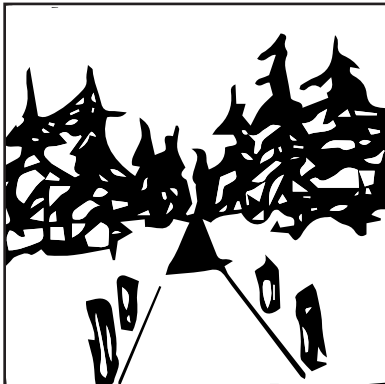
never anything nowhere? The big bang theory even starts with something, but where did that come from? A theory is that our universe broke off another universe like stone being fractured off bedrock. The beginning was not a beginning it was a shift in continuity.

When I do look up continuity I find definitions that again reflect a state of movement or prolonged state of some action for eternity. Our lives and our surroundings have continuity and have the ability to influence that movement. We change our projection and paths constantly as well as the objects around us.

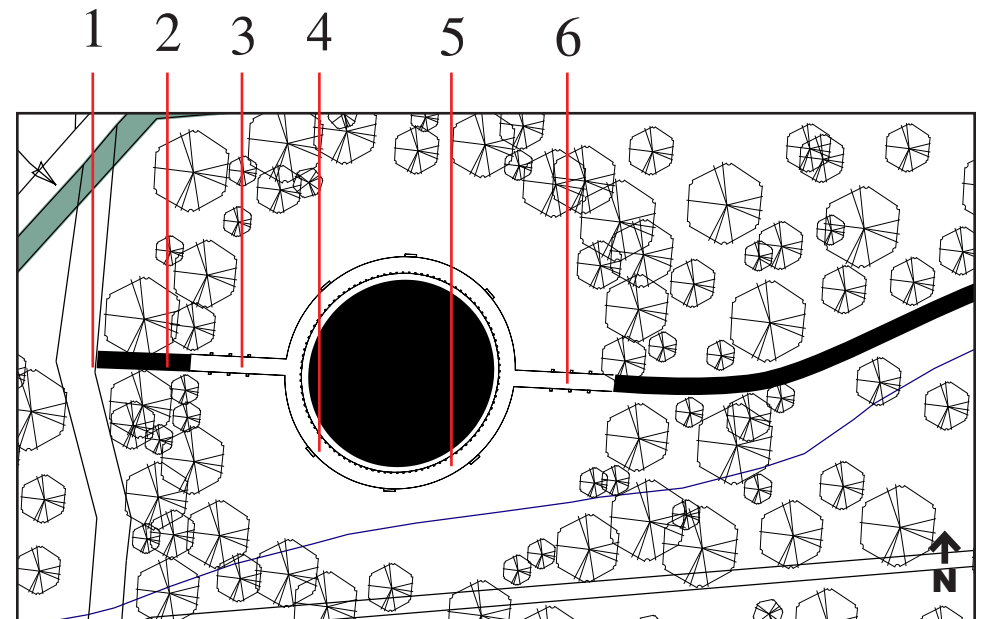


5

fig. 58-64 I created the series of six thumbnail sketches to communicate continuity as movement through space, but also as continuity of personal design process.



6



We construct and destroy, collect and recycle, gather and release on large and small scales, but everything continues. Gaps in continuity are studied in a historic and archaeological context which connects the past to the present. Uncovered ancient objects that humans can experience and study are fascinating as they provide a sense of wonder, as the time that has passed since these objects were in an active state of continuity is beyond the human memory. Artifacts anchor time in the past and present. Though their state of continuity has changed it has never ceased.

Similar to the titles of the previous chapters, Continuity evokes movement. I suggest that landscape architects manipulate continuity of space, objects and place through design. Design shifts continuity. Continuity is also about the actual process of design in that it is a cyclical evolution of thoughts and actions that do not stop. Designers' thoughts, imagination and dreams that are fluid and fleeting can transcend to a continuous state through creation. We share our minds in our designs and the designs provide continued experiences. Continuity is an extension of the theory I propose in the first section of the design process moving from qualitative to quantitative back to qualitative in a pragmatic cycle.

The Black Track design takes objects and landscapes that have an inactive state of continuity and shifts their states to engage with trail users. It utilizes discarded cultural materials to anchor time and interprets cultural essences into a new projection of continuity. It is a trail design that connects to other trails. It is a path with options and different experiences. The experiences along the Black Track are carried away from the site to continue elsewhere in thought. The Black Track design aims to reveal cultural and ecological history connecting the past to the present and to create an elevated cultural knowledge of place through personal experience continuing into the future.



fig.65 *Cornus nuttallii* on Origin Island



fig.66 Culturally modified tree at Holden Lake



fig.67 Steel mining relic in concrete at Morden mine



fig.68 Site discovery mapping collage

Through personal interpretive experience of aboriginal and mining culture as well as the biophysical environment that surrounds the Black Track, I developed a specific typology for my design. I followed the coal slag mounds through the coastal Douglas fir forests to discover the mining histories, operations, and communities in the region. When I identified the aboriginal midden, prolific in and associated with this area, I connected the similarity of mounded cultural debris to the piles of coal slag. I imagined both materials mounded for display and connecting to specific cultural activities that share the same landscape. I found it interesting the spatial position of these mounds, as the coal slag that originated underground projects skyward above ground and the midden that originated above ground now lays mostly hidden below years of organic deposition. You would think the buried mound is a dark colour from being underground for so long and the exposed mound be a lighter tone due to exposure to the sun, but it is the complete opposite. The materiality and opposing colours was a fascinating juxtaposition that I want to expose throughout the design. These two materials are my foundational components in developing a typology and I explored connections to the materials to support and broaden the design.

My goal for including actual Cartesian geometric forms of point, line, plane, axis and origin into my design directed my thoughts towards the essences of movement in regards to the midden and coal slag. The vertical and horizontal mine shafts intersecting beneath the ground was a spatial connection that I interpreted for design. The midden guided me towards the processes that created this organic material. Fish and the act of fishing included movement in all directions and below grade within the water column. I explored elements of cultural fishing techniques and discovered a wonderful spectrum of specifically constructed traditional tools hand crafted with local native materials. The tools had a common elongated shape that I use to accentuate and connect to the verticality of the locations as well as cultural activities.



fig.69 Coastal Garry oak meadow at Boat Harbour



I looked at other material connection between cultures and again found common uses of sandstone and Douglas fir. I examined the physical Cartesian forms of axis and origin for incorporation into the design using these materials. Douglas fir is used in horizontal as well as vertical forms throughout the design as posts, beams and benches cut square with hefty block dimensions. The sandstone is cut along linear intersecting planes to again create strong planar blocks. Further connections to the cultures and landscape developed from this evolution of personal interpretation, guiding me in the design for the Black Track. Materials and form transcended to metaphorically represent culture as well as the lived and geometric spaces necessary for hermeneutic phenomenological approach included in my definition of Topology.

"...categories of time, space, motion, self and nature have to be studied from the relevant cultural perspective, taking into account the intertextuality at work in the reappropriation of other cultures within any historical one"

Michel Conan (2003, p.31)

Design Overview

The Black Track Design revitalizes a heritage railway corridor on Vancouver Island as an active transportation route that immerses visitors in the different historical, cultural, physical and ecological layers of the past, present and future of the Cranberry/Cedar Districts. The design utilizes the term syzygy defined as the nearly straight-line configuration of three celestial bodies in a gravitational system (Syzygy, 2013). The term syzygy supports the connection of the three subjects that are weaved together along the path, the three dimensional geometric space as well as the three stages of the design process I associate with topology as a methodology. There are a total of 6 syzygy points, 3 on each side of the river, two end points at Extension and Boat Harbour and a central origin point on the island in the river. Mounds of coal slag and artificial shell midden are used to anchor each point within the landscape.

The beginning of the trail is actually in the physical middle or the origin of the trail discovery on the island in the river. 'The Origin' reflects the intersection of the natural untouched wilderness that exists on this beautiful river island with the aboriginal and mining cultures represented metaphorically by the Nanaimo River and the Black Track respectively.

The circular designs at the end points at Extension and Boat Harbour, mid-point on the island at Nanaimo River and the six syzygy points converge and connect the past coal mining industries and the integral Coast Salish people of this region to the natural and unique landscape. The concentric circular designs reflect the relationships the two cultures have with the shared central origin - landscape. The path connects all of the points to create compounding understanding of place. The path links people to place through experience.



fig.70 Nanaimo River 2013.

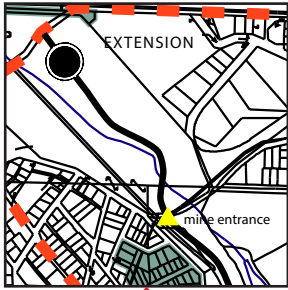


fig.71 Nanaimo welcoming figure 2012.

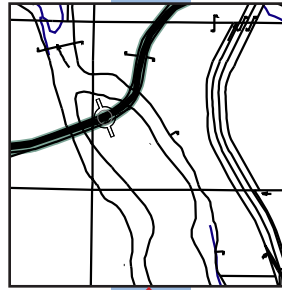


fig.72 Granby mine relics 2011.

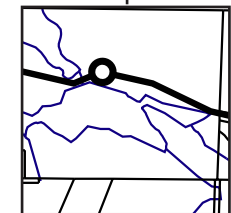
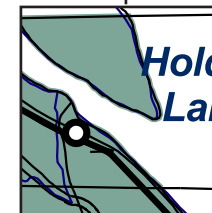
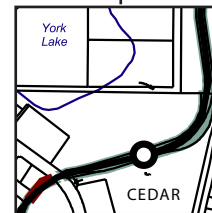
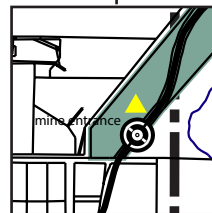
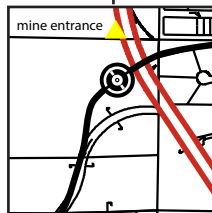
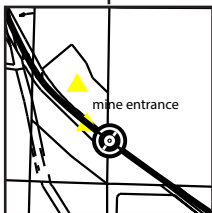
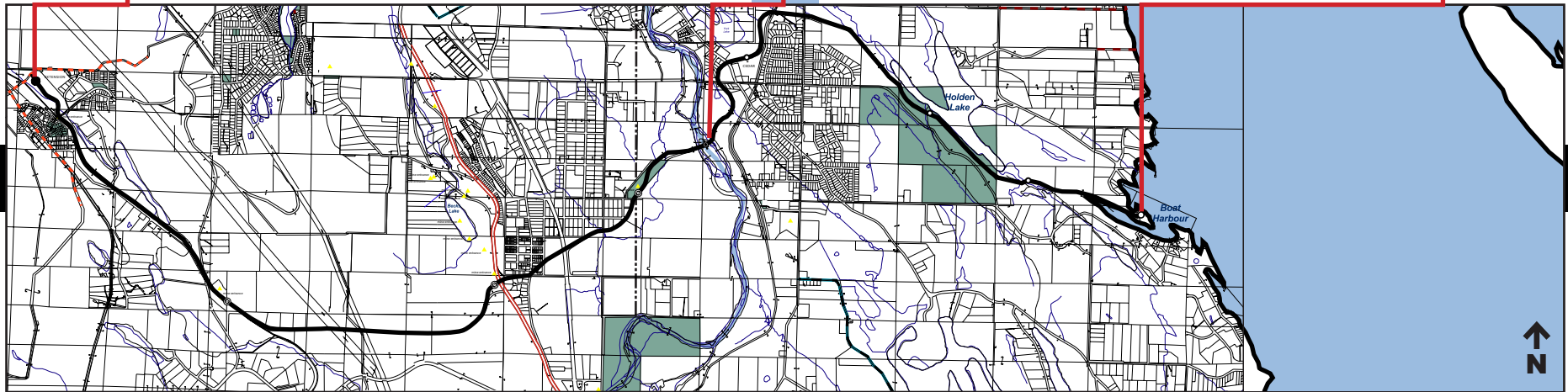
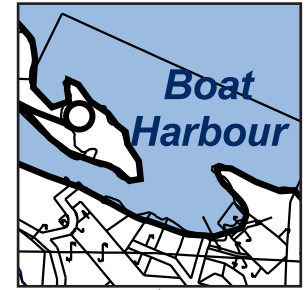
Extension End Point



