



FUNDY DISCOVERY SITE

INTERPRETIVE CONCEPT & FEASIBILITY STUDY

December 2020

Volume 1: Interpretive Concept



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Bay

Bay of Fundy

NOVA SCOTIA



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1. INTRODUCTION

1.1 Overview

This Final Interpretive Concept Plan represents work completed by the AldrichPears Associates consultant team on the Fundy Discovery Site Interpretive Concept and Feasibility Study.

Work has been organized into two volumes:

- » Volume 1: Interpretive Concept
- » Volume 2: Feasibility Study

1.2 Process

Concept planning work for the Fundy Discovery Site has been organized into four phases:

- » Phase 1 included a review of background information, virtual site tour, stakeholder interviews, a visitor experience workshop, resource analysis, an audience and market assessment, a site review and analysis, and a proposed concept approach.
- » Phase 2 included a concept review meeting, additional interviews, a draft concept plan, and a concept presentation. The Phase 2 report submitted in August 2020 detailed a full draft concept plan including site, building, and interpretive concepts, as well as themes and interpretive content distribution in concert with indoor and outdoor visitor experiences and possible media solutions.
- » Phase 3 consisted of a Business Plan/Feasibility Study. The Concept Plan was subsequently further refined and costed based on Committee feedback and the outcomes of the Business Plan/Feasibility Study.
- » Phase 4 comprises the assembly and review of final documentation, including this report.

1.2 Goals & Objectives for Development

Goals and objectives have been established to help guide decisions related to messaging, interpretive media, and programming for the Fundy Discovery Site. Goals identify key project aims, while objectives represent measurable outcomes and/or strategies that can be used to accomplish a corresponding goal (i.e., via interpretive experiences).

The goals and objectives proposed on the next page were adapted from the Fundy Gateway Master Plan developed in 2016 and refined based on feedback from the Committee members, with an emphasis on the immediate interpretive needs of the site.



Goals & Objectives

Showcase the significance of the Fundy tidal phenomena, including its influence on the site, on people and settlement patterns, on land uses, and on economic activities.

- » Facilitate the visitor experience at the Fundy Discovery Site through meaningful interpretation.
- » Facilitate viewing of the tidal bore experience at the site, including visitor understanding of the tidal bore phenomenon (at the site and as it relates to the Bay of Fundy region).
- » Provide opportunities for on-site programs that feature tidal science and phenomenon.
- » Develop experiences that celebrate the tidal bore phenomenon as a local treasure.
- » Highlight and help celebrate relatively unknown, site-specific stories that speak to regional heritage, cultural interface (Indigenous, Acadian, Planters, etc.), natural history, and the Bay of Fundy.
- » Establish outreach and program opportunities with heritage partners where shared content can be presented on site.
- » Complement established interpretation at other regional cultural facilities/sites that have linkages to the Fundy Discovery Site (so as not to duplicate content).
- » Align with national, provincial and local heritage/tourism development initiatives.

1

Develop a public space that provides engaging and memorable experiences for visitors of all ages and is complementary to the site's character and appeal.

- » Develop spaces and experiences where tourists and locals can overlap and connect.
- » Create year-round appeal and visitor use in all four seasons.
- » Build a place that local residents will love by positioning the site as a great place to spend time—one that offers a range of fun and rewarding experiences.
- » Develop interpretive content and associated infrastructure that supports and enhances repeat visitation, leading to continued interest and community engagement with the site.
- » Lay the groundwork for municipal programs on site.
- » Connect the site by trail, particularly to the Cobequid Trail into Truro and along the Bay.
- » Adapt to the needs of visitation and operations without destroying the character-defining aspects of the site and the celebrated bore experience.

2

Establish the Fundy Discovery Site as a signature gateway experience to the greater Bay of Fundy Region and its various attractions.

- » Develop inviting, informative visitor experiences for tourists and visitors to the region.
- » Welcome and aggregate visitors to other Fundy-related sites in the region.
- » Provide regional information for visitors to the province.
- » Promote the Bay of Fundy Region and its associated visitor attractions.
- » Support and build upon initiatives associated with the UNESCO Cliffs of Fundy Geopark.
- » Complement and strengthen existing site amenities, including the playground, picnic area, washrooms, and proposed bridge.

3

Establish a sustainable operating model and revenue generation program for the site that ensures its ongoing use and longevity.

- » Explore business collaboration, own-source revenue opportunities, sponsorship, and public/private partnership opportunities.
- » Engage in strategic alliances offering economically sustainable commercial activities that enhance the visitor experience, add value to the sector and are aligned with other aspects of the Fundy Discovery Site vision.
- » Leverage existing municipal department skills and resources where they may contribute to site operations and programming.

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2. INTERPRETIVE CONCEPT

2.1 Interpretive Approach & Guiding Principles

Interpretive Approach

Development of interpretation and visitor experiences at the Fundy Discovery Site will be based on an approach that considers:

- » Focus on the tidal bore as the central attraction
- » Integrated storytelling that responds to the uniqueness of the site and themes, rather than an imposed “signs on sticks” approach
- » Make it a great experience for residents first, while also catering to the needs of visitors
- » Consider long-term opportunities for expansion of exhibition and program spaces to support regional initiatives (e.g., UNESCO)
- » Respect the park-like nature of the site when considering physical interventions
- » Respect and facilitate the way in which residents presently use the site (e.g., lunchtime destination)
- » Define and interpret the signature views to the river and tidal bore, from a variety of perspectives
- » Create a high-impact experience indoors that anchors the interpretive offer, while balancing outdoor experiences/views to explore
- » Create opportunities for daytime as well as nighttime experiences and events
- » Create flexible/expandable program spaces that can be used for school groups and rentals
- » Relate regional perspectives to immediate/local perspectives (e.g., present the Bay of Fundy region, but keep it grounded in where visitors are in relation to the Bay and tidal bore)
- » Integrate personal/cultural stories into the storytelling

Guiding Principles

The 2016 Fundy Gateway Master Plan established the following guiding principles:

- » Develop signature attraction to entice visitors and locals
- » Seize economic opportunities of key tourist sector segments
- » Align with national, provincial, local tourism developments
- » Establish a point of departure for Fundy destinations
- » Capitalize on the tidal landscape
- » Tell a holistic story
- » Provide active experiences and exploration
- » Establish revenue generation
- » Develop in achievable increments
- » Build a place that locals will love

2.2 Interpretive Themes

Given the limitations of space and resources, as well as the need to respect the public’s limited leisure time and general appetite for interpretation, choices must be made about what is most important to communicate. Themes help guide these choices, unifying content to create a framework through which topics and stories can be organized and delivered. Themes often answer the question, “Why do I want visitors to know that?” and remain with visitors long after their experience has ended.

Why use themes? Themes are used to connect varied information in meaningful, relevant ways; help audiences pay attention and remember more later; direct research (i.e., what content to explore now or in the future); and provide guidance for creative decisions related to the visitor experience (e.g., design, development, etc.). They organize how the significance of the Fundy Discovery Site will be communicated to the public, linking tangible resources to their intangible meanings in ways that are relevant to visitors.

The thematic framework developed for the Fundy Discovery Site was developed through input gathered during the Visitor Experience Workshop as well as an assessment of existing content resources (assessment work is appended to this report) including:

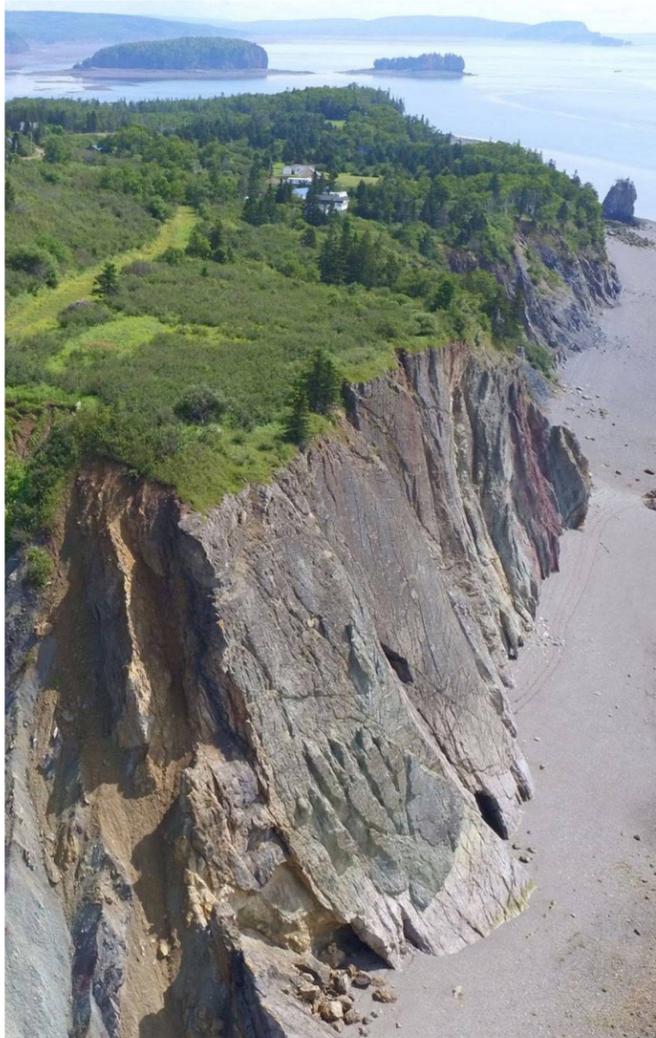
- » Content ideas noted during project startup and site visit meetings, as well as consultation with the Colchester Historem
- » Existing Interpretive Signage developed by Vibe and Dr. Roy Bishop
- » Fundy Gateway Master Plan (Upland): Themes
- » Fundy Gateway Analysis Report (Upland): Site History
- » Cliffs of Fundy Aspiring UNESCO Geopark: Final Evaluator's Report

The thematic framework developed for the Fundy Discovery Site includes one main theme and three sub-themes, as summarized in the following diagram. Key sample topics are included for each sub-theme to clarify the range of subject matter these themes can include. This framework is used to direct the development of all visitor experiences for the Fundy Discovery Site, uniting topics and stories to produce a powerful, consistent approach to interpretation. Although specific visitor experiences may not relate to all sub-themes, all experiences should support and communicate the main theme.

MAIN INTERPRETIVE THEME

At the Peak of the Tide, on the Edge of Wonder:

The tidal bore is the powerful peak of the Bay of Fundy tides—a sampling of one of the world’s greatest natural wonders and an invitation to experience first-hand the dramatic landscape and the rich cultures of the region.



SUB-THEMES

Tidal Landscape: *The power and scale of the tides have sculpted the phenomenal Bay of Fundy landscapes.*

Sample Content (Topics/Stories)

- » Tidal Bore: what is it, why it occurs/conditions to form, tidal bore times, why isn't anything happening?
- » Fundy Tides 101: causes, tidal cycle, spring vs. neap tides, Perigee-apogee influence
- » Tidal Extremes: flows, highs, volumes + range; why so high (resonance); turbulence + rapids
- » Up Close: best places to see the tidal bore/highest tides/tidal rapids; safety around the tides + mudflats
- » From the Rock: bay creation, the tides + geological processes, fossils + minerals, UNESCO Geopark

Tidal Convergence: *Many of Colchester County's stories are reflected here, where tidal and river waters converge.*

Sample Content (Topics/Stories)

- » Sustenance & Settlement: Mi'kmaq and the Salmon River, farming the Minas Basin (Acadians + aboiteau), Planters + the rise of townships, the railroad + African NS communities
- » Boom on the Banks: Board Landing, ships + shipyards, trade routes, movement of enslaved Africans
- » To the Other Side: canoe ferry, Board Landing Bridge, today's pedestrian bridge
- » Traveller's Rest: Truro's first inn, roadside cabins, Tideview Motel/Palliser + famous guests
- » Natural Impact: flood plain + modern aboiteau; ice jams, storm surges + coastal erosion; Saxby Gale

Tidal Living: *The nature of life in the Bay of Fundy region is strongly influenced by the ebb and flow of the tides.*

Sample Content (Topics/Stories)

- » Intertidal Ecosystems: flora/fauna, habitats (salt marshes, mud flats, etc.); migratory birds, Cobequid Bay + the Atlantic Flyway; sea level rise + climate change
- » By the Bay: activities + economies (traditional + new), key cultures (Mi'kmaq, Acadian, etc.)
- » Tidal Power: harnessing tidal energy, project sites (Minas Passage + FORCE, Annapolis Tidal Generating Station)
- » Where To: Fundy destinations + hotspots; visitor info + linkages