Origin Island
Pedestrian Bridge



Boat Harbour End
Point



Accessibility Considerations

There are many different types of accessibility considerations for creating a public use landscape. Hearing and visual impairment as well as physical mobility challenges are the paramount consideration for creating an inclusive experience. The Black Track trail is constructed utilizing the gentle slope of the existing rail grade providing an accessible trail route from Extension to Boat Harbour. Both materials of coal slag and crushed oyster shell are accessible surfaces. Certain designed experiences are not accessible for those with mobility issues such as the access stairs on the island bridge, and the tunnels at the mining syzygy points. The stairs on the island bridge could be equipped with a stair lift that would be available by alerting the regional parks department of desired use previous to a planned visit to the Black Track or through an access card system. The grade to the tunnels at the mining syzygy points are beyond accessible standards, but with assistance a visitor could overcome the short distance. An alternate accessible trail starting further back from the mining syzygy points could also be incorporated into the design to provide a consistent safe grade to the tunnels. A design option for an accessible ramp system at the Boat Harbour end point has been provided and illustrated in Figure 104. Plan - Boat Harbour end point. This option would provide access to the lower areas of the amphitheater for those with mobility challenges access.

Creating a website that has audio descriptions associated with key locations and designed points can assist visually impaired visitors. Using mobile devices visitors can stream audio narrative about the Black Track and cultural interpretation. The interpretive signage will assist hearing impaired visitors with descriptions of sounds heard along the trail. The interpretive signs will be equipped with braille as well as links to the website for all visitors to explore greater online information. The website would alert and direct those with disabilities to the options available for them to ensure an equal experience along the Black Track.



fig.74 Fawn Lily on Origin Island



fig.75 Morden headframe 2011



fig.76 Traditional territory

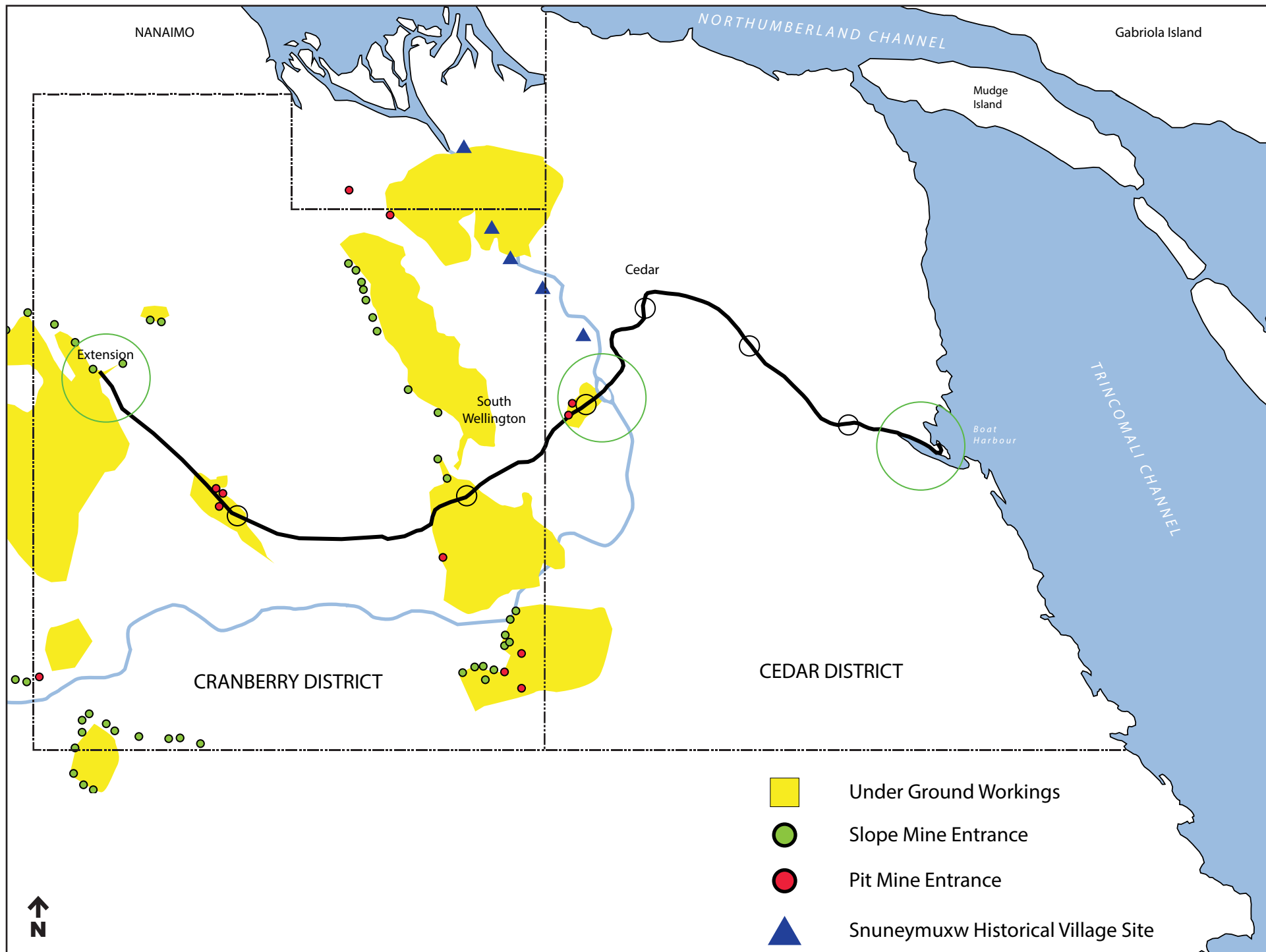


fig.77 Cultural mapping

Origin Island and Pedestrian Bridge

49° 5' 56.23"N
123° 51' 50.77"W
Elevation 32 ft

The bridge across the Nanaimo River utilizes the island as a centre point or the fulcrum support for the span. I named this site Origin Island because not only is it the origin of my mound discovery, but it is physically an intersection of the Black Track and the Nanaimo River, which metaphorically represent the intersection of the two cultures. The untouched beauty of the island thus represents the greater natural beauty of this unique landscape again intersecting at this origin as on a three dimensional graph.

Origin

- 1 : rise, beginning, or derivation from a source
- 2 : the point at which something begins or rises or from which it derives <the origin of the custom>; also : something that creates, causes, or gives rise to another - a spring is the origin of the brook
- 3 : the intersection of coordinate axes
(Origin, 2013.)

Origin Island is a mound of accreted fluvial debris or a terrestrial rise in the Nanaimo River. This beautiful river is a central topographical landscape and cultural feature for the Snuneymuxw First People. The Snuneymuxw followed the life cycle of the different species of pacific salmon and used the river corridor for travelling inland to hunt and gather other import items for survival. Snuneymuxw village sites line the banks of the river and so much of their continued cultural heritage gravitates toward the Nanaimo River. The origin connection to the mining is the coal beneath the island. The Morden mine worked the deep sloping Wellington coal seam 300 feet below the Nanaimo River at this exact location. The coal that attracted European settlement is beneath the island and is evident with the coal slag mound on the island.

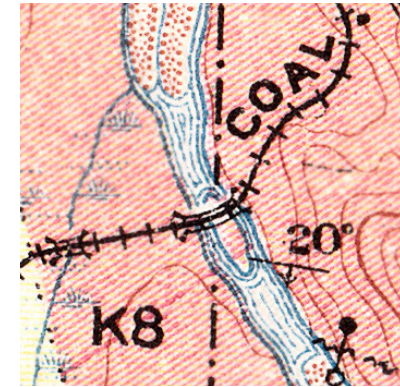


fig.78 Origin Island on 1911 Geologic Map

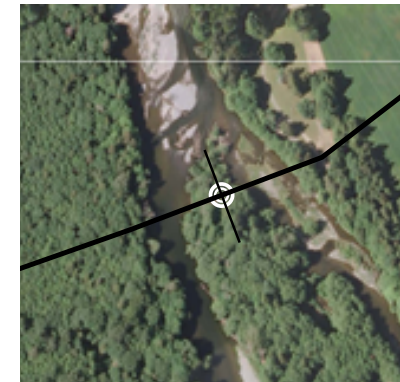


fig.79 Origin Island Aerial View



fig.80 Existing vehicle bridge across the Nanaimo River 1 km north of Origin Island



STEEL GRID WALKWAY/ STAIRS
MATERIAL: STAINLESS STEEL
COLOUR: POWDER COATED BLACK

ALUMINUM HANDRAILING SYSTEM
FRAME: CLEAR ANODIZED
INFILL: WIRE MESH POWDER COATED

97

The bridge design across the Nanaimo River utilizes the island as its structural center at the mound where I initially discovered the Black Track. The bridge spans the river using massive steel beams and cable supports that extend from the main supporting pillars at either ends of the bridge. The center vertical support is a series of posts that create the main circular platform where the trail is diverted around a void. The main platform is 30 ft. (10 metres) above the forest floor. A central spiral staircase extends up and down from the main platform through the void to a circular viewing platform 30 ft. (10 metres) above and 30 ft. (10 metres) below to the island.

From the main viewing platform two elevated walkways extend 145 ft. (45 metres) parallel to the river and perpendicular to the main span. The top viewing platform is within the tree canopy and is a spectacular place to be eye level with perched eagles. The spiral stairs down provide visitors access to the wilderness of the island. The spiral design was utilized to reflect the idea of spinning or revolving around an origin on an axis. The 'Origin' bridge design provides users multiple unique experiences and different directions of movement along the main axis of the design. It engages the ground, sky, forest, and river and promotes original natural perspectives of the landscape.