Current Site



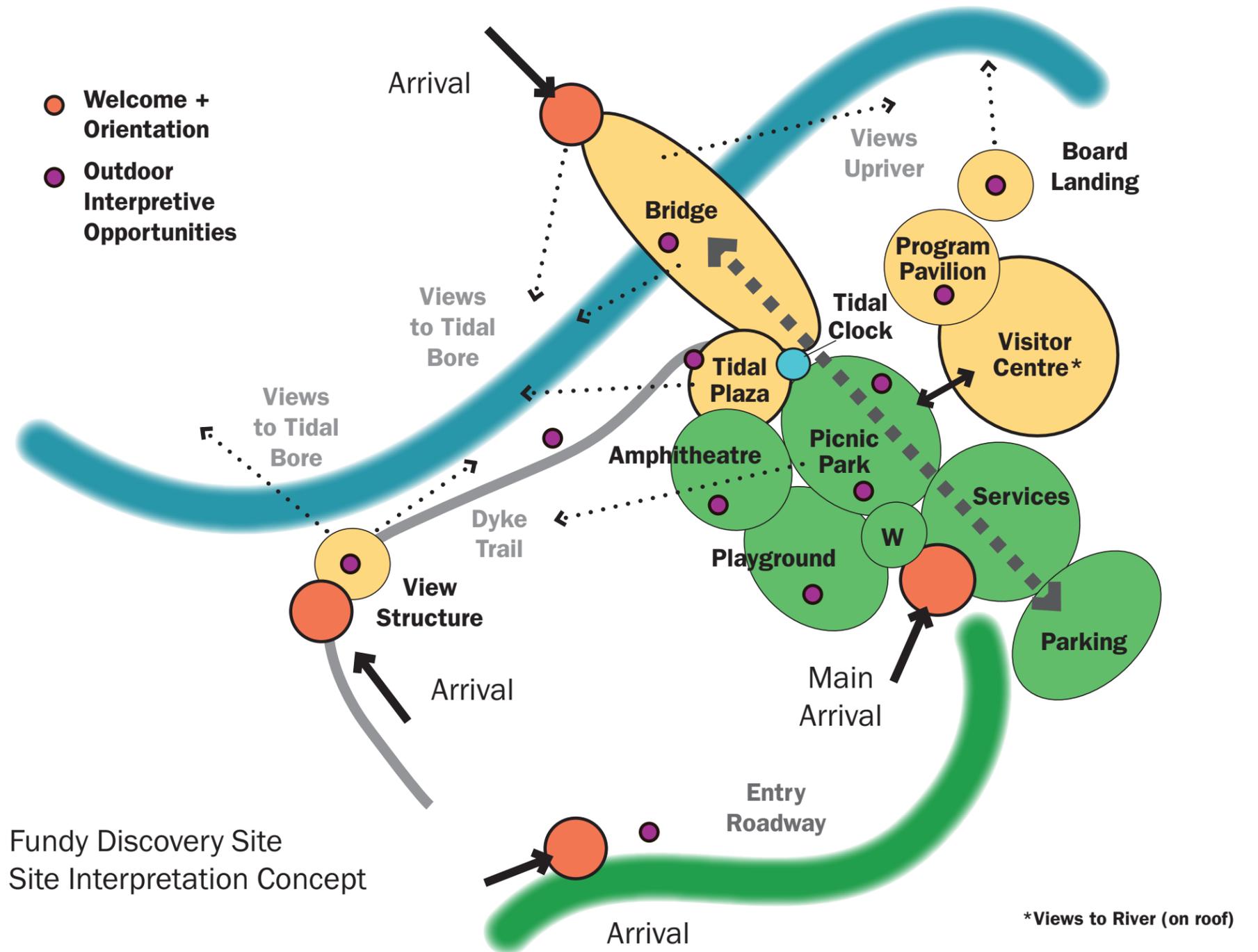
2.3 Site Concept: Organization/Flow

The flow of the visitor experience at the Fundy Discovery Site is organized based on the need to welcome and orient visitors first, then provide options for a variety of interior and exterior interpretive/themed experiences, as well as supporting services and amenities that round out the overall Fundy Discovery Site experience.

Overview of Site Organization

The visitor experience and flow on site will be layered to move from a vehicular (arrival) zone, which then slows to include parking and decompression (arriving) as visitors flow into an active pedestrian/bike-only zone where retail, rental, and events/activities take place. The arrival points feature welcome messaging and will be designed to reflect the site themes. Visitors arriving from a variety of directions should all receive a basic level of orientation; however, the main arrival node is expected to be adjacent to where the road, parking, and services zones converge. The 'busy' services zone will be visually and architecturally connected to the more interpretive areas of the site, but is designed to be manageable in terms of core services (retail, food, rental functions, etc.) including expansion of these services during peak events. A central plaza is intended to be the nexus for the site. It is designed to support passive visitation and gatherings as well as focused interpretive messaging, and is anchored by a tidal clock that has the potential to be a significant icon on site and could be tied into evening events. The plaza opens up to a proposed visitor centre on one face and the park/riverfront areas opposite, which include elements such as the playground, picnic spaces, and amphitheatre functions. From here, visitors can flow to and from the bridge, the largest icon on site, as well as the dyke pathway and/or adjacent program and view areas along the north face of the site. The dyke pathway leads to a focal destination, a view structure and the aboiteau at McClure's Brook, but also will connect into the Cobequid Trail system nearby.

**NOTE: These diagrams have been developed to illustrate the various parts of the site experience, and how these main components work together to welcome, retain and support visitor programming across the site. These may be amended and/or refined as needed.*



Key Site Components

The visitor experience and flow on site will be developed based on the following key components and functions:

- » **Welcome and Orientation** signage situated at key arrival locations on site, primarily the juncture where the arrival road and plaza (vehicular vs. pedestrian) area connects but also at other locations including trail arrival points and at the main road.
- » **Wayfinding Signage System** thematically and visually linked to the welcome and orientation signage, will assist visitors in decision making and movement on pathways and indoors.
- » **Entry Roadway Elements** (e.g., sculptural) may be integrated into the median between the arrival and exit roadway, intended to be viewed from a vehicle or bike.
- » **Parking and Services** are accounted for in the concept, supporting visitors arriving by both car and RV. Visitor services including food, rental and retail augment the site experience, in addition to the washrooms and bike repair services already on site.
- » **The Park**, a central area of the site offering a relaxing and shady space for visitors to sit and take in the views of the river and tidal bore. Picnic locations (i.e., tables) in this space can be used to help convey site themes in subtle ways that do not conflict with the use/enjoyment of this space.
- » **Tidal Plaza** that functions as the focal area for visitors, which will contain places to rest and reflect, or take part in themed events and programs. The Plaza is positioned in relation to a large tidal clock that will become an icon for the site.
- » **Pedestrian Bridge** serving as the signature viewing platform for the tidal bore, with strategically positioned interpretive panels as well as lighting elements that can be activated as part of a special sequence linking the bridge to the plaza for night-time shows and tidal moments.

- » **Visitor Centre** functioning both for tourists, who want to get a comprehensive and succinct overview of the Bay of Fundy region to aid in their journey, and for residents.
- » **Program Pavilion** developed as a covered space, possibly featuring a large tactile map of the Fundy region, or other outdoor program elements that can be used by program staff.
- » **Board Landing** is situated at the edge of the site, providing overviews of the marshes and river below, and highlighting shipbuilding and early industrial themes related to the site.
- » **View Structure** situated at the knuckle of the river and aboiteau inflow from McClure's Brook that provides both vertical and trail-level viewing for visitors to take in the bore experience from multiple angles.
- » **Site-Specific Interpretation** located across the site and on trails, including interpretive signage, embedments, sculptural and interactive outdoor elements that emphasize key views and stories related to the site.
- » **Playground/Amphitheatre (existing)** may be augmented with selected interpretive elements, graphics and/or sculptural elements to boost the thematic strength of these site features.

Key Visitor Centre Functions

The Fundy Discovery Site Visitor Centre will be organized and designed to support a variety of of visitor-related functions including:

- » **Reception and Administration** featuring staff welcome, reception/ticketing, office space, and direct access to outdoor program spaces (for classroom group leaders). Visitor access to show and exhibits further within the Centre would flow through this area.
- » **Visitor Information Centre** including Provincial VIC literature and counselling services.
- » **Retail** including a modest offer of Fundy Discovery Site-themed products and souvenirs.
- » **Immersive Bay of Fundy Region AV Experience**, an animated and interactive AV gallery introducing the Bay of Fundy region—its dramatic tides and other natural wonders, and cultures—in ways that allow visitors to interact with aspects of the story via digital technology.
- » **Bay of Fundy Region Exhibit Gallery** within the Visitor Centre that introduces and explores key themes about the Bay of Fundy. These will work in tandem with the feature AV experience to present the regional and local Fundy story. Displays will include graphics, objects, and digital AV media.
- » **UNESCO GeoPark Exhibits** that present an overview of the Cliffs of Fundy Geopark, introducing visitors to this unique destination as well as the features that are central to its recent designation.
- » **Temporary Exhibits** (subject matter TBD) located within a portion of the visitor centre, devoted to locally-themed exhibits and changing subject matter. This will allow local content and topics of interest to be presented.

**NOTE: Examples of these types of structures and functions were explored as part of the visitor experience workshop, and are also referenced in the APA-A.L. Arbic Analysis prepared for the Municipality in fall 2019 as well as in GATN's materials.*

2.4 Site Concept: Content Location Plan

Site

The site plan aims to enhance the connection to the water and to integrate the various new and existing site elements into a cohesive, thematically-consistent design.

Upon arrival at the site, Tidal Bore Road momentarily aligns with the pedestrian bridge/viewing deck before turning off into the parking area, offering visitors a preview of the bridge and water beyond, and creating a sense of anticipation. Planting beds and entrance signage clearly indicate the termination of Tidal Bore Road for vehicular use; beyond this point, the road transforms into a pedestrian street that leads to the bridge. The pedestrian street serves as a spine to anchor the entire site, providing a direct visual and circulatory link between the site entrance and the pedestrian bridge, as well as forming a central shared space between the existing lawn, playgrounds, and new Visitor Centre.

A grass berm engulfs the Visitor Centre like a wave, weaving thematic significance into the site design. The berm serves as a passive greenspace that offers elevated views to the water. An entrance plaza to the Visitor Centre provides a clear entryway to the building, while also serving as an overflow area for interpretive/programming elements.

Wooden planks or boardwalks, reminiscent of marine docks or piers, extend from the Visitor Centre, through the pedestrian street, over the “seas” of planting beds, and into the park, providing a connection to the picnic areas and existing washrooms building. A line of small accent trees creates a soft border for the picnic areas, providing visual privacy while strengthening the axial connection to the bridge. A sidewalk connects the park and washrooms building to the vendor area where food trucks, retail, and rental units invite picnickers and visitors to grab a bite to eat or browse the items for sale. The bus drop-off area extends further out from the vendor area.

Near the end of the pedestrian street and just before the bridge is the Tidal Plaza, spiraling like an eddy as it climbs upward into a raised platform that displays a tidal bore clock. The plaza protrudes beyond the riverbank, allowing visitors to get even closer to the water. The spiraling, undulating wall provides an informal seating area with views to the water, and interpretive signage enhances users’ experiences and understanding of tidal events. A shade structure ensures that the Tidal Plaza can be enjoyed in rain or shine. The Tidal Plaza’s prominent location and the dramatic height of the clock ensure that it is visible from anywhere on the site. The Tidal Plaza connects directly to the Dyke Trail, which continues along the river and culminates in a viewing structure that offers spectacular views in a quieter, secluded location.

Finally, the bridge completes the journey to the water. The south side of the bridge is intended to be a “viewing platform” for pedestrians to watch the tidal bores, while the north side is designated for bicycle use. Wood planking delineates the walking/viewing side of the bridge, separating the pedestrian viewing area from the higher-speed bicycle path on the other side.

The cycling route loops around the grass berm of the Visitor Centre and connects to the future bike trail that runs underneath the highway. This separated asphalt trail allows cyclists to pass through the site quickly and efficiently, without interfering with pedestrian activities. The bike trail also connects to the east courtyard area, which houses the Services/Maintenance entrance as well as potential expanded bicycle services. The existing bicycle services next to the washrooms building will be maintained. The bicycle trail extends all the way to the existing trails along Robie Street and to the Dyke Trail, strengthening the existing bicycle network. A connector path to the viewing structure creates a smaller loop within this system.