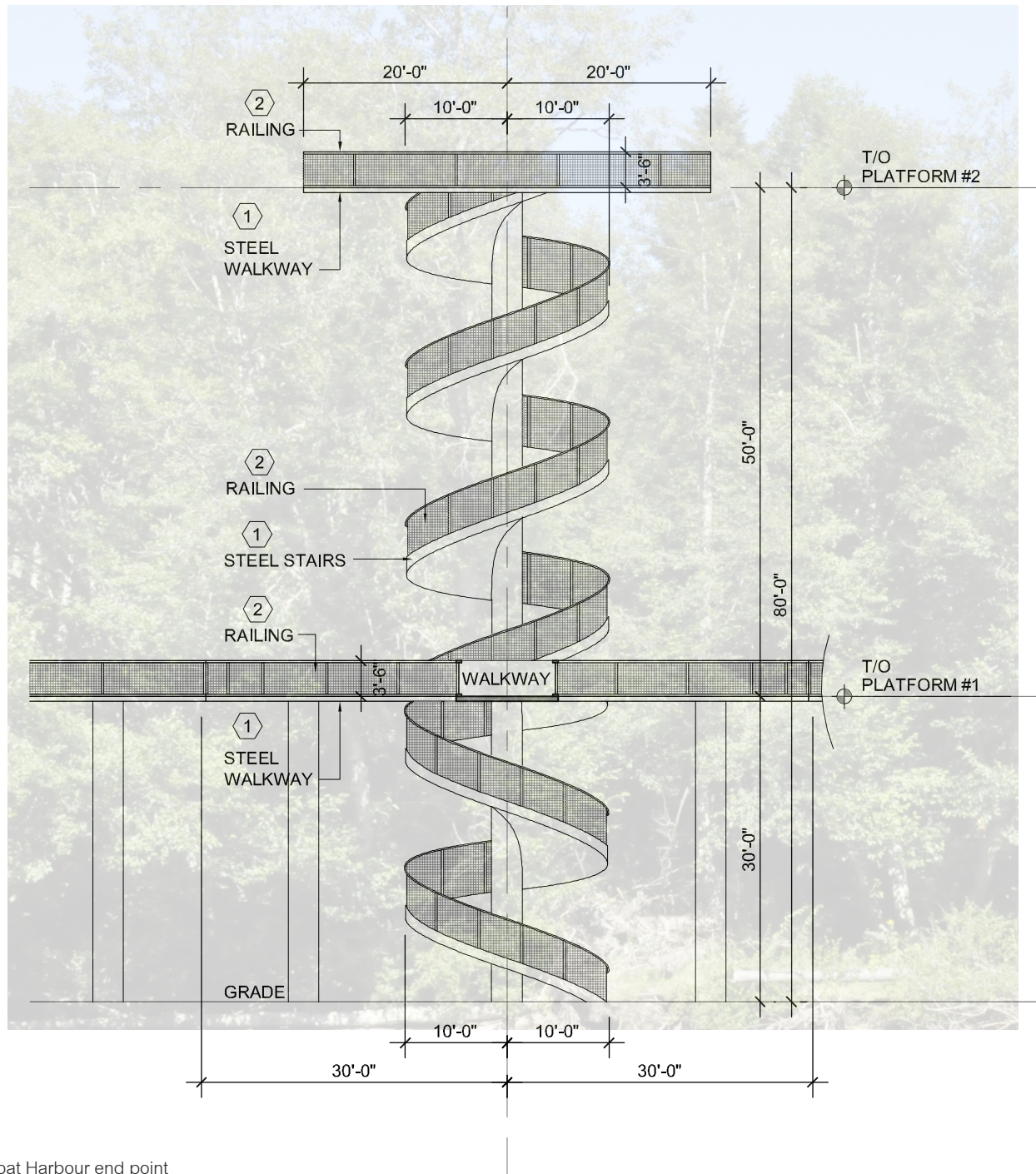
fig.82 Island mound



fig.83 Island plan



fig.84 Salmon fry in an island flood channel



spi· ral

adjective

1 : winding around a center or pole and gradually receding from or approaching it

2 : of or relating to the advancement to higher levels through a series of cyclical movements

noun

1 : the path of a point in a plane moving around a central point while continuously receding from or approaching it

b : a three-dimensional curve (as a helix) with one or more turns about an axis

2 : a single turn or coil in a spiral object

3 : something having a spiral form as:

4 : a continuously spreading and accelerating increase or decrease (Spiral, 2013.)

The Spiral is one of the most ancient symbols, which appears again and again since prehistoric times in various cultures, spread all over spacetime. (Elen, 2010.)

"Spirals are believed to represent movement through experiences in life. The Celts in particular viewed this symbol as one of progressive development, growth and expansion as we make our journey towards the center and towards the light. At the spiral's center is where we find spiritual balance and realize our deep connection to the eternal forces of nature and the universe."

(Beckow, 2011. p.1)

fig.85 Plan - Boat Harbour end point

Aboriginal Syzygy Points

The three syzygy points between the Nanaimo River and the end point at Boat Harbour promote connectedness of Coast Salish aboriginal culture. The current concept does not specifically use traditional aboriginal art or forms to allow these elements to evolve through respectful consultation with local First Nations. The concepts do reflect cultural practices without specific use of traditional icons, carvings, or artifacts. After a discussion with a First Nations colleague from Cowichan Tribes in regards to cultural sensitivity and appropriation within this project, he suggested that contemporary carvings in sandstone with open consultation with local aboriginal and non-aboriginal artists would be a possible way to connect local cultures and to create a unique art form specific to the sites and the trail. This contemporary creation could reflect the traditional practice without using spiritual icons of traditional carvings. He also suggested that using traditional tools as sculpture could be an interesting project for a local First Nations carver, but thought it would be best to represent these items as sculptures and not traditional artifact replications in this practicum until meaningful consultation could occur.

The locations of the Aboriginal Syzygy Points are adjacent to natural water features that flow to the ocean. Each syzygy point is marked with a 30 ft. (10 metre) diameter crushed oyster shell circle consisting of a path and central mound. The inner mound is within an 18 inch (450 mm) depression retained with two layers of sand stone blocks angled lying one on top the other to resemble the act of excavation. In the centre of each syzygy point there are different large scale timber sculptures that take their form from traditional aboriginal fishing tools. I propose the sculptures use 16 inch (400 mm) square Douglas fir timbers as their main supports which reflect the prolific trees that surround these locations as well as the timbers used at the mining syzygy points west of the Nanaimo River. The tools are all 20 ft. (6 metres) tall and anchored in concrete



fig.86 Contemporary carved sandstone at Jack Point, Nanaimo BC.



fig.87 Mound of oyster shell in Ladysmith



fig.88 artwork of Salish spearfishing based on image sourced from <http://www.joejack.com/coastsalishhistory.html>



fig.89 Contemporary sandstone carving at Jack Point, Nanaimo BC. 2013.

below the central shell mound. The proposed sculptures and stone carvings would be created through consultation with local First Nations artists, elders, chief, and band council members to ensure the cultural sensitivity associated with inclusion of aboriginal culture is properly addressed. The sculptures could evolve from and not be confined to the proposed size and shape. Consultation and inclusion into the development of these sites will create a connection to the local culture and result in a respectful design.

Travelling east from the Nanaimo River, the first sculpture takes its form from a cod jig lure, the second is a clam digging stick with a broad scoop blade and the third a herring rake. Carvings within the sandstone created by local aboriginal and non-aboriginal artists reflect the process of contemporary petroglyph creation, but develop a new art specific to the syzygy locations and connect the two cultures through art. Stories of the stone carving processes as well as the sculptures are etched into the sandstone and interpretive descriptions are printed on aluminum and mounted to the top faces of the upper sandstone blocks. The forest is cleared of trees and tall vegetation 100 ft. (30 metre) diameter around the syzygy point. Low growing native shrubs that produce edible berries and flowering perennials are planted in grouped swaths radiating from the central point of the site. This vegetation clearing and planting technique is applied to all circular syzygy points and end points to allow visitors a clear view to the sites as they approach.



fig.90 Contemporary Carved Sandstone at Jack Point, Nanaimo BC.



fig.91 Mound of oyster shell in Ladysmith

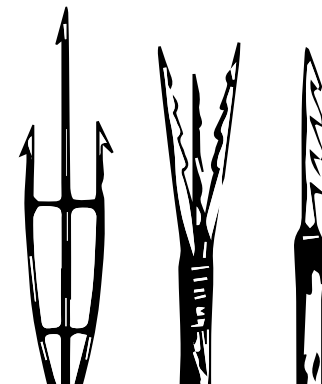


fig.92 artwork of Coast Salish spears based on image (Stewart, 1994, p.67)

ABORIGINAL SYZYGY

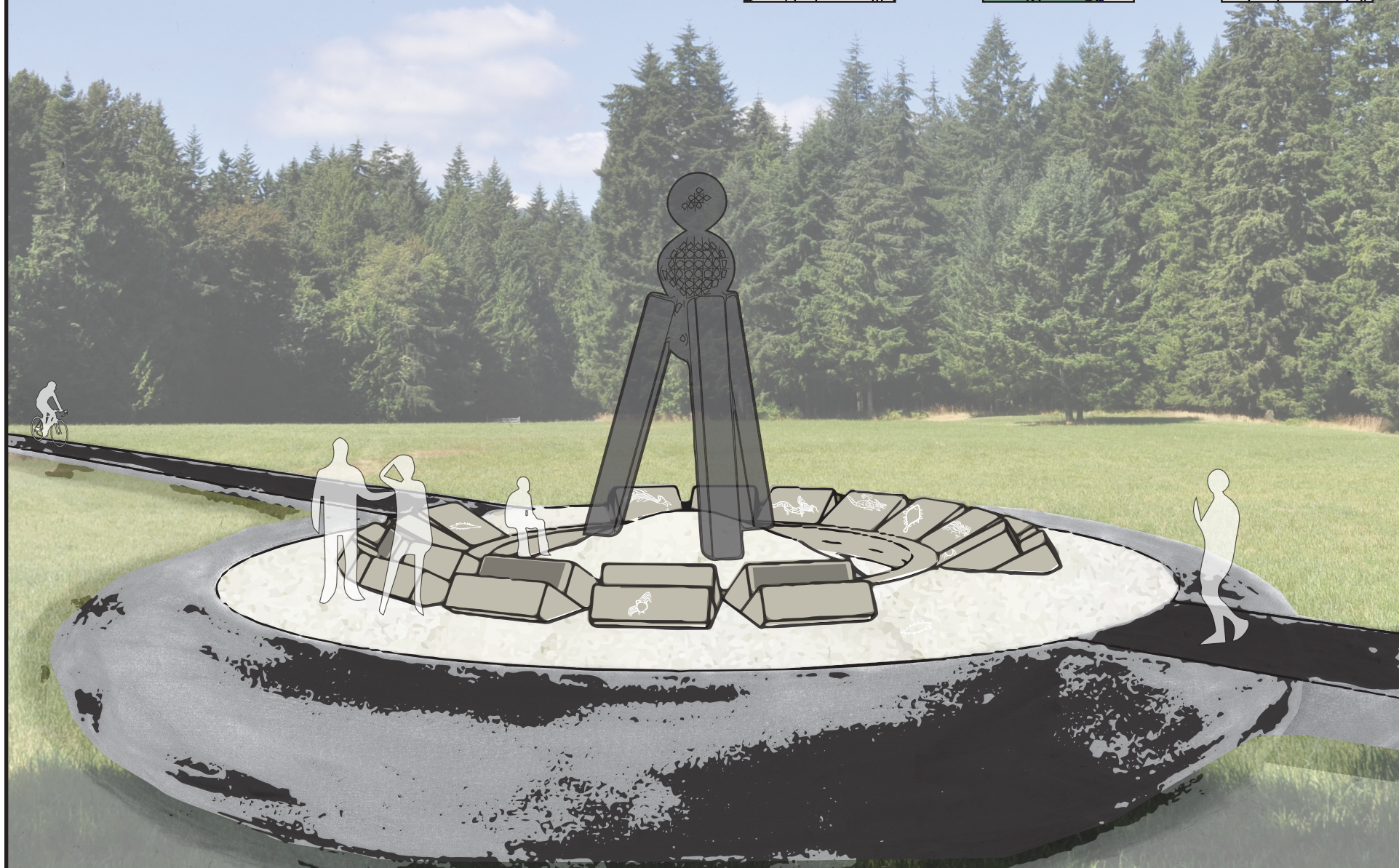
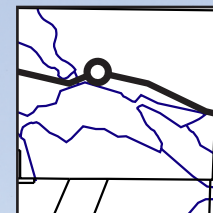
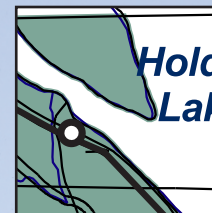
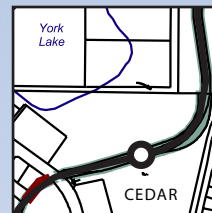


fig. 93 Perspective - aboriginal syzygy points

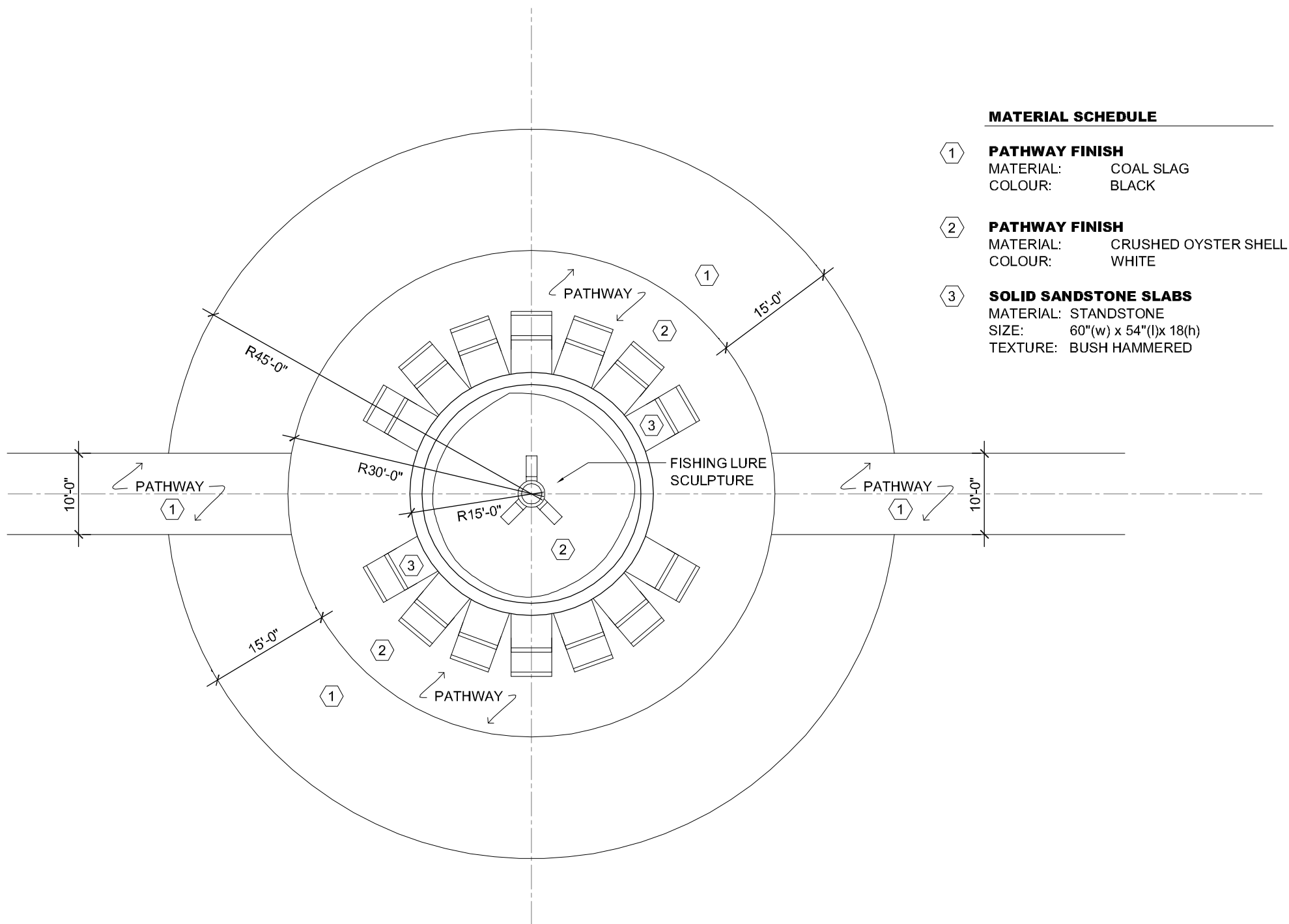


fig.94 Plan - aboriginal syzygy points

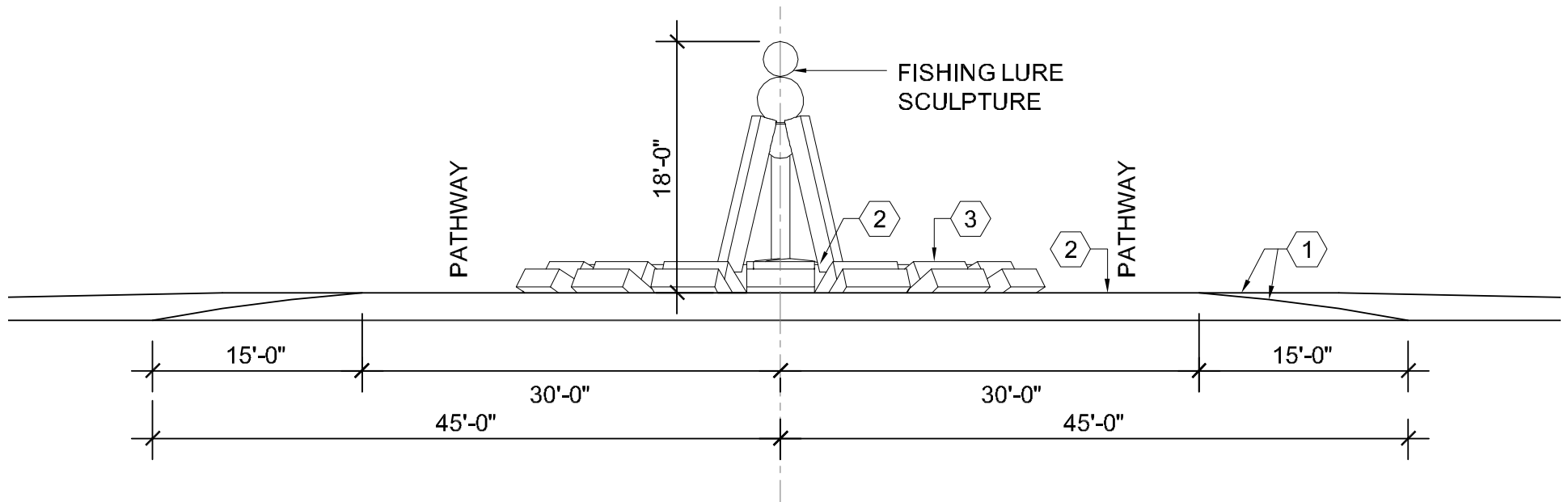


fig.95 Elevation

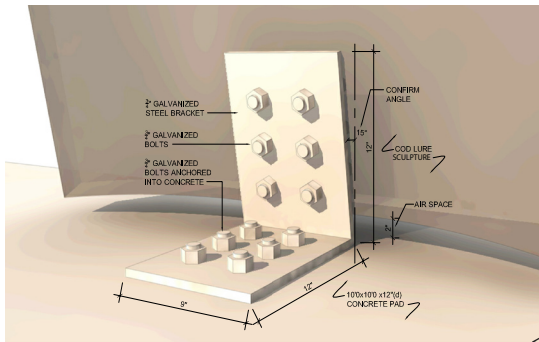


fig.96 Detail

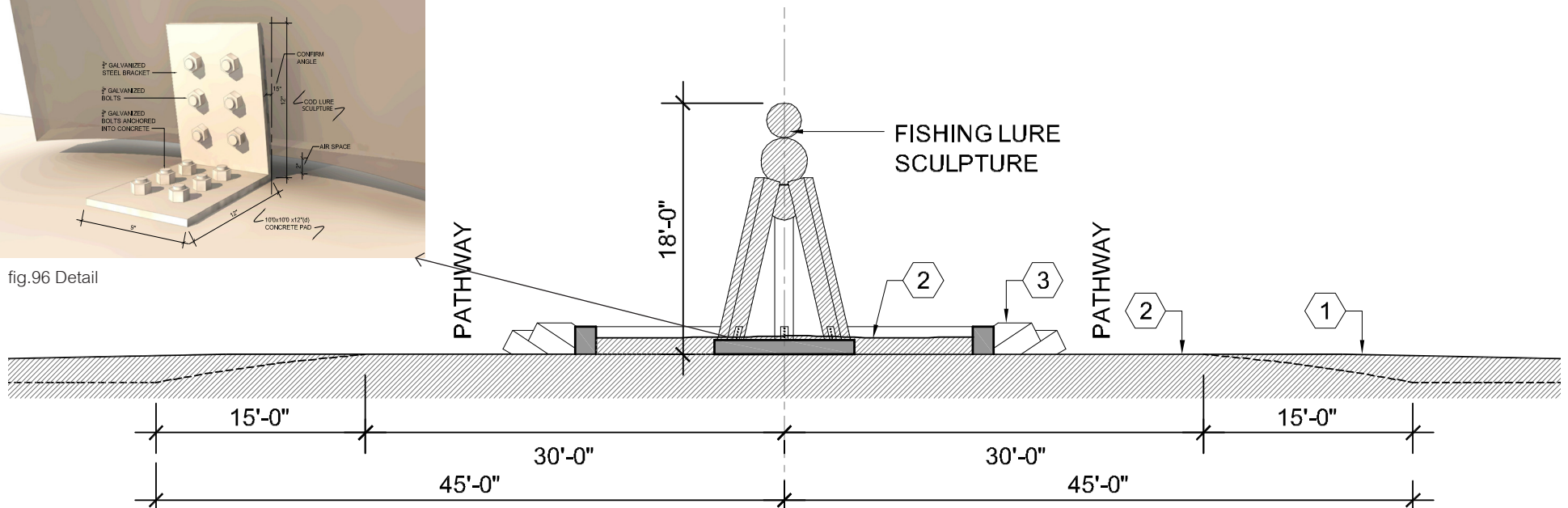


fig.97 Section

Boat Harbour End Point

49° 5'31.07"N
123°48'5.57"W
Elevation 11 ft

The end point at Boat Harbour, where the black track meets the ocean, is an intersection of trails. The Marine Trails Network is a series of routes for paddlers of canoes and kayaks along the east coast of Vancouver Island and connects to the Black Track at Boat Harbour. Boat Harbour end point is similar to the aboriginal syzygies in that this is a designed depression, but consists of three 18 inches (450 mm) depth steps down towards the centre. The diameter of the depression is 100 ft. (30 metres) and a total of 54 in. (1370 mm) deep. Each step is 10 ft. (3 metres) wide with the lower circular area being 20 ft. (6 metres) in diameter. The steps are again sandstone blocks, this time in an upright position to better accommodate sitting. The surface material alternates at each level into the depression from black coal slag to white crushed oyster shell. The inner most and smallest circle of supporting sandstone blocks are again etched with contemporary petroglyphs. In the centre is a 33 ft. (10 metres) tall Douglas fir and cedar bark sculpture taking for from a tip of a traditional Coast Salish three pronged fishing spear. The cleared area around the point is over planted with camas bulbs to again connect to traditional land use and culture and to add a stunning show of purple blooms in the spring.