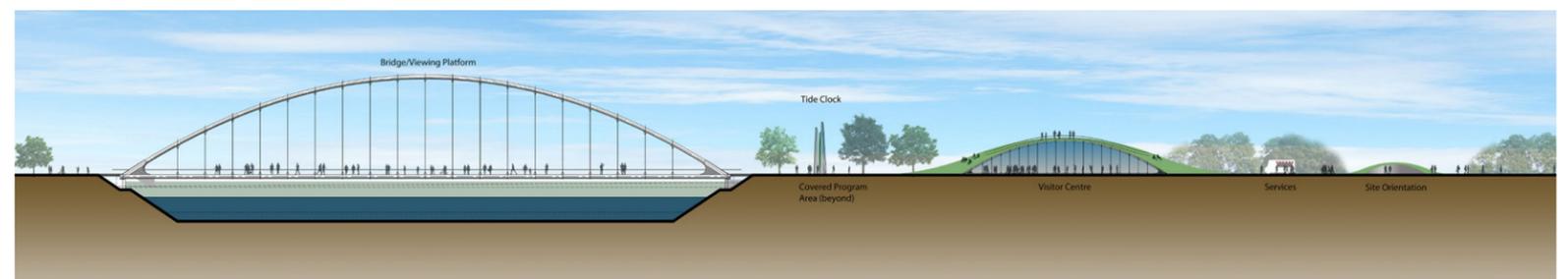
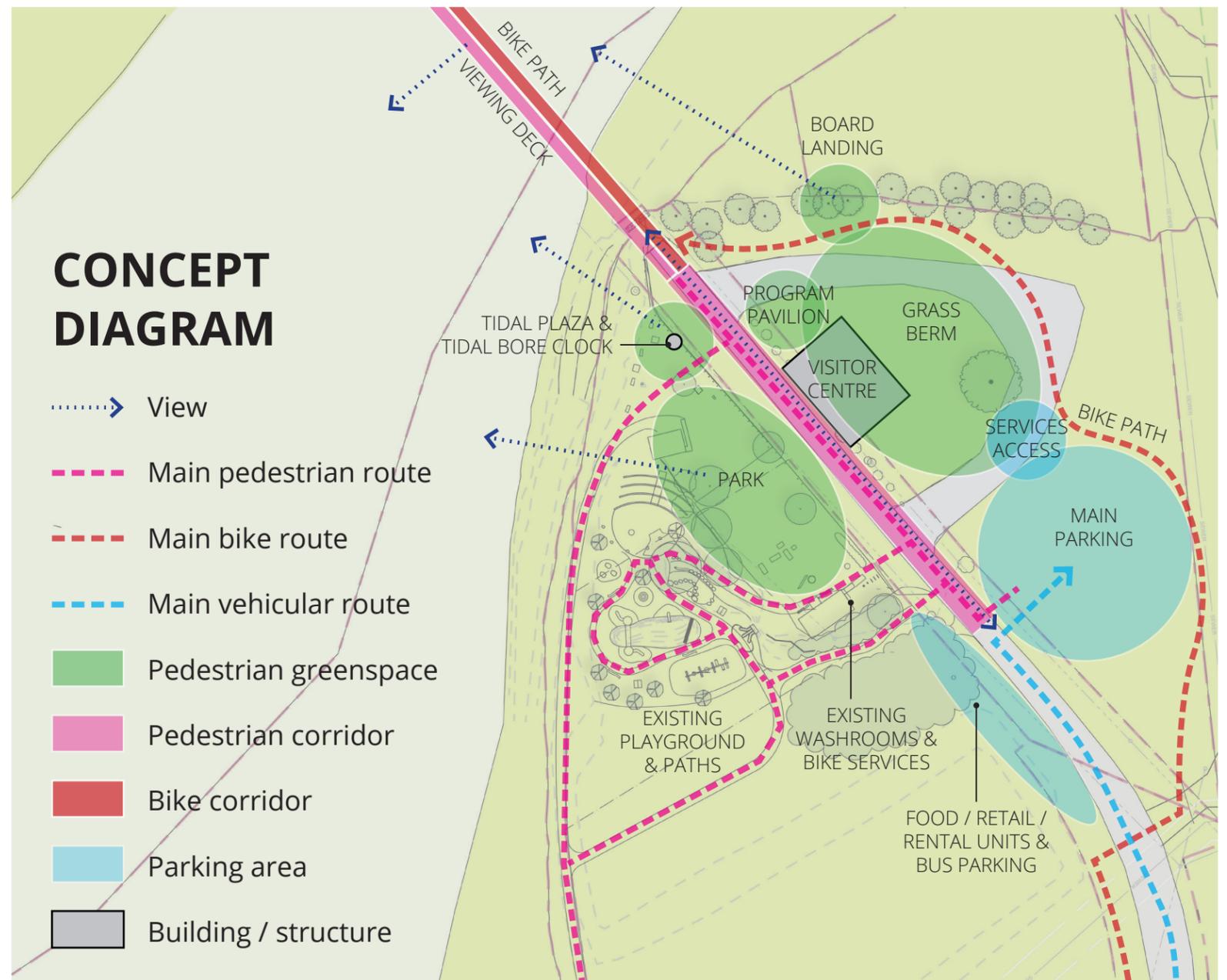
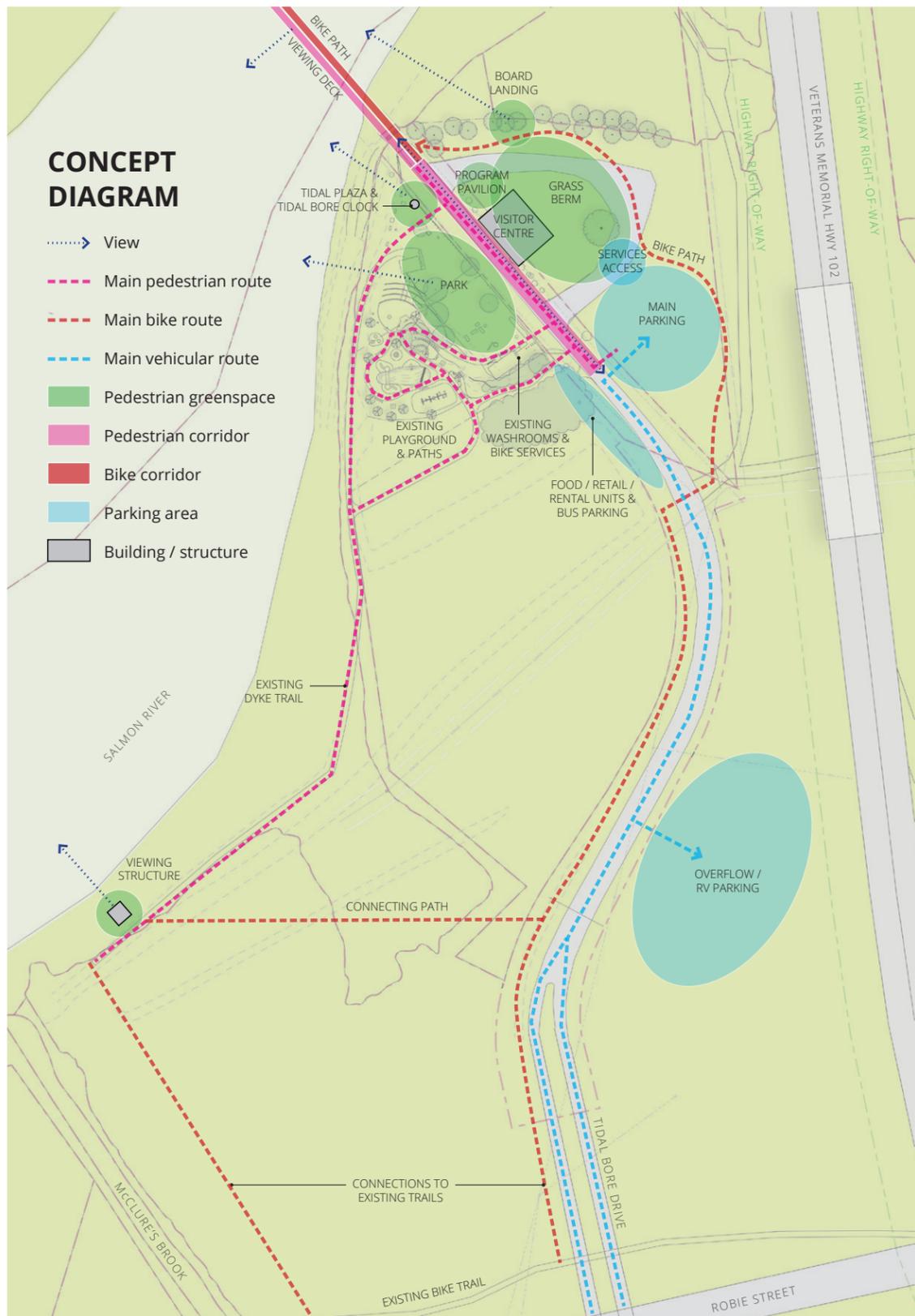
Further down Tidal Bore Road is a parking area for RVs and overflow parking. The asphalt RV parking lot can house up to 10 RVs and offers a waste dump station, arranged in a convenient loop layout. There is room for at least forty more overflow parking spaces on the grass area surrounding the RV parking lot. A concrete sidewalk connects this parking lot to the main site.

Visitor Centre

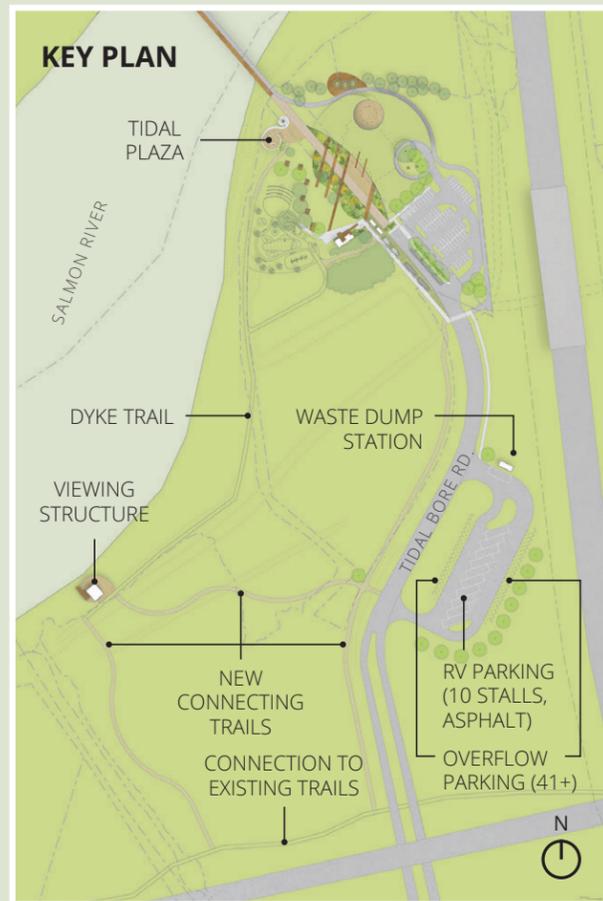
In addition to the pedestrian bridge, a key element at the Fundy Discovery Site will be the Visitor Centre. A concept has been developed in which the bulk of this visitor centre is disguised, partially buried in an earthen berm. This achieves a number of things:

- » The building is all but invisible from the highway, allowing the pedestrian bridge to remain the icon.
- » Shelters the building from highway noise, which is important for any audio-visual programs that may take place in the Visitor Centre.
- » Emphasizes the “geo” nature of the site by “going underground” without having to place the floor level below the water table or flood level.
- » Encourages a form that echoes the arch form of the bridge, with an arched glazed facade facing the visitor plaza and AT access to the bridge.
- » Creates an elevated viewpoint from which to view the tidal bore, or to overlook the landscape. (Note: Access to the roof of the building is walkable, but the slope required to make it entirely barrier-free would result in an impractically large diameter for the berm. It is not, therefore, an “accessible” viewpoint in that sense.)





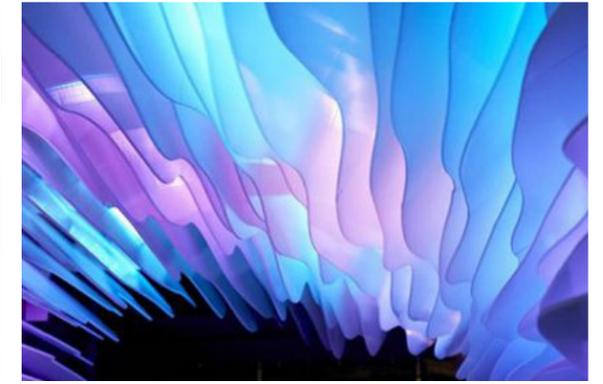
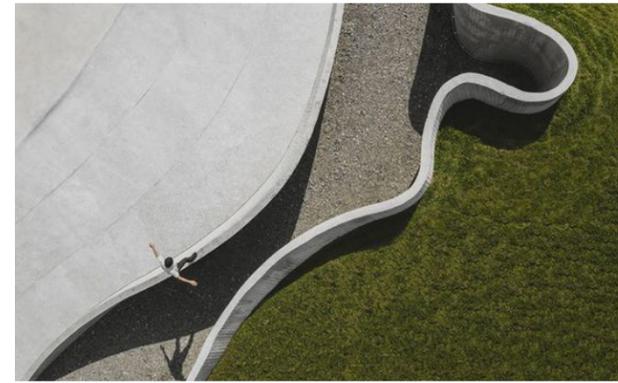
FUNDY DISCOVERY SITE CONCEPTUAL LANDSCAPE PLAN



2.5 Design Character/Approach

Design choices support the thematic approach and overall Bay of Fundy region character. Key features of the interior and exterior design will reflect:

- » The movement of the tidal bore, the tidal event, and direction of water flow.
- » Layering of water/segments/slices of landscape, water depth, deep water, shallow water, mud flats, etc.
- » Layering of information/stories/cultures and cultures adjacent to one another (non chronological).
- » Transition from dark to light (e.g., underwater to above water, nighttime to daytime, etc.)
- » Immersion within tidal waters and environments (e.g., feeling of being submerged in water, etc.)
- » Visual references and flavours/hints of the Bay landscape and waterways (big picture scenes/perspectives and backdrops).
- » Real materials/elements associated with the story and site (e.g., ship boards) and Bay landscape (fossils, rocks, etc.).



3. THE VISITOR EXPERIENCE CONCEPT

3.1 Welcome and Orientation

Interpretation welcoming and orienting visitors to the Fundy Discovery Site will include maps, introductions to the site and its themes, an overview of possible visitor amenities and experiences, and relevant program/event information. Safety and ethical guidelines are also often provided. Signage will be situated at key arrival locations on site.

The main arrival location to the site is located at the juncture where the arrival road and plaza (vehicular vs. pedestrian) area connects. Whether they arrive by vehicle, bike or on foot, visitors will know to come to this iconic and highly visible location first. Flags and masts could be explored as part of this installation during future design phases. Other arrival locations, at trail arrival points and at the main road, will also feature some form of signage and/or interpretive element that cues visitors to the Fundy Discovery Site themes. These will be designed to resemble the style and character of the main arrival node, but will feature fewer and likely smaller elements.

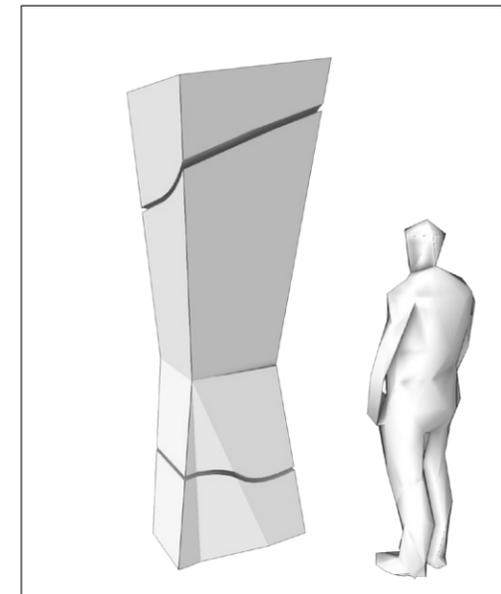
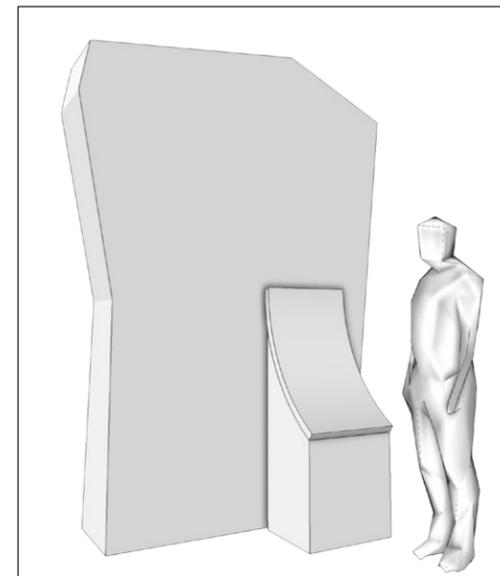
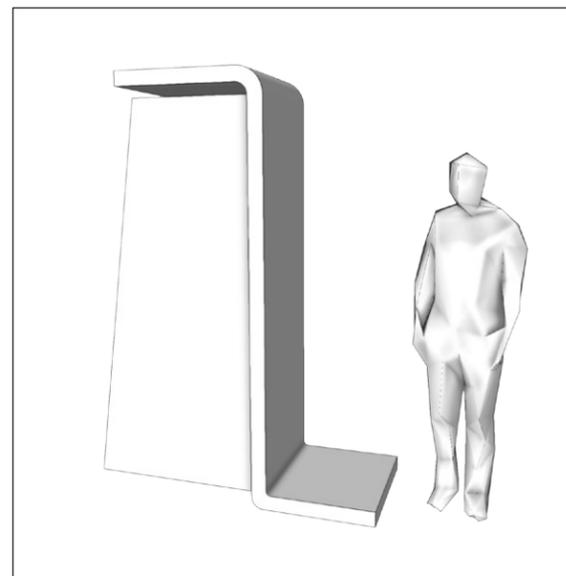
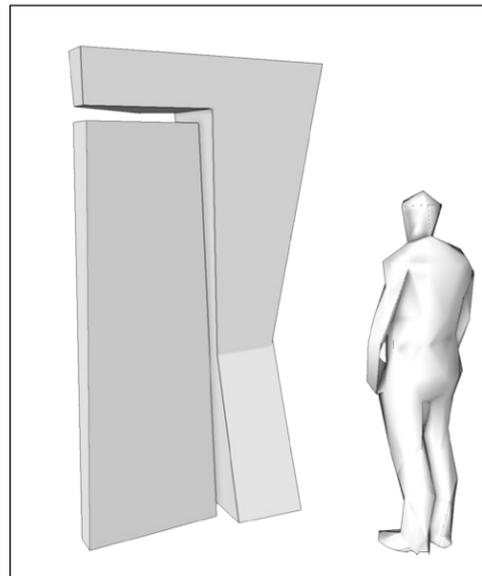
Precedent Images



Web Presence

Presumably, visitors will have already connected with the Fundy Discovery Site and its offerings through an engaging and dynamic web portal—either through the Municipality's website or as a stand-alone site that focuses on targeting and attracting tourists. This mobile-friendly platform will include an overview of potential experiences and what visitors can expect during their visit (services, tide times, events, etc.).