fig.98 Boat Harbor Garry oak



fig.99 Boat Harbour coal and shell beach sediment



fig.100 Boat Harbour coastal meadow

BOAT HARBOUR END POINT

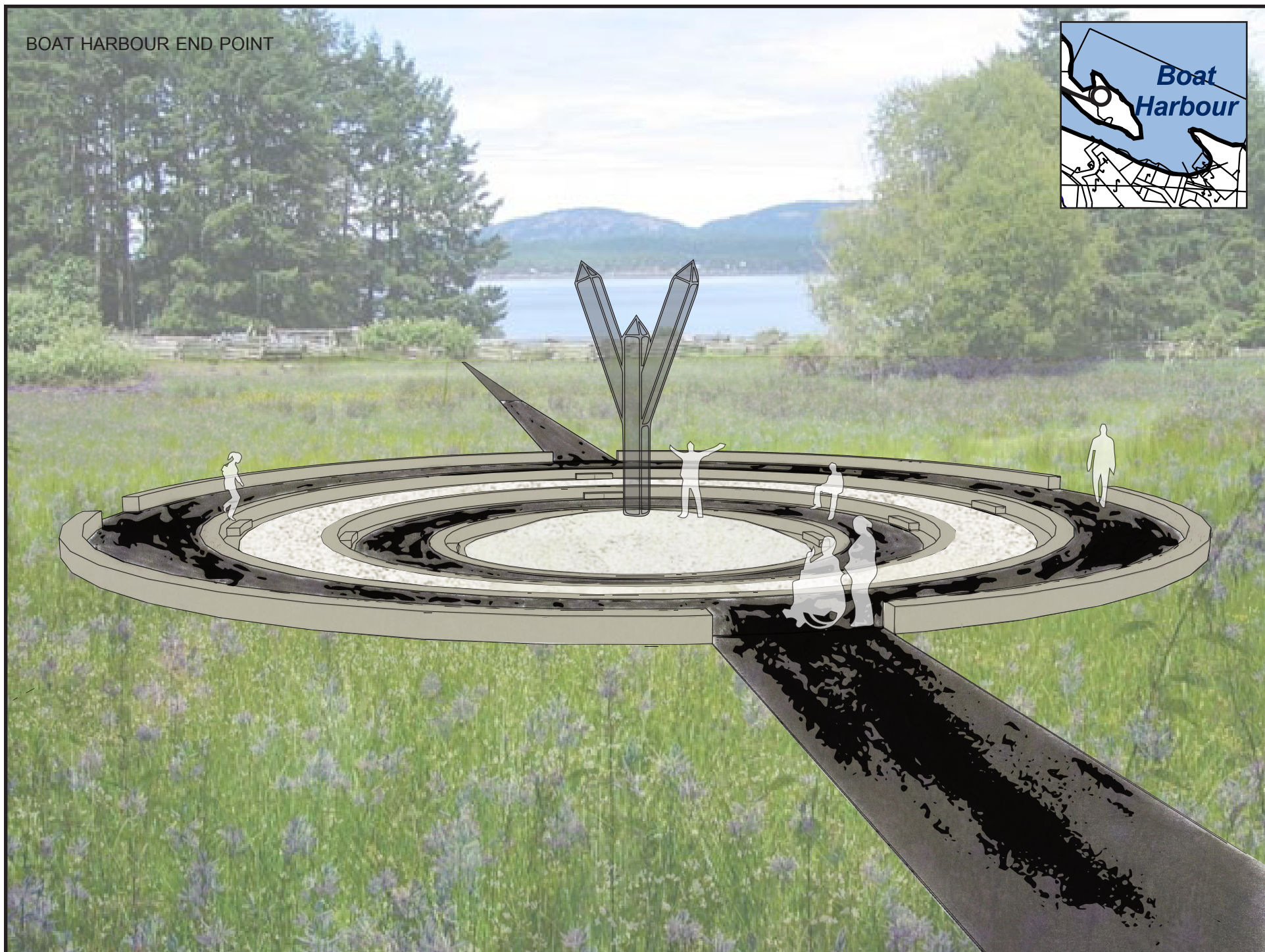
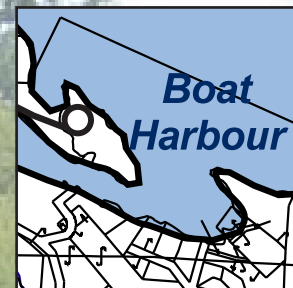


fig.101 Perspective - Boat Harbour end point

The black track extends to the beach where a parallel set of pilings spaced 10 ft. (3 metres) apart extend 200 ft. (60 metres) into the water. The black track gently fades and blends into the beach material and disappears into the ocean. The pilings are not the original components of the pier that once jutted out at this location, but they have been installed to reference the importance and history of the industrial activity on the site. The site has historic concrete foundations and footings in their original pattern from the coal mining and railroad operations. Interpretive displays printed on aluminum mounted on atmospheric steel frames are mounted on the floor of the foundations. The frames are on a small 10 degree slope to help legibility. The interpretive signs are not mounted above ground to promote site exploration, thoughts of what may lie beneath the ground (coal or midden), and engagement of the characteristics of the concrete and its connections to the mining history. The goal of the design at the Boat Harbour end point is to weave both cultural histories together with the local First Nations elements pronounced.

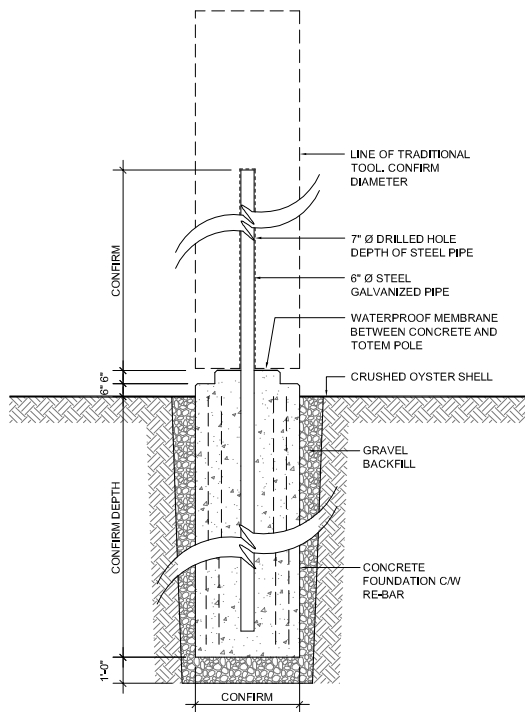


fig.102 Detail

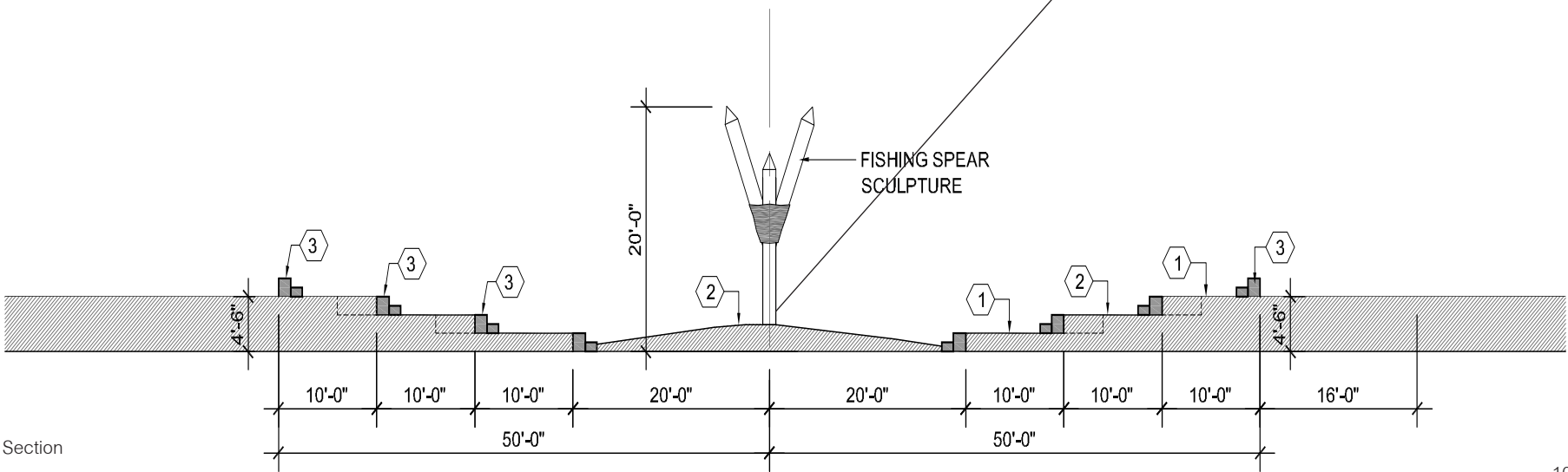


fig.103 Section

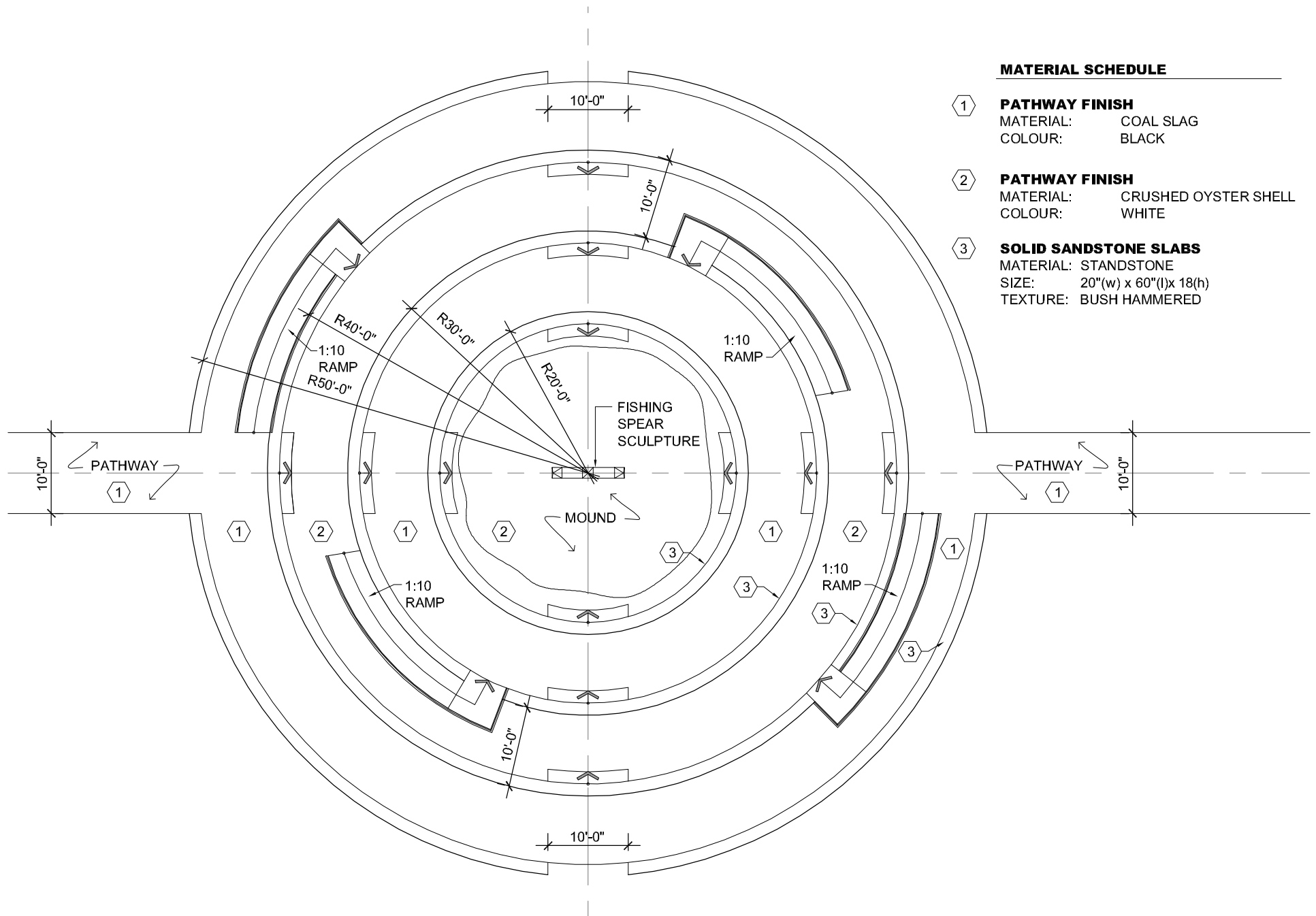


fig.104 Plan - Boat Harbour end point - accessible option

Coal Mining Syzygy Points

The three syzygy points on the west side of the Nanaimo River are located at three former coal mine sites. The points consist of a constructed coal mound and two circular crushed shell trails that lead trail users around the site and 10 ft. (3 metres) below the grade of the black track to a replica concrete mine shaft running perpendicular under the main trail. All three mining syzygy points have existing historical concrete mining relics positioned adjacent to the Black Track that correlate with the narrative and interpretation. The horizontal shaft is marked with two post and beam timber structures at both tunnel entrances similar to the supports that were constructed in the shafts one hundred years ago.