Welcome and Orientation Kiosk Concept Explorations



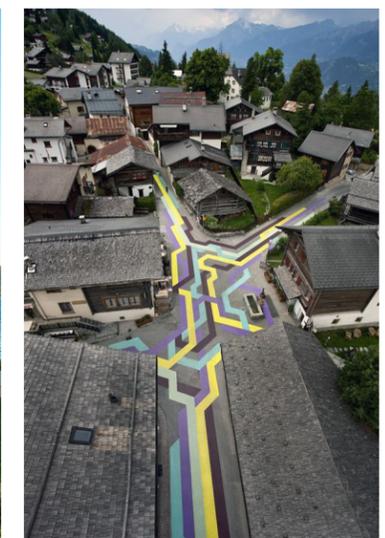
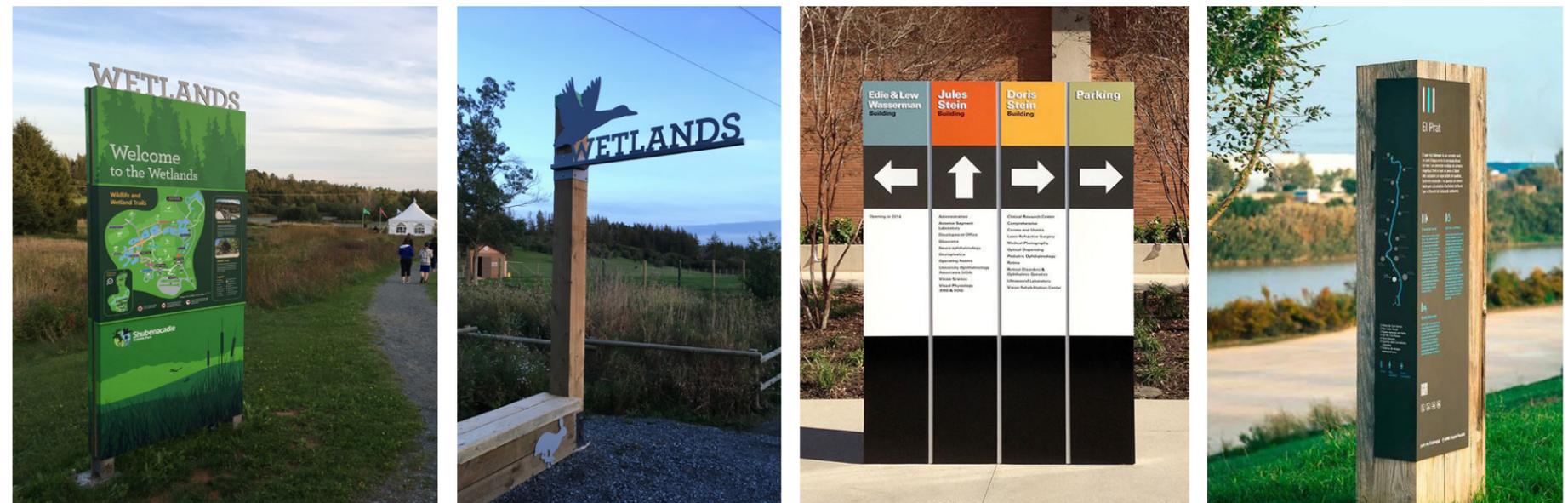
3.2 Wayfinding Signage System

Once on site, a directional signage system—linked to the thematic welcome and orientation signage—will assist visitors in decision making and movement both on pathways and when exploring indoor areas. This system will feature similar design elements and materials, but will be functionally distinct. The same style of signage should be employed inside the Visitor Centre and other buildings to create a consistent signage environment. Site safety and ethics/health regulations should also be signed as well to help guide general expectations regarding site behaviour, particularly where visitors are close to the river/bore area.

Off-site Signage

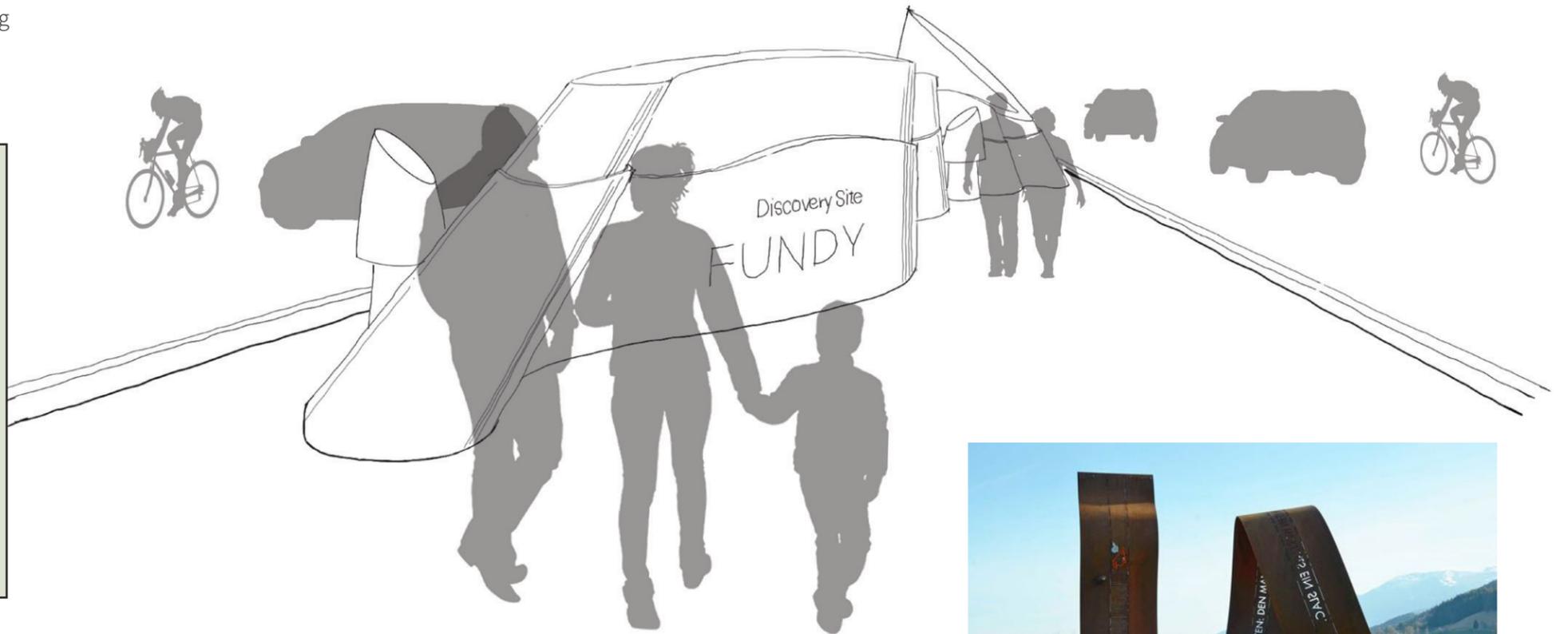
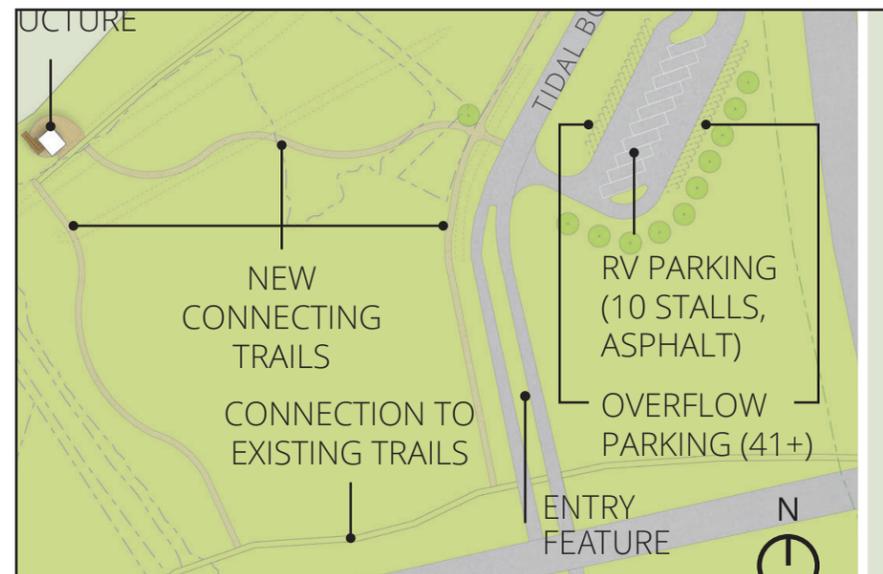
It is recommended that signage and welcome displays be strategically located at highway border crossings (i.e., Amherst/Tidnish) and the Halifax Stanfield International Airport encouraging tourists to begin their Bay of Fundy adventure at the Fundy Discovery Site in Truro. Road signage and billboards should also be considered to prompt and reassure visitors as they get closer to the site, and to help them anticipate the often confusing highway exits required to reach this important destination.

Precedent Images



3.3 Entry Roadway Elements

Sculptural elements will be integrated into the median between the arrival and exit roadway. These will take the form of sculptural and/or lighting elements based on the site themes, and are intended to be experienced from a vehicle or bike. Physical elements may be coordinated into a lighting program that makes them part of an evening show event, or that simply helps light the way for visitors arriving at dusk.



Precedent Images



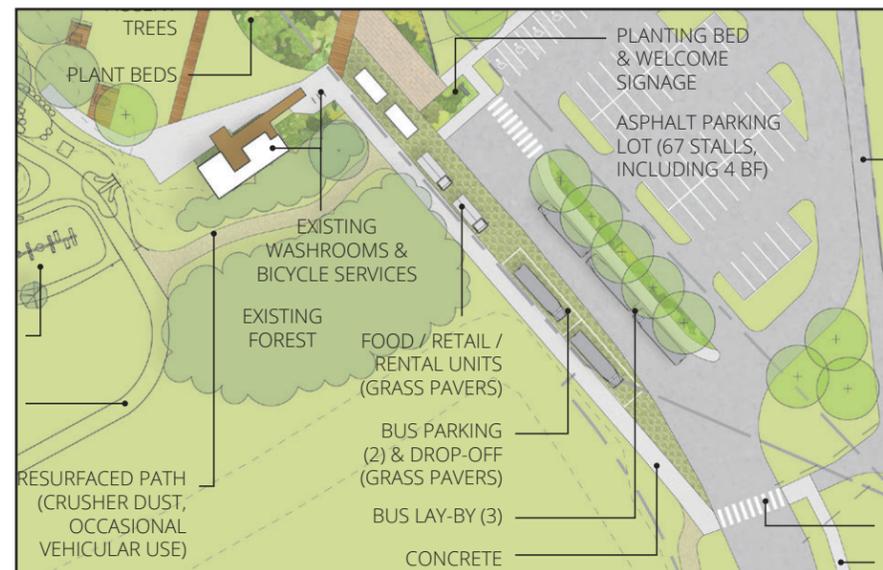
Precedent Images

3.4 Services Area

This area will feature directional signage related to the site system, but does not include any specific interpretive features. Key services within this zone include, but are not limited to:

- » Food trucks/refreshment stations (2-3) including ice cream
- » Potential bike rental
- » Potential expanded bike repair station/rest area
- » Break/rest area for staff and cyclists
- » Retail shop (e.g., Made in the Maritimes Artisan Boutique, FDS souvenirs, etc.)
- » Services (dumpsters, transformer boxes, etc.) with visual screening

The design of structures and choice of materials (where structures are permanent) will be coordinated to match site standards established by the design team and the Municipality.



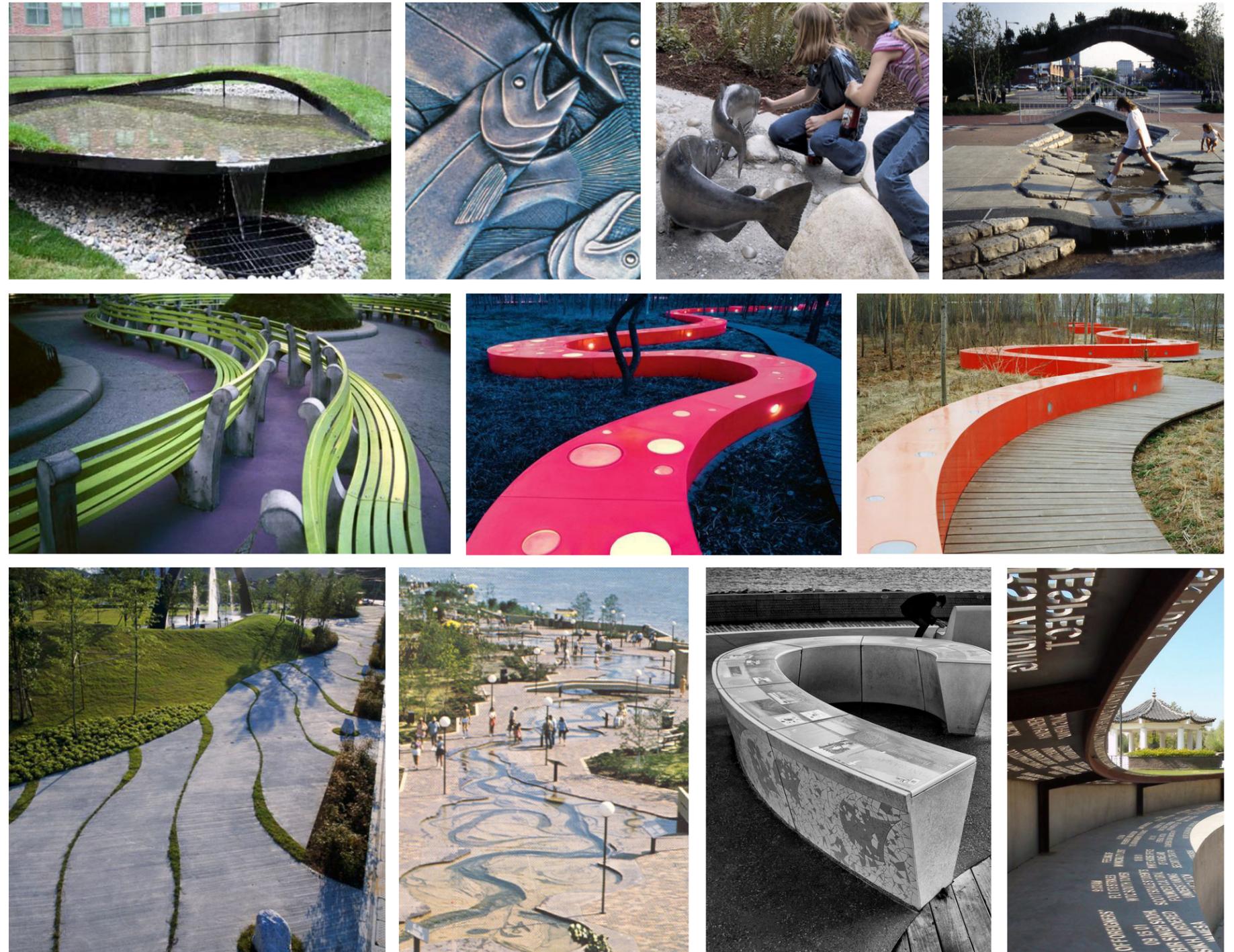
3.6 Tidal Bore Plaza

This feature plaza functions as a natural focal point and gathering area for visitors who come to see the tidal bore. It includes places to sit, rest and reflect, and/or move about to take part in themed events and programs. From this location, visitors have a front row view of the tidal bore event (in addition to the Bridge) and/or can interact with interpretive elements that make up part of the plaza infrastructure. The Tidal Bore Plaza can be activated for programs and events, such as bike rallies, informal cultural moments, and formal receptions.

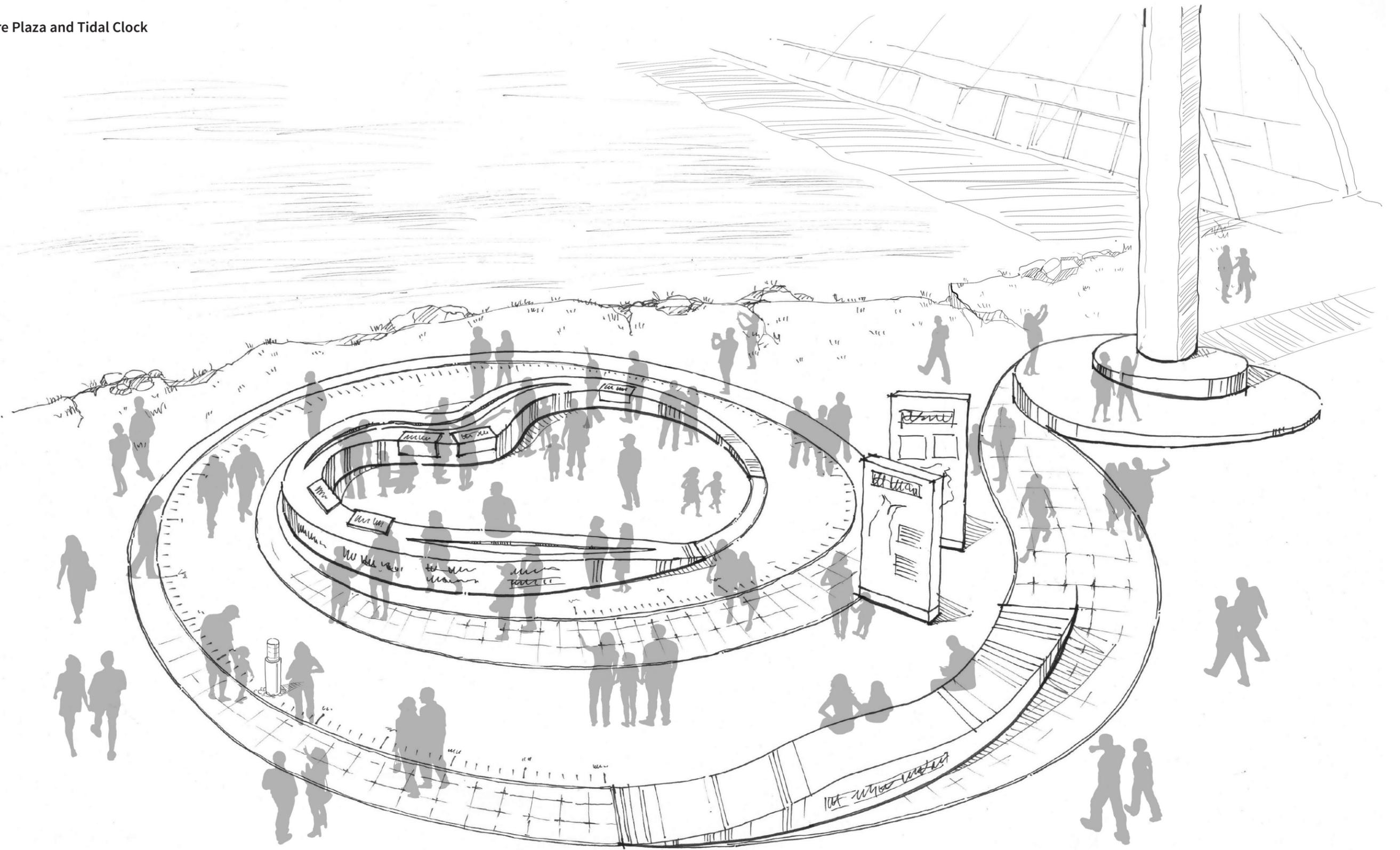
The plaza includes several interpretive features including:

- Sculptural elements that help convey “big picture” ideas about the Bay of Fundy region, before visitors begin to explore further.
- Interpretive panels that explain the tidal bore phenomenon and associated science (possibly layered with similar bridge signage), as well as signage that interprets the old and new bridges.

Precedent Images



Tidal Bore Plaza and Tidal Clock

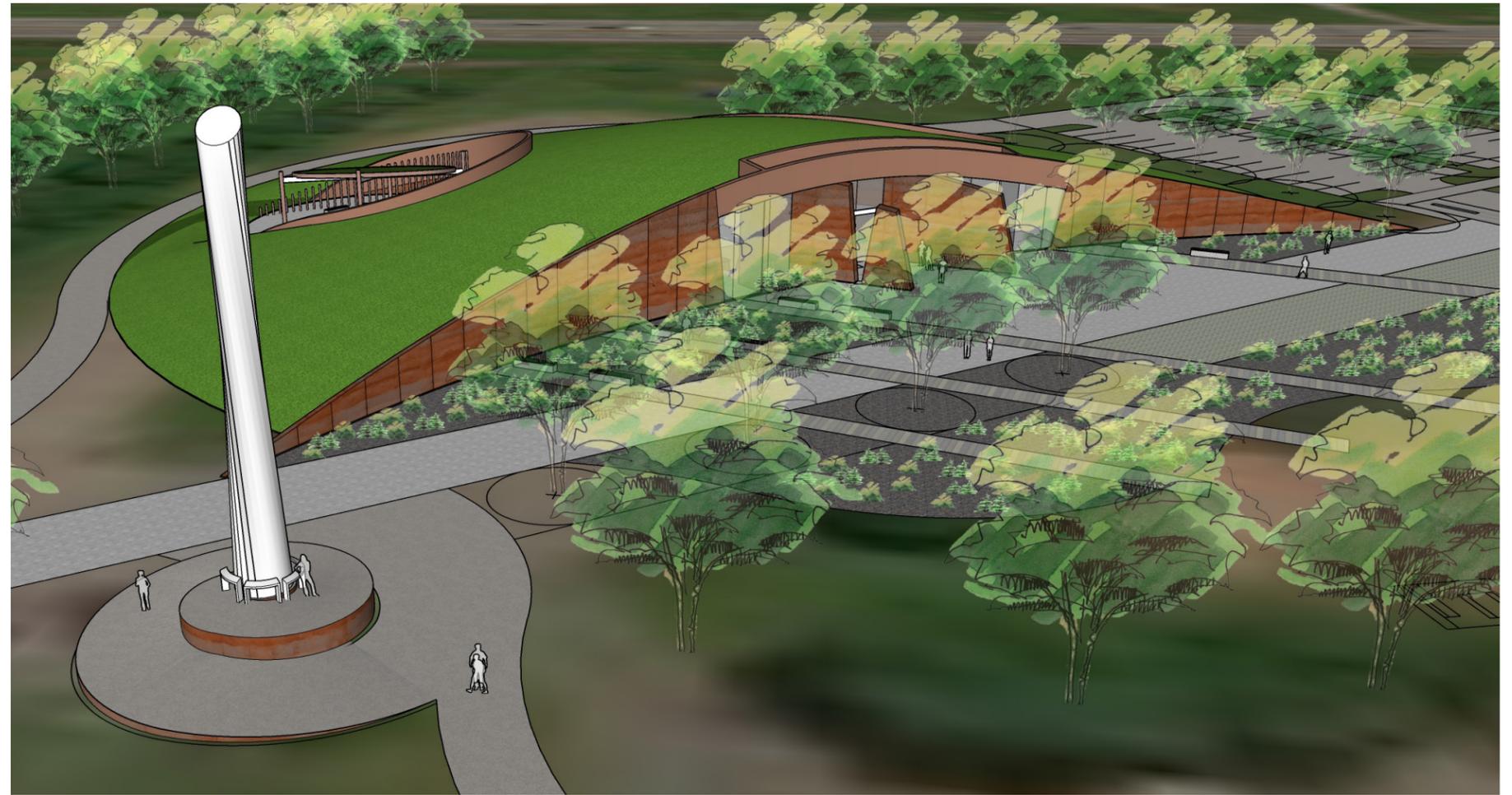


3.7 Tidal Clock

The Tidal Bore Plaza is positioned in relation to a large tidal clock that will become the central interpretive icon for the site. This clock will signal the coming of the tidal bore, alerting visitors who are waiting and enjoying the site's amenities, and will also play a significant role in any after-hours lighting show/effects related to the tidal bore. The tidal clock must communicate the arrival times/sequence of the bore, but can also interpret the movement and flow of the tide. It will be designed with a vertical rise of at least 47.5 feet, corresponding to the average tide height at Burntcoat Head Park, which is recognized by multiple agencies, including the Municipality, as having the highest recorded tides in the world—extreme tidal ranges reach 53.6 feet at this location. This will allow visitors to comprehend the scale of the Bay of Fundy tidal depth in nearby locations relative to their own height.

NOTE: The design and construction of this icon could be considered as an artistic piece and contracted separately from core interpretive media fabrication. Artist selection criteria will be required if this option is pursued.