In the center of the horizontal shaft is a 60 inch (1.5 metre) square vertical concrete airshaft connects to the black track above. The smaller vertical shaft extends 20 ft. (6 metres) above the surface. Trail visitors can gain a sense of confined space below and can view upwards to the sky through the narrow vertical air shaft. Stories of the mining history are etched within the concrete walls of the horizontal shaft as well as the exposed portion of the vertical shafts and are supported by mounted pictures printed on aluminum. Two simple 16 inch (450 mm) square Douglas fir timber benches on concrete footings sit centered parallel to the black track adjacent to the central concrete feature.

fig.105 Bench elevation

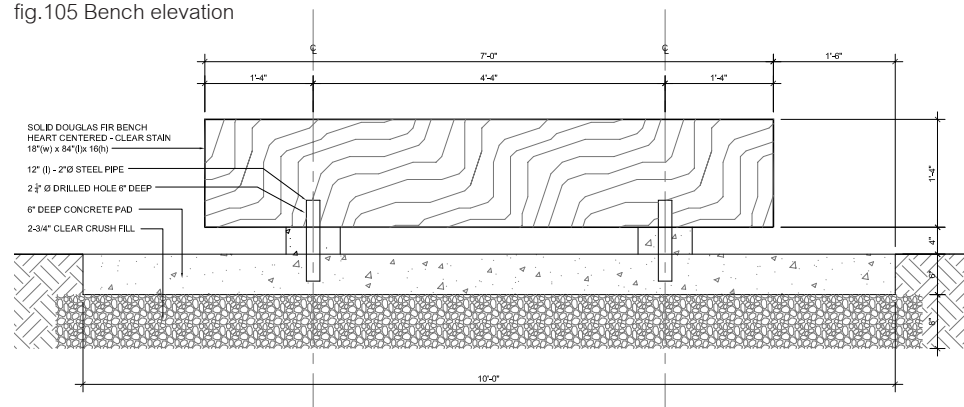


fig.106 Roadside sedimentary geology



fig.107 Nanaimo mine shaft entrance 2012.