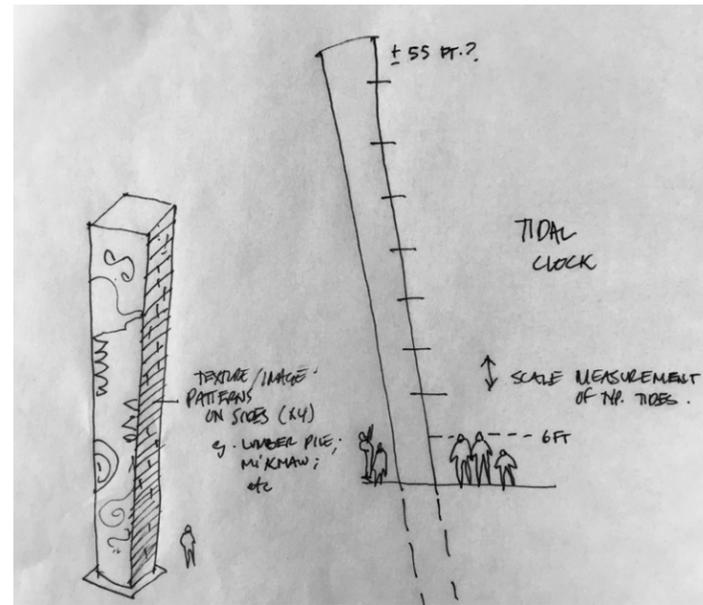
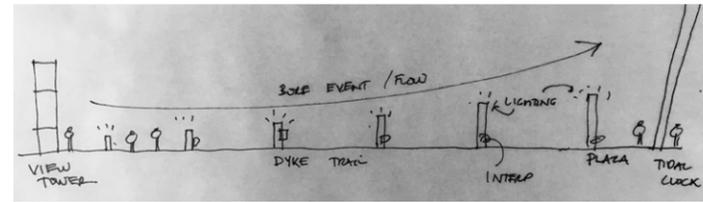
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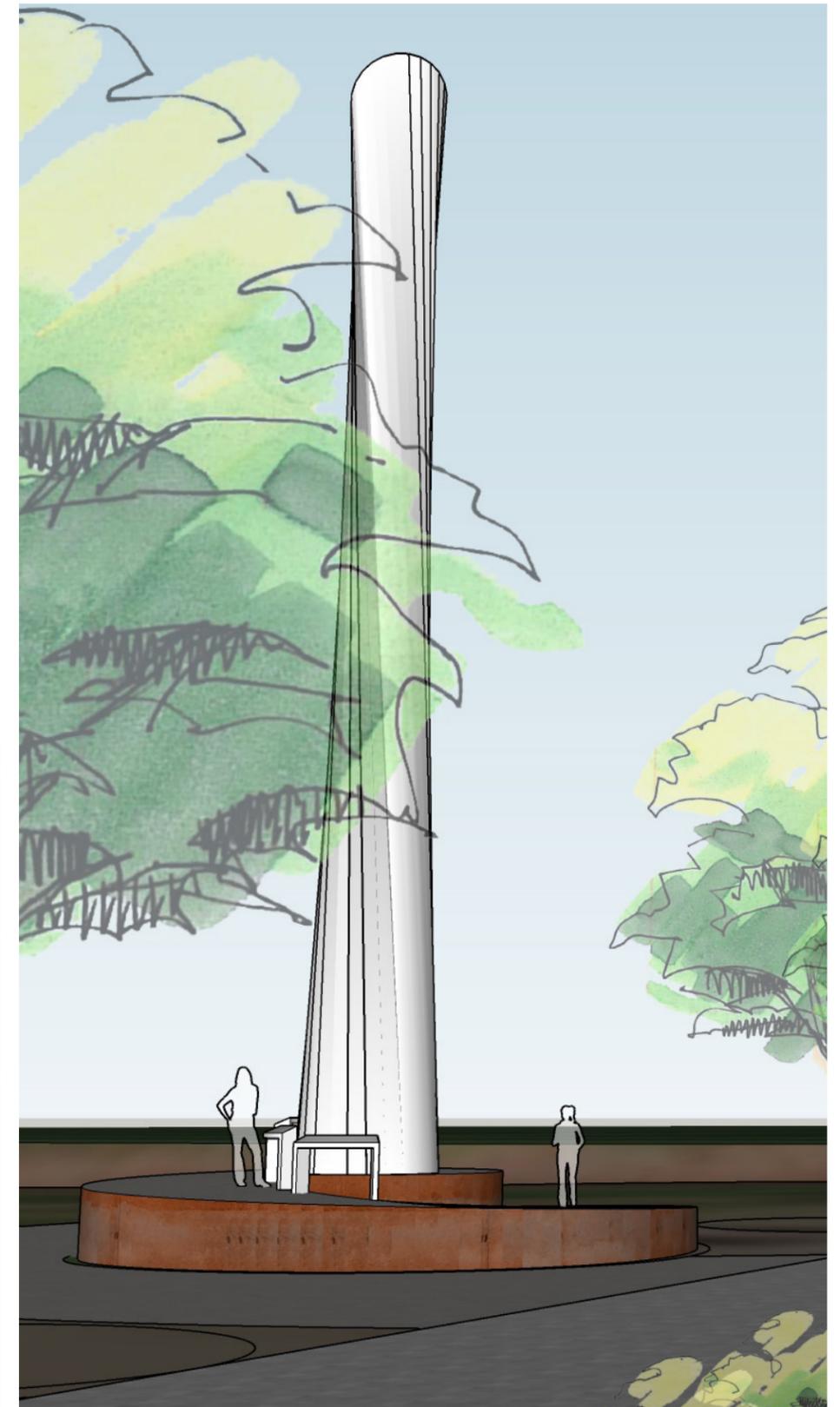
Precedent Images



Precedent Images



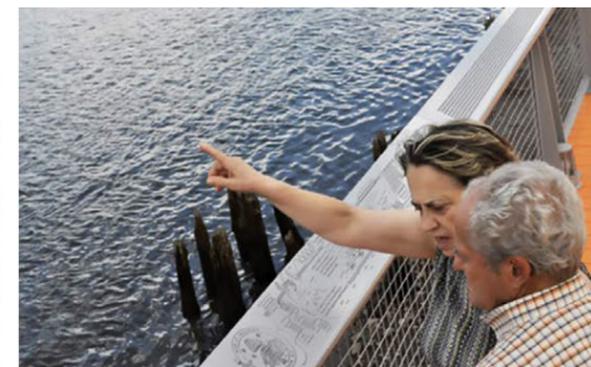
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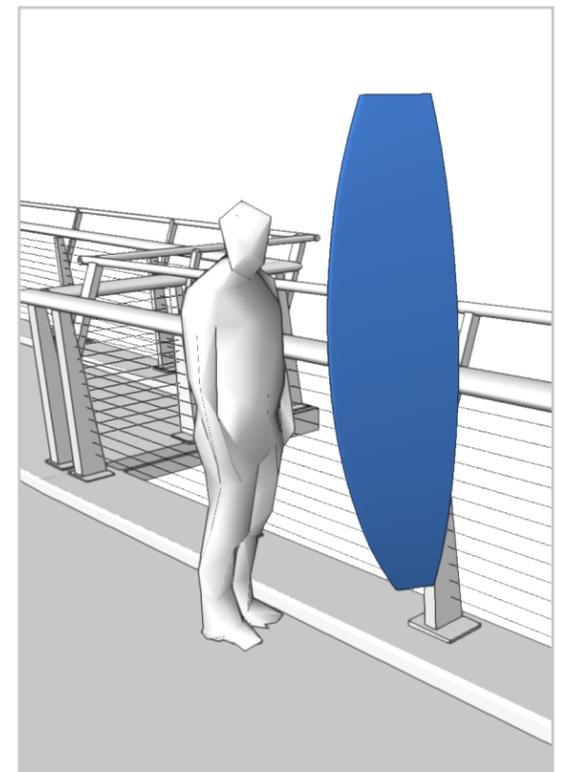
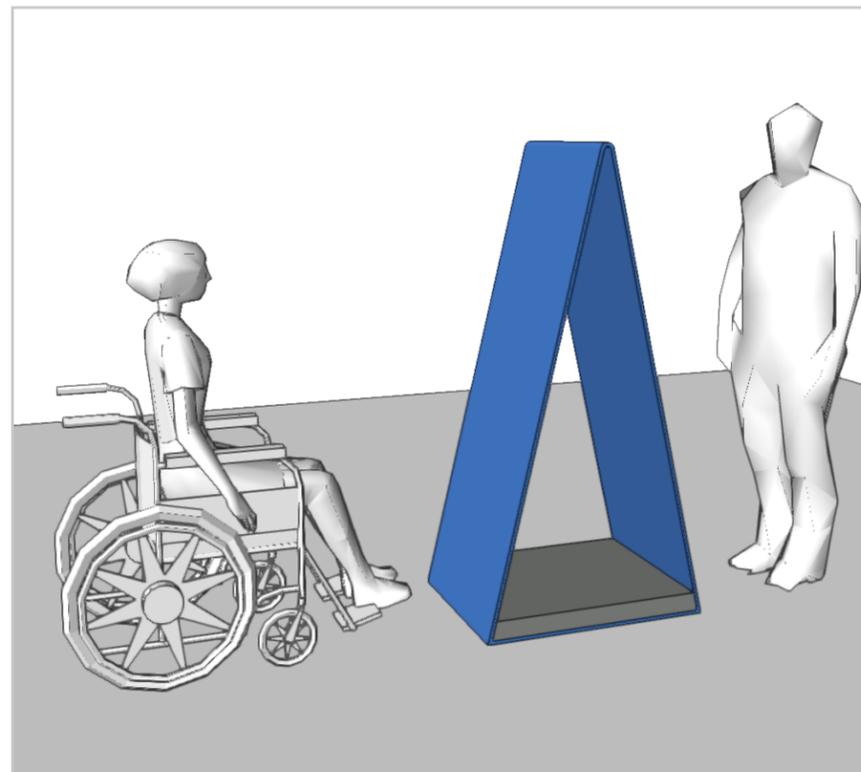
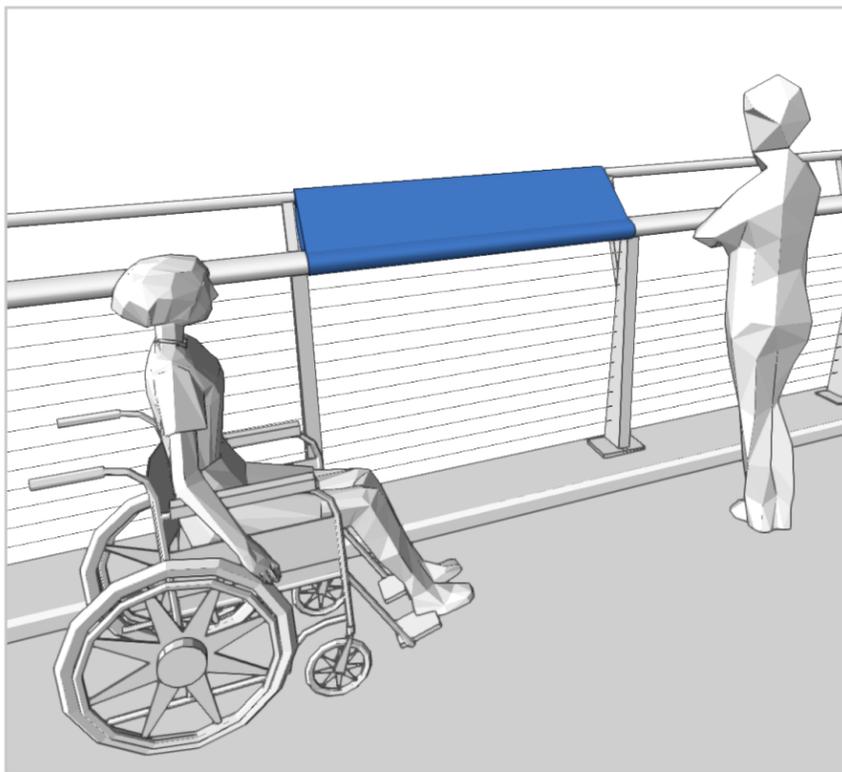
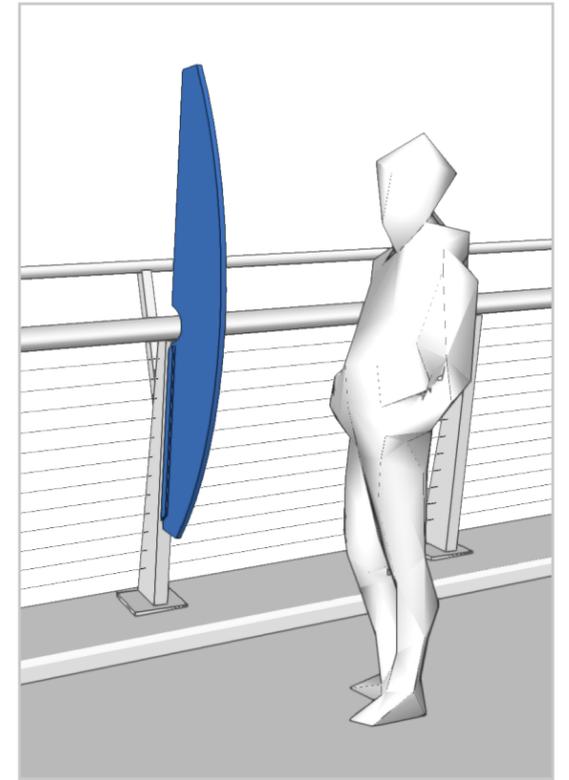
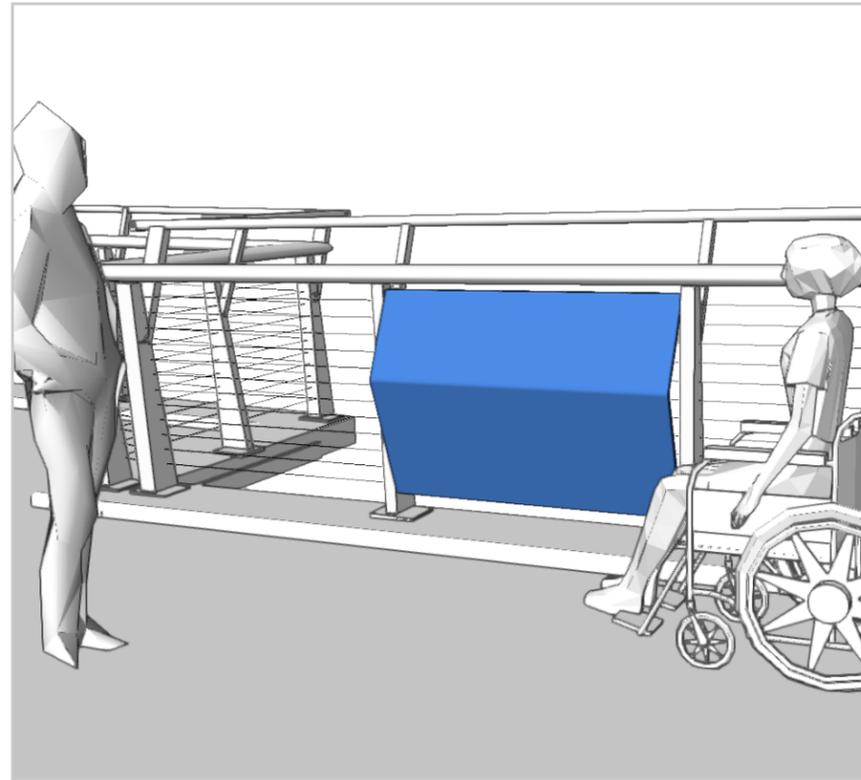
3.8 Pedestrian Bridge

The Pedestrian Bridge, once completed, will be by far the largest physical element on site. It will serve as the signature viewing platform for the tidal bore and, as such, will include several strategically positioned interpretive panels (integrated along the railings, linked to views down and up river) related to such topics as the tidal bore phenomenon and Board Landing (opposite side).

The Pedestrian Bridge will also feature lighting elements that can be activated as part of a sequence that links it to the Tidal Bore Plaza for nighttime shows and tidal moments. There is an opportunity for the bridge and plaza spaces to feature similar hardscape materials (e.g., wood planking) in order to connect them visually and thematically. These boards could carry select interpretation related to the tidal bore, possibly arranged in sequence.



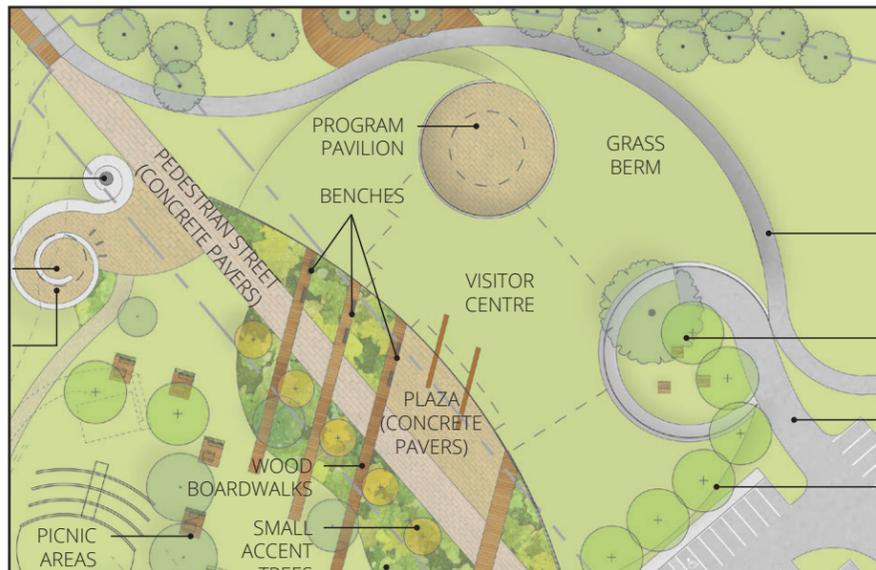
Bridge Signage Concept Explorations



3.9 Visitor Centre

The Fundy Discovery Site Visitor Centre will be the main indoor attraction on site featuring an Immersive Bay of Fundy Region AV Experience, Bay of Fundy/Fundy Discovery Site Exhibits, Temporary Exhibits, and dedicated UNESCO Exhibits to provide visitors with an overview of the Cliffs of Fundy Geopark. The Visitor Centre functions both for tourists, who want to obtain a comprehensive and succinct overview of the Bay of Fundy region to aid in their journey, and for residents who may drop in to see what's on display or share the site with visiting friends and family members. This includes formal provincial Visitor Information Centre elements located within the facility, alongside a small retail space.

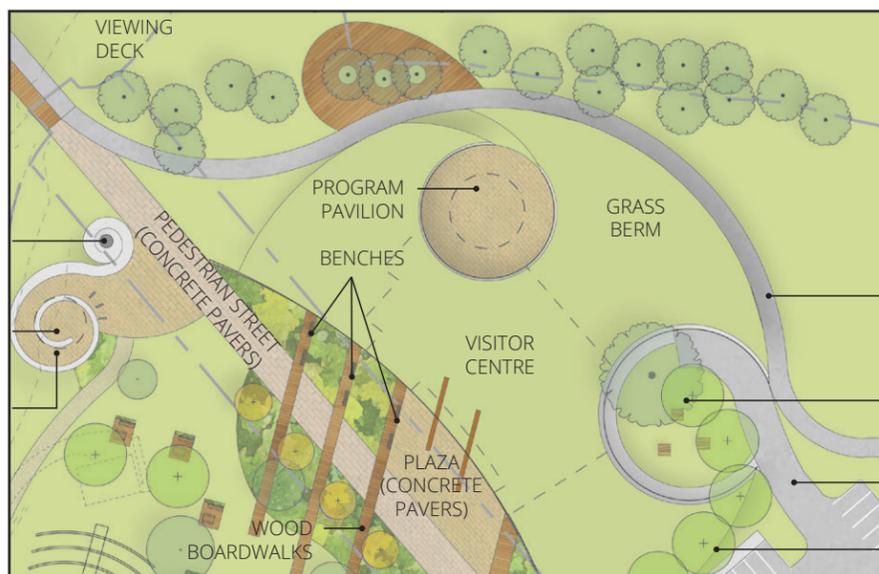
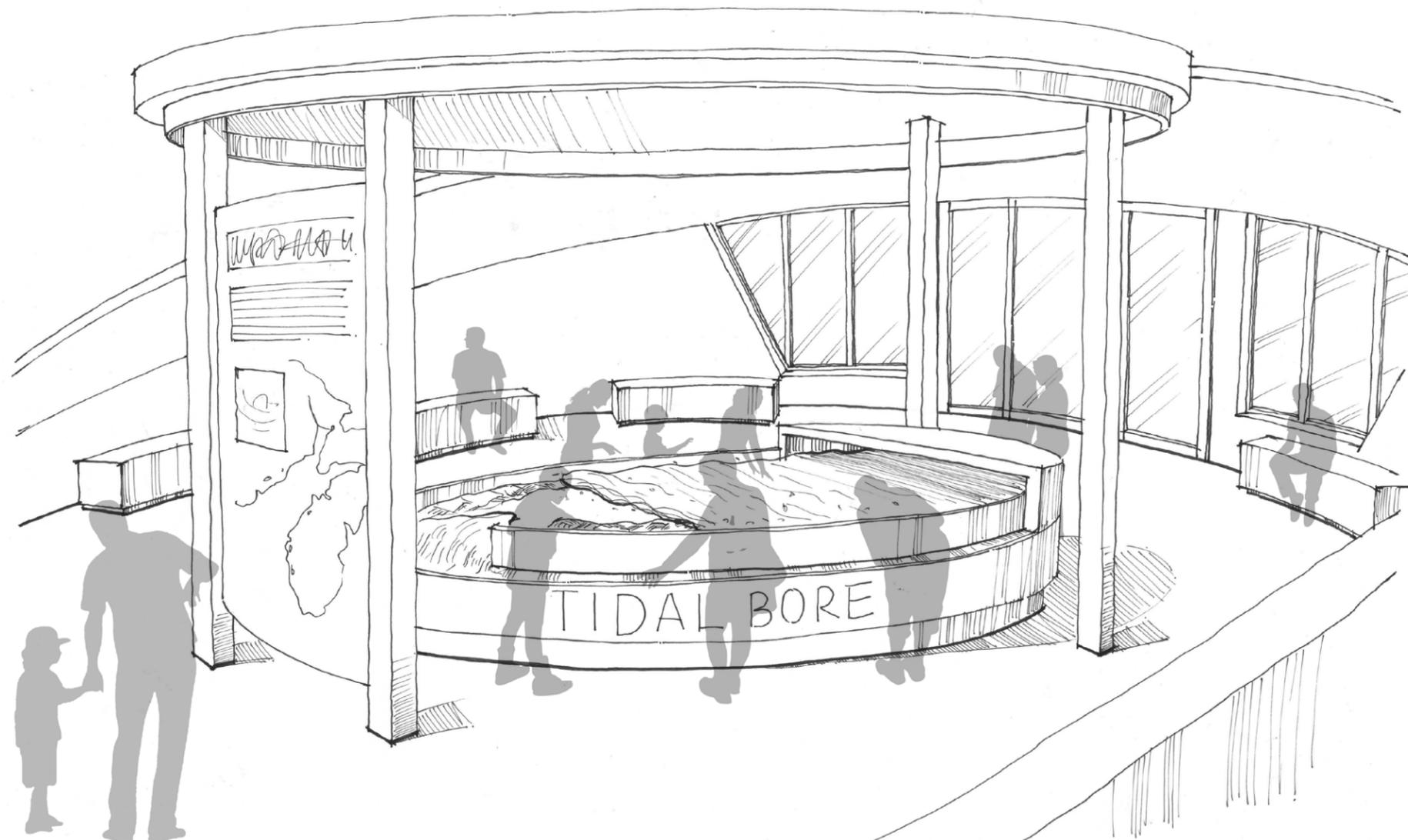
Refer to Section 4 Visitor Centre Concept for detailed descriptions of each of these key features.



3.10 Program Pavilion

This signature outdoor structure will be constructed as a covered shelter in the Program Courtyard, and will feature a large tactile map of the Bay of Fundy region/stream table that can be activated by program staff for school classes and scheduled groups of visitors. This can include live water-based demonstrations replicating the tidal bore effect at a scale that is easy to comprehend, as well as other water-dependent/stream table related science activities.

The Program Pavilion will hold approximately ±30 students and their accompanying teachers/chaperones. It will be designed to accommodate rentals and/or to be used by local residents seasonally, possibly through the inclusion of weather-protective panels or screens. Seating is provided for visitors, as is a lockable storage unit for staff program materials and props. Some interpretive graphics and infographics could also be displayed, featuring scientific information about the tidal bore phenomenon. These graphics can be tied into the structural/storage walls and/or positioned to create windbreak partitions.



Precedent Images

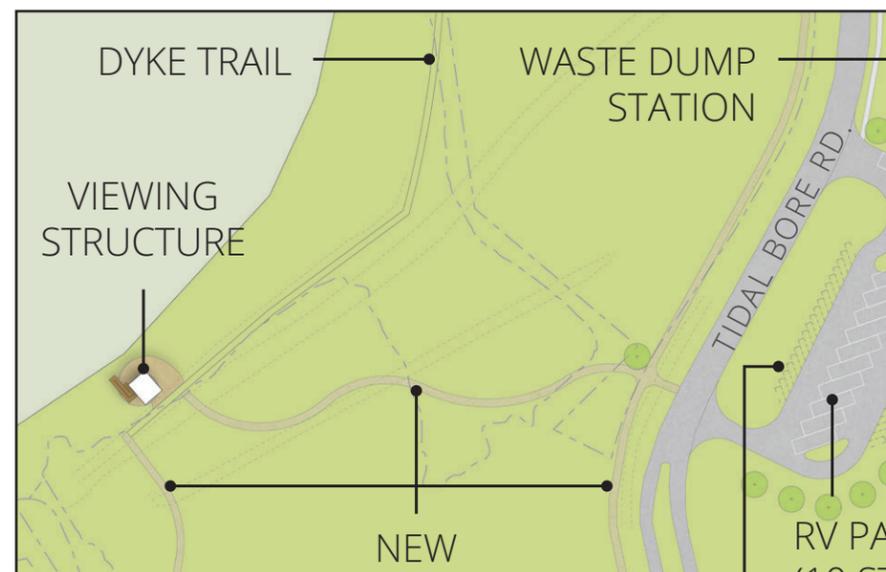


3.11 View Structure

An iconic View Structure is situated at the knuckle of the river and aboiteau inflow from McClure's Brook, and will be used as a secondary view platform for visitors, as well as a destination for walkers on the dyke trail. It provides both vertical viewing (e.g., a tower) and trail-level viewing (a cantilevered deck out over the river) for visitors to take in the bore experience from various angles. It is possible that activity of viewers from this structure would serve as a signal to visitors closer to the Visitor Centre or Pedestrian Bridge that the tidal bore is approaching.

The tower offers interpretive opportunities that can be aligned to selected river themes including:

- » Interpretive signage linked to key views (e.g., Minas Basin, Salmon River, etc.) as well as historic events with an impact on the landscape (e.g., 1869 Saxby Gale, ice jams, etc.)
- » Special graphic/tactile elements
 - 3D aboiteau model that allows water to pass through (or illustrated sculptural water lines); the aboiteau could be designed to move for programming use.
 - Tidal bore rotating graphic: visitors move the bore over a river surface to see how the water rushes over the river to create the tidal bore effect.
 - Quotations related to the Bay of Fundy region and the power of the tides



- » View scopes allowing visitors to watch for and view the arrival of the tidal bore
- » Themed graphic treatments for walls/surfaces/stairtreads

This location may also feature a natural incline/easement down to the water for supervised canoe/kayak and tube launches at selected times, or to allow groups to access the river mud below. Access would not be advertised or available to the public unless supervised. It also offers potential for an outdoor climbing wall (paired with the Rath Eastlink Community Centre).