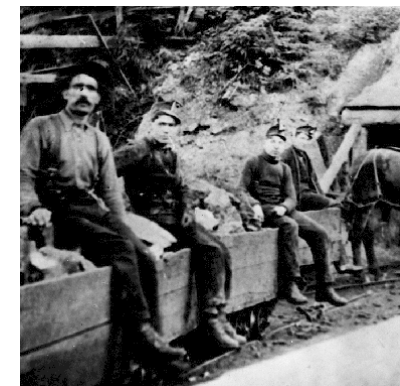


fig.108 Miners at Extension - BC Archives E-01188

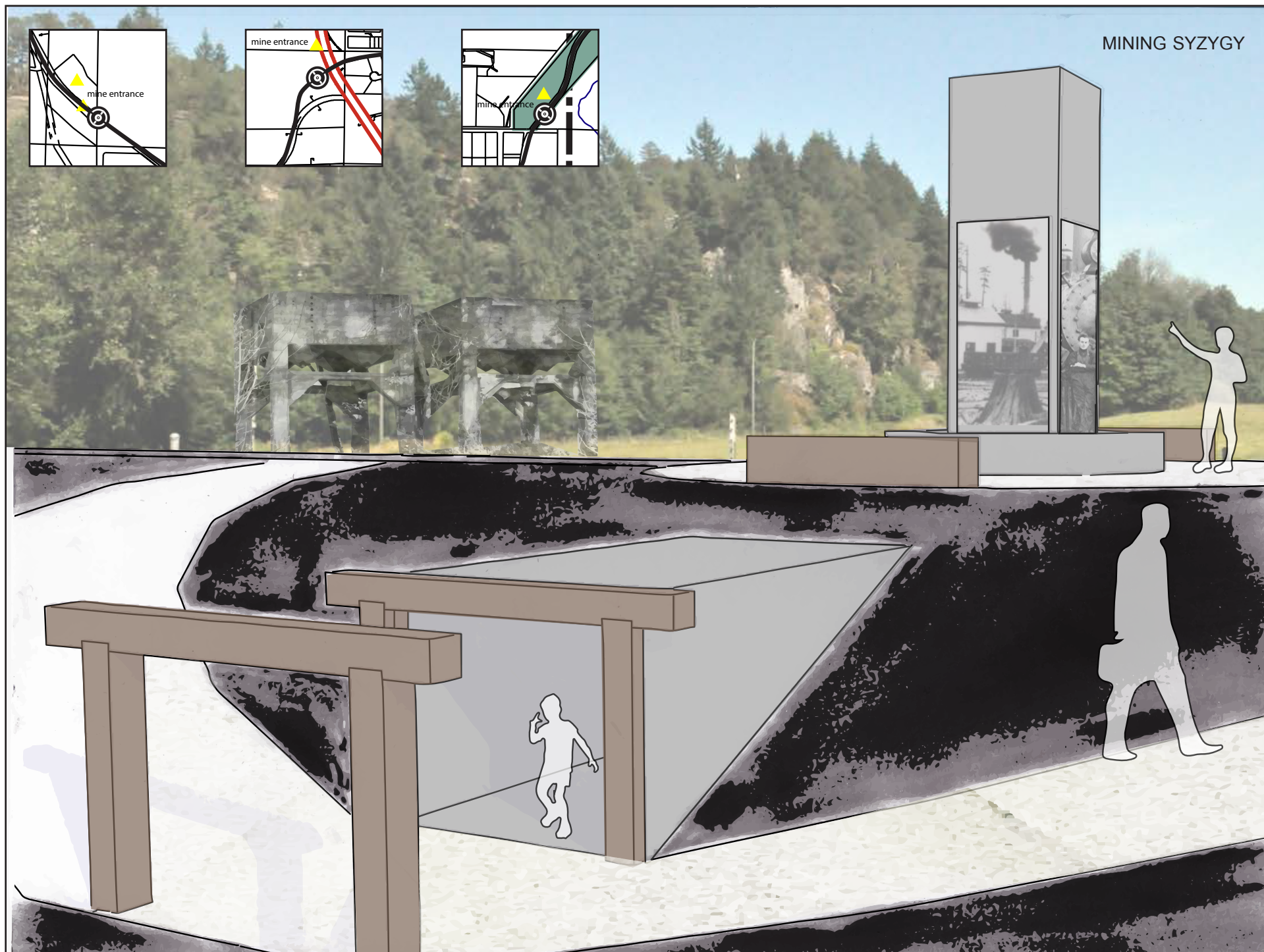


fig.109 Perspective - mining syzygy points

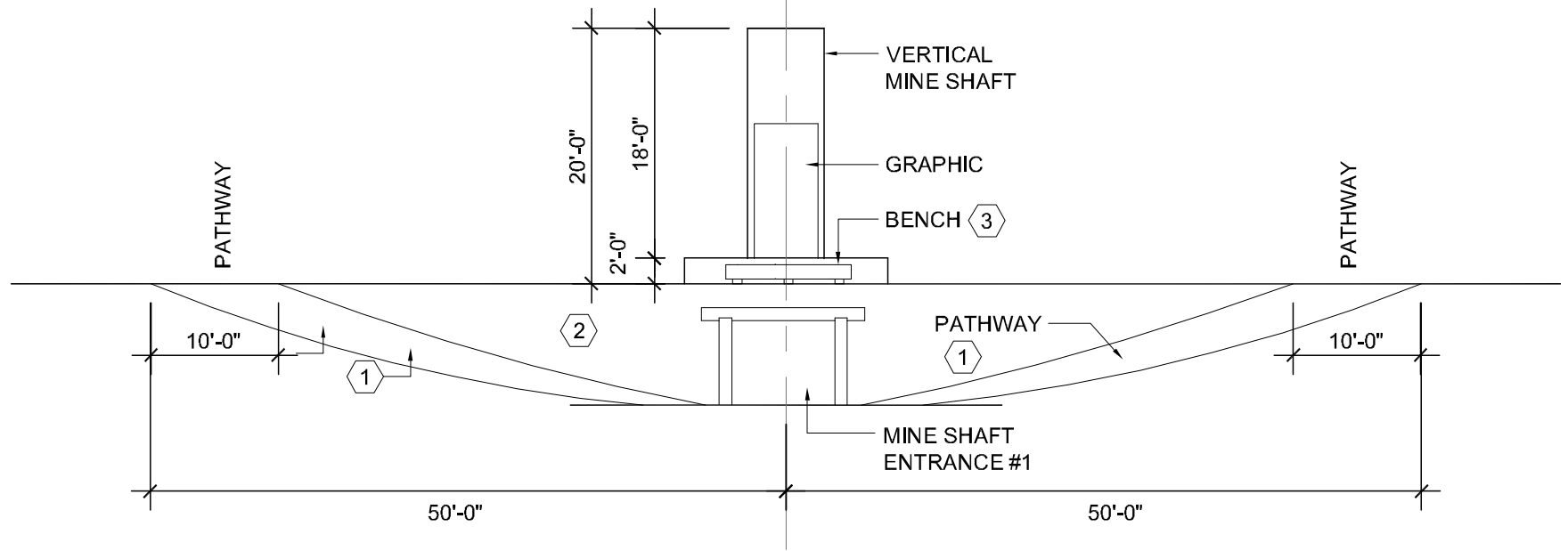


Fig.110 Elevation

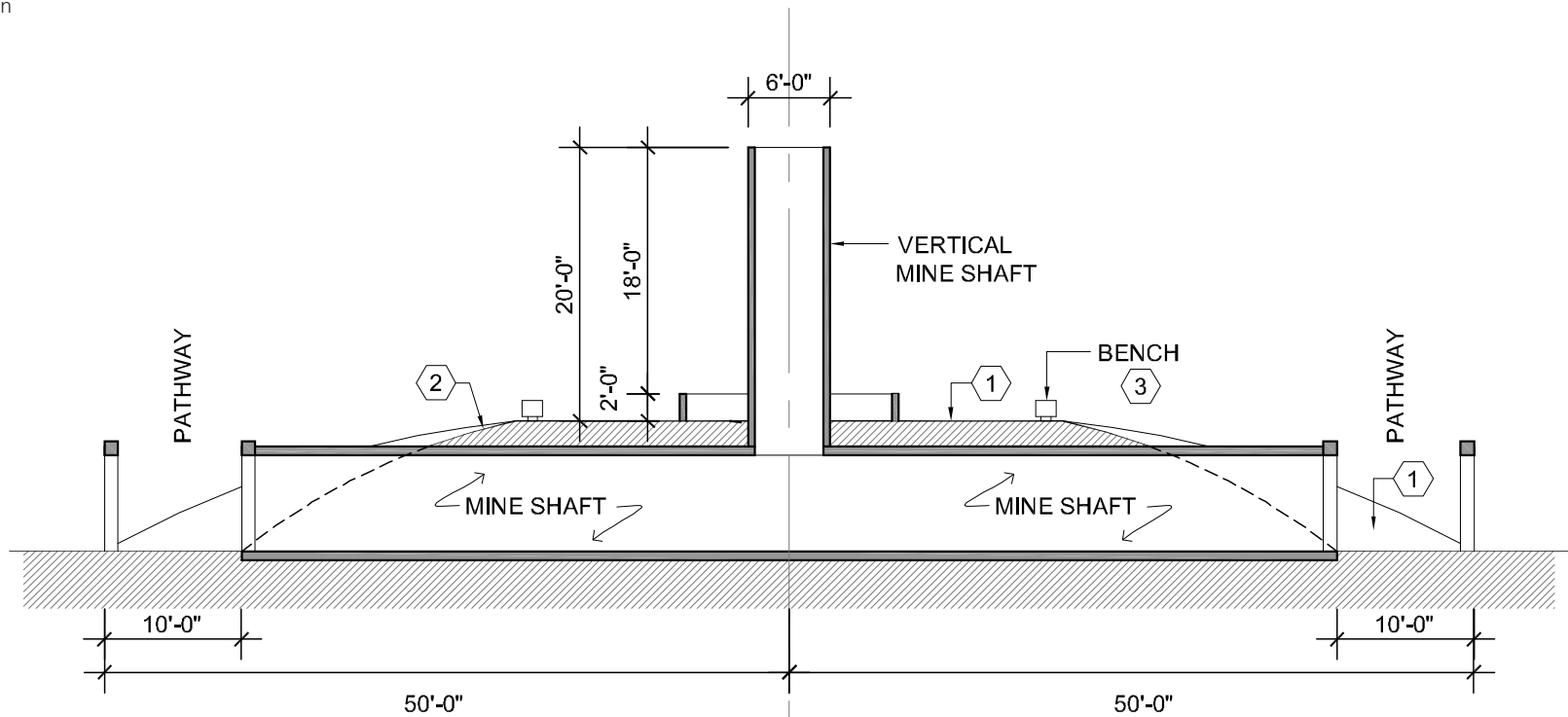


fig.111 Section

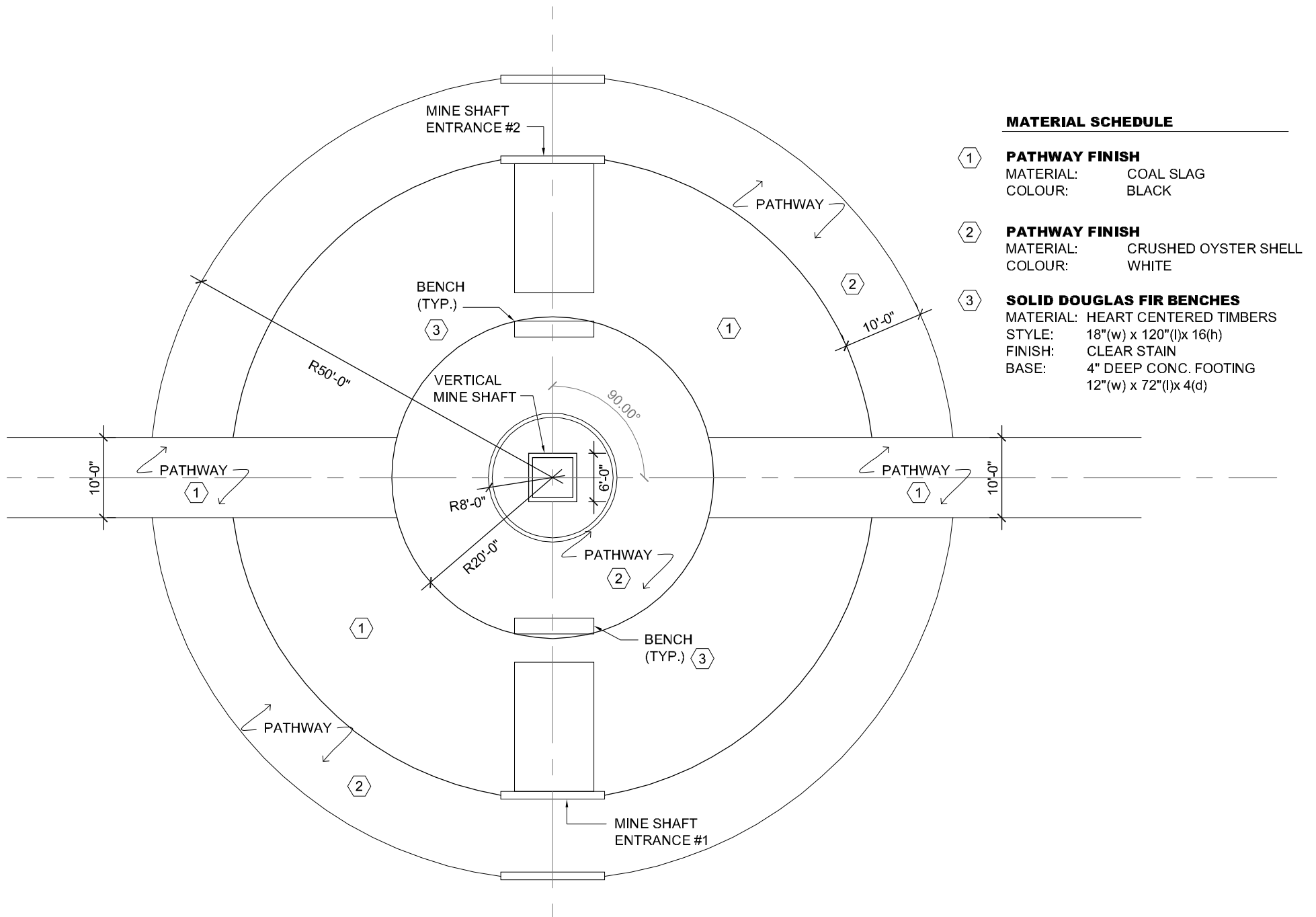


Fig.112 Plan - mining syzygy points

Extension End Point

49° 6' 14.40"N
123° 57' 28.18"W
Elevation 471 ft

The circular design of the Extension end point utilizes an existing massive mound of black coal slag on the edge of the village of Extension. The mound is surrounded by the 10 ft. (3 metre) wide trail that is surfaced with crush oyster shell. There are one hundred and five 8 inch x 8 inch (200mm x 200mm) cedar posts equally spaced around the mound. The posts stand 84 inches (2.4 metres) above grade, routed 18 inches (450 mm) from the top at 1 inch (25 mm) depth and 2 inches (50 mm) width all the way around. The top section is then treated with a translucent white stain and the bottom stained black. This routed treatment along with the white stain personifies the posts. The posts represent the 105 miners that were killed in the Extension mines over the many years of industrial operations. The names of all the miners are routed on a single post to signify their unity as miners at Extension. Again, solid 16 inch (400 mm) square timbers resting on concrete footings act as benches on the outside of the circle. Interpretive stories and pictures of the local history are printed on aluminum signs fixed to 18 inch (450mm) square timbers on end and angle cut and placed and evenly spaced along the 100 ft. (30 metre) entrance portions of the crushed oyster paths. There is no interpretive signage within the circle path.

fig.113 Bench section

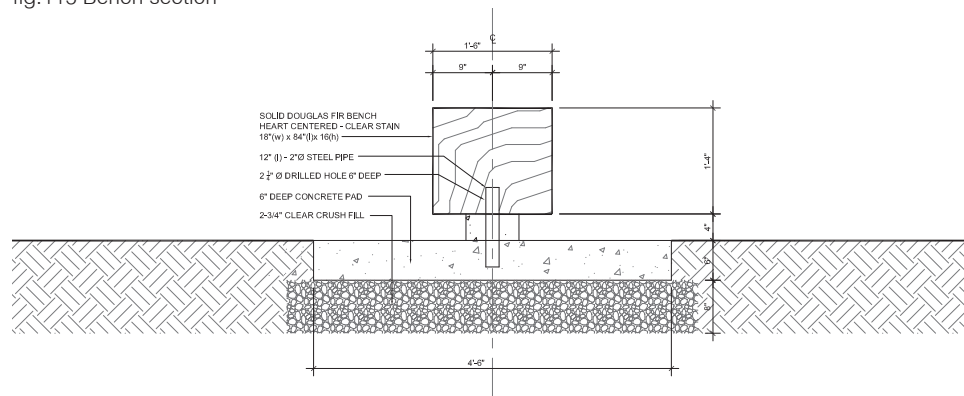


fig.114 Mine shaft entrance in Extension 2011.



fig.115 Extension coal slag 2013.

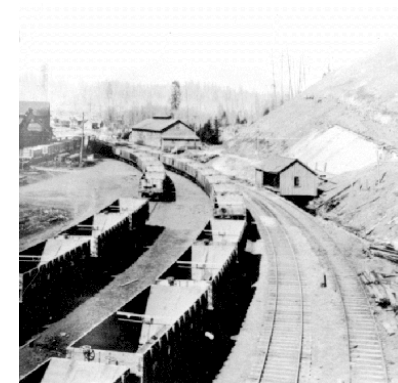


fig.116 1908 Extension mine yard showing rock dump (coal slag) BC Archives E-02763

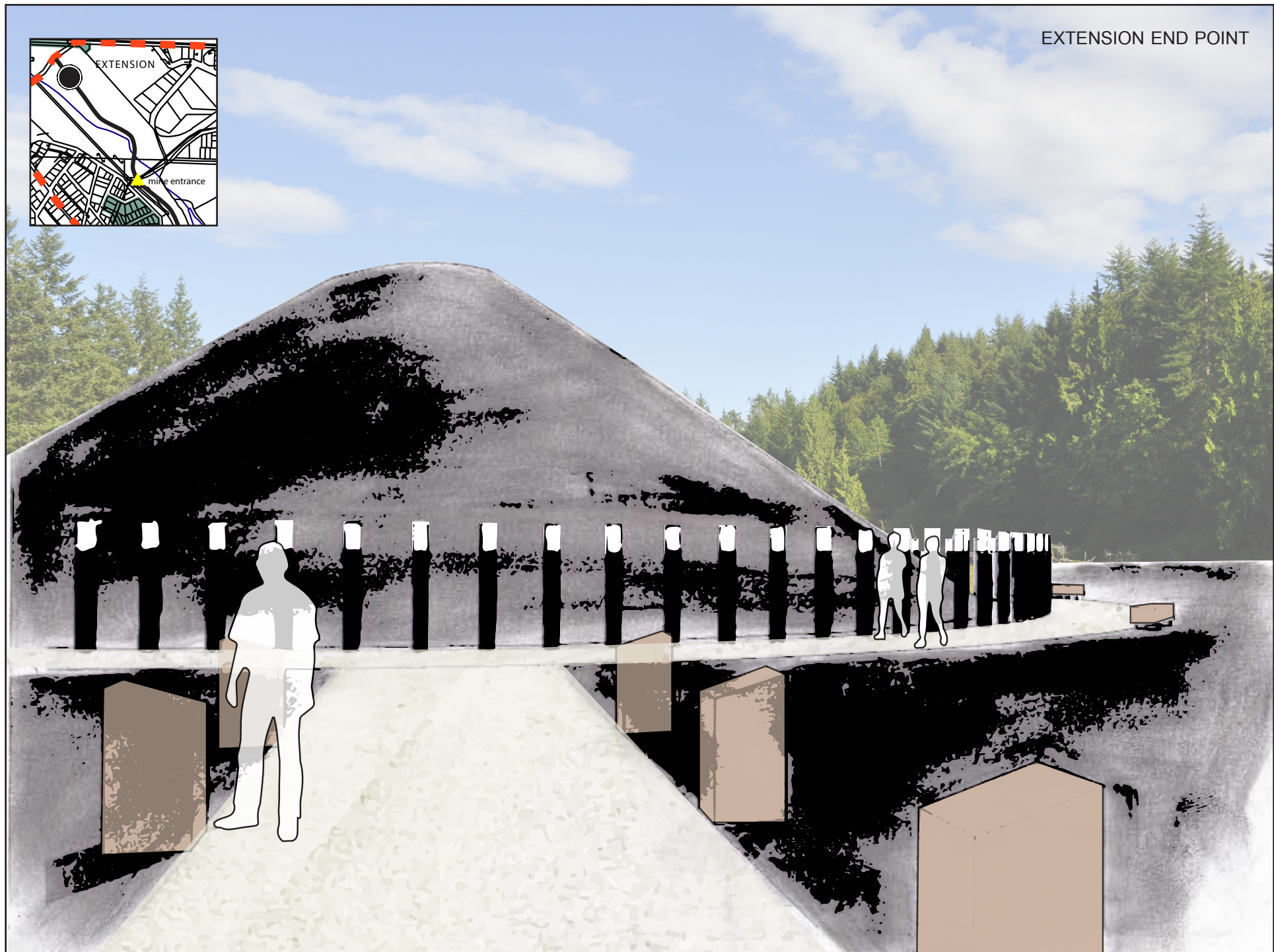


fig.117 Perspective - Extension end point

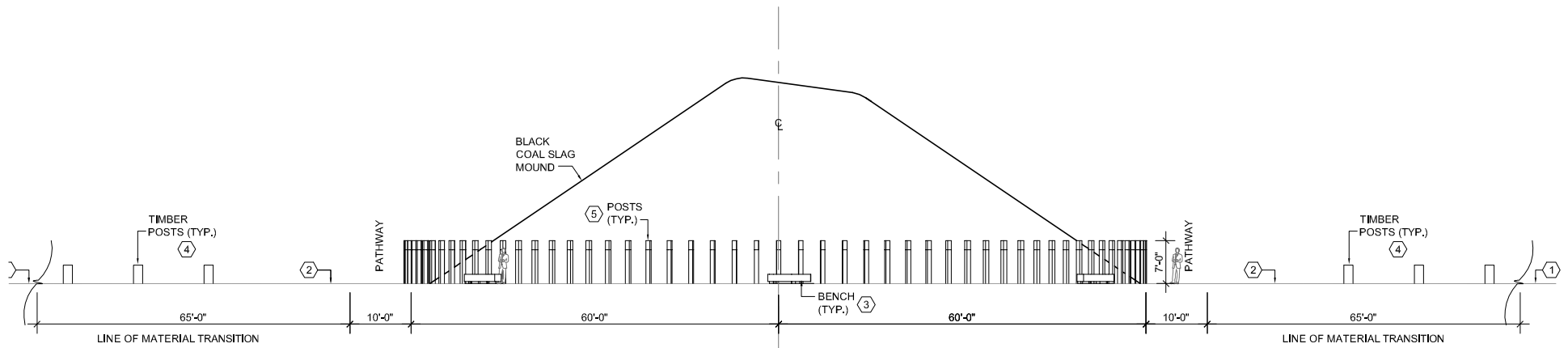


fig.118 Elevation

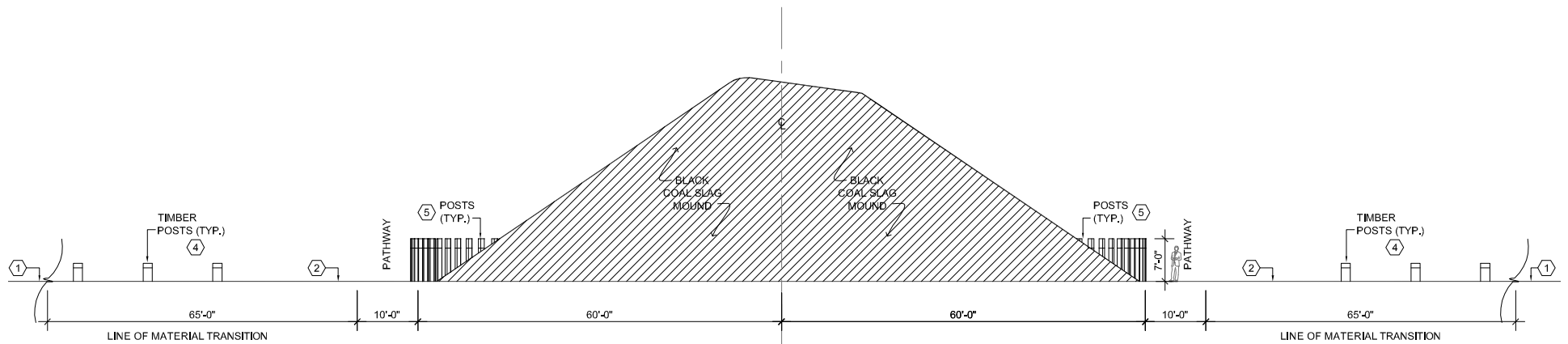


fig.119 Section

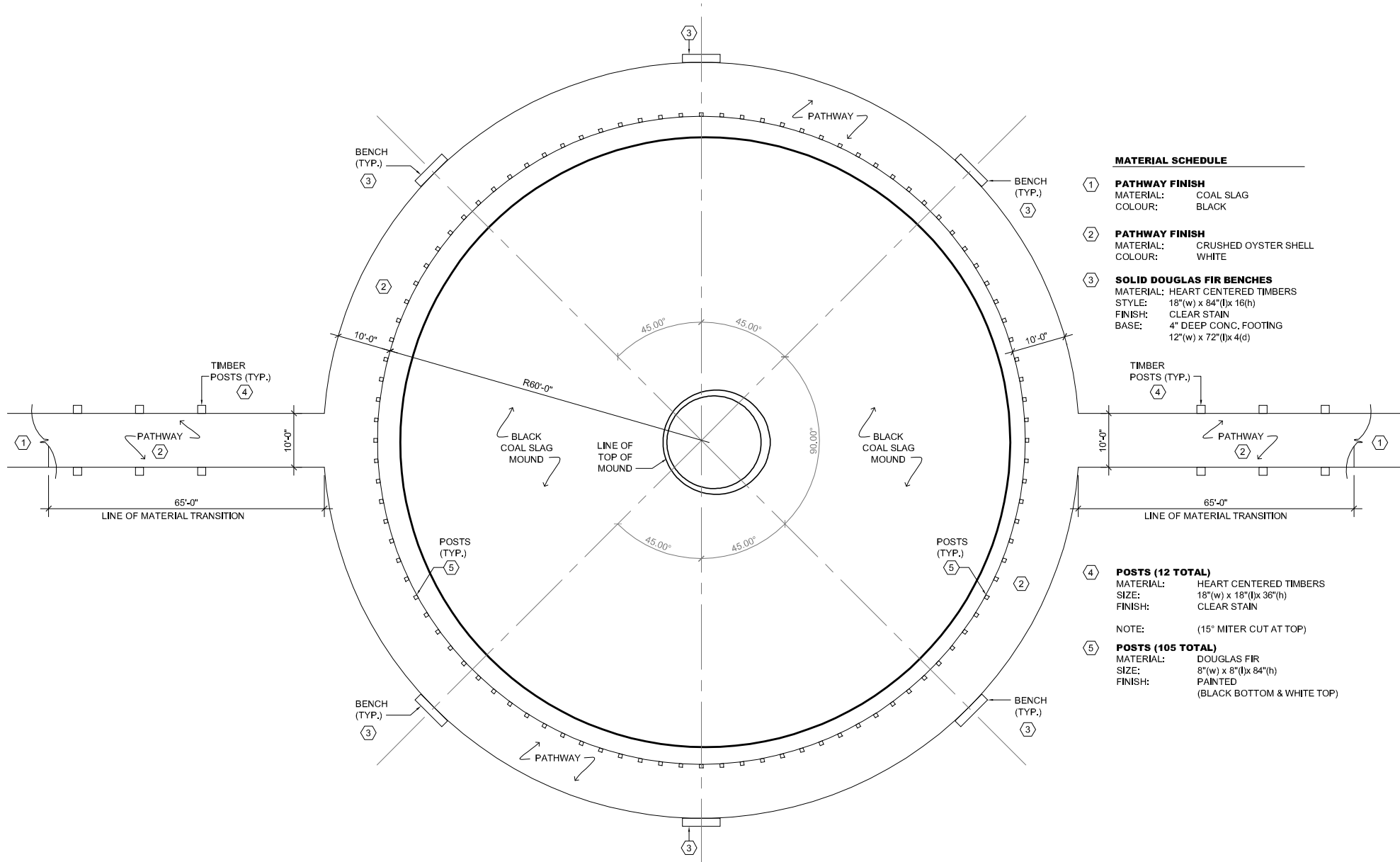


Fig.120 Plan - Extension end point

Continuity

The Black Track design engages visitors and converges with experience, local culture and ecology along a 26 km path through the Cranberry and Cedar Districts. The path revitalizes a historical railway route and reconnects places with people. The path and points expose the layers of this unique landscape for personal experience and continued knowledge of place. The Black Track design consists of physical points connected by a line within a spatial system. It is a path of places with human activity and movement. It engages metaphysically through experience and metaphorically represents an intersection of cultures within a beautiful natural landscape.

The next step in the cycle in developing the Black Track, assuming the land for the trail has been secured, would be consultation with the different communities and stakeholders who would be the clients for this project. Communities and stakeholders include First Nations, local government, parks and trails commissions, recreation groups, naturalist organizations, school districts, businesses and local residents. A trail that transects 26 kilometers across and through a landscape can affect a broad consortium of interested parties. Consultation will allow for the community to provide important client phenomenological perspective. The lived space for a project must include the designer working with the client and through developing the details for the concept together, can encourage the opportunity for personal meaning and for the project to connect to the entire community. As Dovey (1993) states, “it remains the task of the designer to capture the imagination of the clients and gain their commitment to the design based on thorough understanding” (p.259).



Fig.121 Fieldbook sketch

"To follow a track is to pursue a single line through a palimpsest landscape, a richly imbricated world of interlacing narrative possibilities, the ultimate hypertext."

Michael P. Branch, The Adventures of Peavine and Charlie, Orion Magazine, Jan/Feb 2011.

My Continuity

Black Tracking a Landscape Topology is an extension of my research and my personal goal to reveal and apply topology as a methodology for a design process applicable for landscape architecture. I defined and applied my approach of landscape topology to explore and to examine the philosophical foundations of my personal values that inform my cycle of design. This practicum is a research, design, and personal landscape journey that has provided me the opportunity to converge, connect and continue experiencing a significant cultural landscape.

I come away from the practicum process knowing so much more about the community where I live and appreciating my everyday hidden landscapes and the people that create this place. My wife and I purchased a house 200 metres from the Black Track during my research and we live within the Morden mine town site. I am reminded everyday about my design and imagine the trail coming to fruition in the near future. I am actively involved with my community parks commission and I hope one day to influence the right people to secure funding to define the Black Track as a heritage trail. I look forward to being part of the evolution of the Black Track and to revealing the buried and abandoned mining past and essential First Nations culture that are woven together within this shared and beautiful landscape.

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Fig. 46 [Photograph]. 1908. A man examines bones that were exposed when the Marpole Midden was plowed. City of Vancouver Archives AM54-S4-: Str P388

Fig 49 [Photograph]. 186-. Coal Tyee and his Tillicums. D-07259, courtesy of Royal BC Museum, BC Archives.

Fig. 50 [Photograph]. 1907. South Wellington Coal Mines Limited; Mr. Wichart and Mr. John Arbuthnot. A-04413, courtesy of Royal BC Museum, BC Archives.

Fig. 51 [Photograph]. Part of a days output from Extension Mines taken from tipple, Canadian Collieries. E-01616, courtesy of Royal BC Museum, BC Archives.

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