Precedent Images

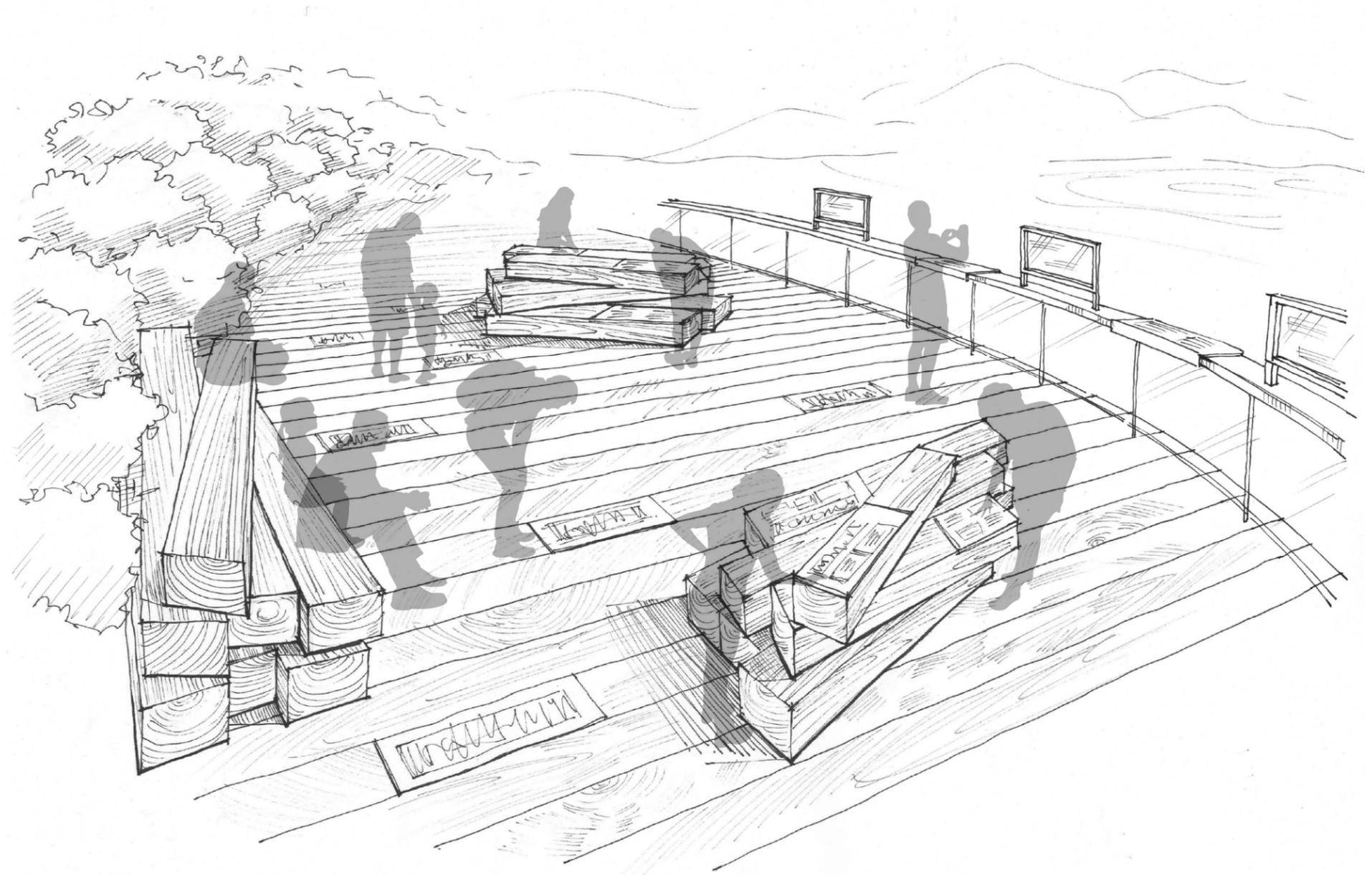
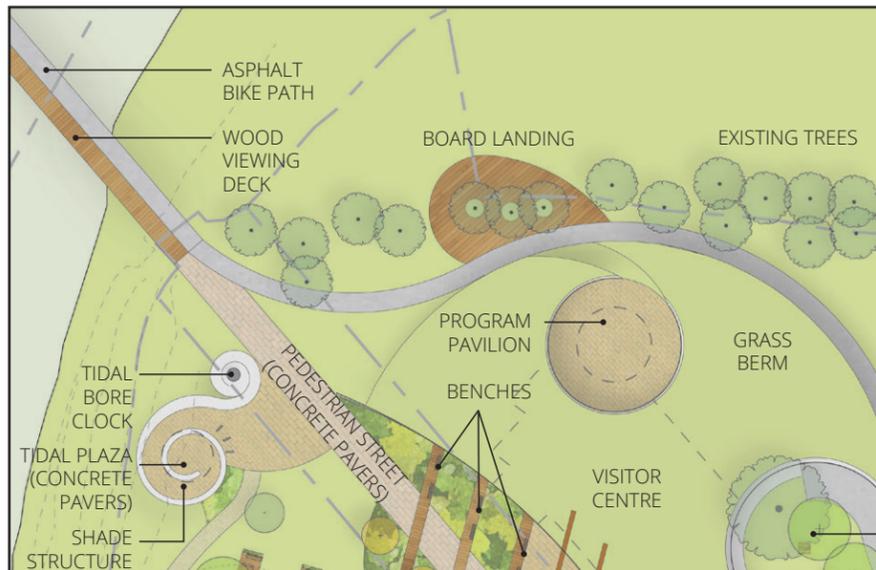


3.12 Board Landing View Deck

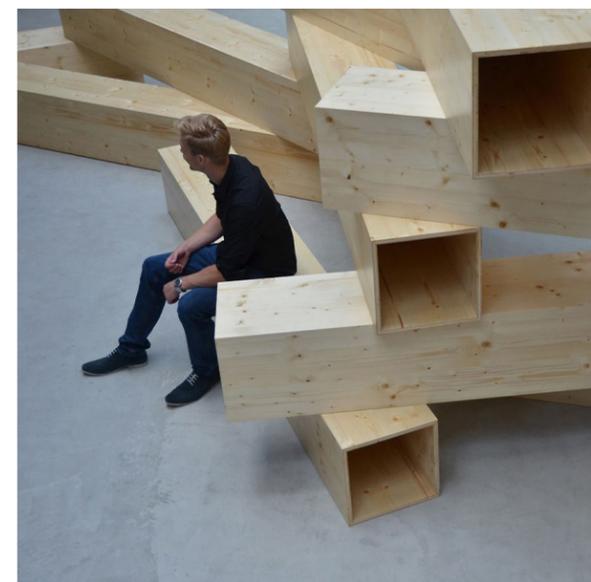
The Board Landing View Deck is a small view platform overlooking the approximate* site of historic Board Landing and shipyard. This space focuses on the entirety of the historic shipbuilding and commercial activity that once took place in this area, as well as the canoe ferry service across the Salmon River before the Board Landing Bridge was built circa 1860. Interpretive elements include:

- » Lumber/beams that form abstract seating
- » Graphic engravings or cladding onto beams (e.g., including historic factoids, names of ships built at Board Landing, etc.)
- » Views down to the Board Landing site through an overlay glass panel featuring an illustration of what the site might have looked like in the mid 19th century.
- » Views scopes to spot wildlife in the marshes and fields nearby

**NOTE: Although preliminary research indicates that Board Landing was located near the present-day Fundy Discovery Site, additional research will be required to determine the location of the historic Board Landing site in relation to the proposed Board Landing View Deck. Site-specific interpretation (e.g., interpretive signage), described next in 3.13, could be introduced to highlight the precise location of historic sites such as the Board Landing shipyard and Board Landing Bridge.*



Precedent Images



Precedent Images



3.13 Site-Specific Interpretation

Interpretive signage, embedments, sculptural elements, and interactive outdoor elements will be strategically situated throughout the site and along pathways to help communicate a variety of site-related stories and views. These are the main delivery mechanism for site-specific content, and will be integrated with built structures or appear as stand-alone features. They may include special elements, depending on the story and could address Mi'kmaq use of the site, the story of the Palliser Motel, factoids related to the tidal bore along the pathway to aboiteau, or the historic bridge, among others.

It is anticipated that there could be interpretive points of interest located along the pathway at the foot of vertical icons (lighting elements) that together form a site-wide experience at certain times of the day—refer to Section 5.2 Feature Lightshow for details regarding this interpretive feature. These will be organized based on the amount of points able to be carried by this feature.

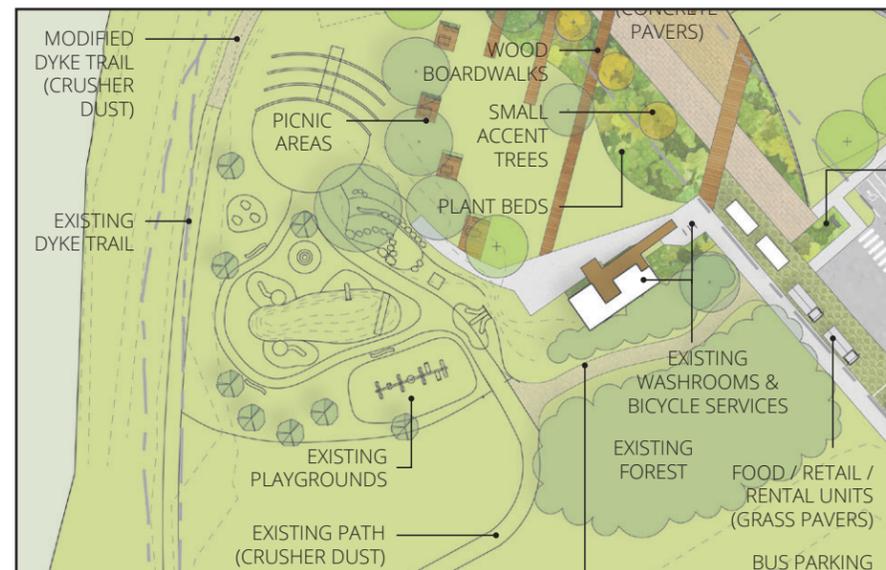
**NOTE: Distribution of specific stories and interpretive locations on site will be refined further in subsequent design phases, and based on which major proposed site features are approved for further development and construction (i.e., to ensure a rational juxtaposition of site-based content where possible). This level of signage is intended to help infill areas of the site rather than to carry the brunt of all outdoor interpretation.*

Precedent Images



3.14 Playground/Amphitheatre

The playground and amphitheatre areas will be augmented with selected interpretive graphics, labels, and/or sculptural add-ins. The aim is to weave in small stories that boost the thematic strength of the existing and planned site features, which also serve to prompt visitors to visit these sites in future. The playground and amphitheatre will continue to provide opportunities for pure fun and delight for younger visitors as well as serve as event/performance space for large groups (both tourists and residents).



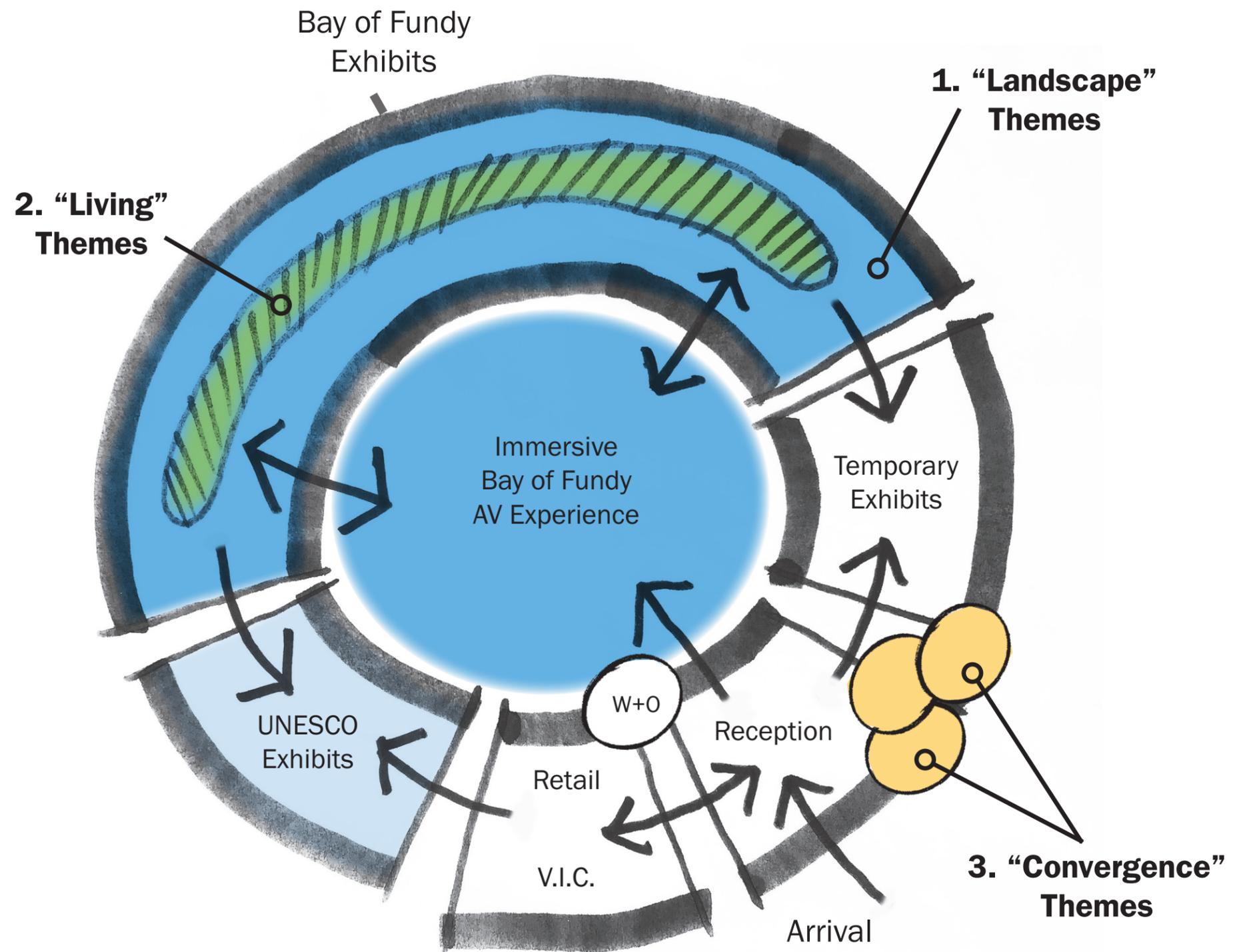
Themed Playground Elements

Play Element	Theme/Representative Element
Three climbing rocks	Three Sisters
Triple hillside	Waterfall (Economy Falls, Wards Falls, Londonderry Falls/Great Village River Falls, Delaps Cove, etc.)
Tower slide	Waterfall (as above)
Metal hillside	Waterfall (see above)
Sand play area + kitchen	Minas Basin/Bay of Fundy Mud flats Beaches (Five Islands, Evangeline, Kingsport, Blomidon, Blue Beach (fossils) Fossils Sand spit
Triple-bay swings <i>(including nest swing)</i>	Eagles + their nests Swing motion: ebb + flow of the tide
Log jam climber on berm	Driftwood (e.g., Advocate Beach)
Red rock scrambles	Sandstone: red rocks at Chignecto, Burntcoat Head, Five Islands cliffs
Vertical log steppers	Posts in old wharves/remnants of old wharves seen around the Bay today

Play Element	Theme/Representative Element
Vertical log steppers	Posts in old wharves/remnants of old wharves seen around the Bay today
O'Tannenbaum spinner	Dory rips at Cape d'Or/Old Sow whirlpool (NB/Maine) Schooner mast
Berm	Ocean (tidal bore, wave)
Retaining wall	Waves, cliff face (e.g., Joggins Fossil Cliffs)
Net climbing tower + bridge	Fishing weir (Partridge Island) Crow's nest of ship (highest level of tower) <i>*Height of tower poles TBD (possible significance related to vertical tidal range)</i>
Wharf + boat	Boat at low tide beside wharf (Hall's Harbour, Parrsboro)
Boat	With log bow and stern Dashboard, real ship wheel
Wharf	With wharf/rung ladders
Talking tubes	One on boat + one on lower deck of wharf

4. VISITOR CENTRE CONCEPT

The new Fundy Discovery Site Visitor Centre will be organized and designed to support a variety of exciting visitor-related functions, described herein.



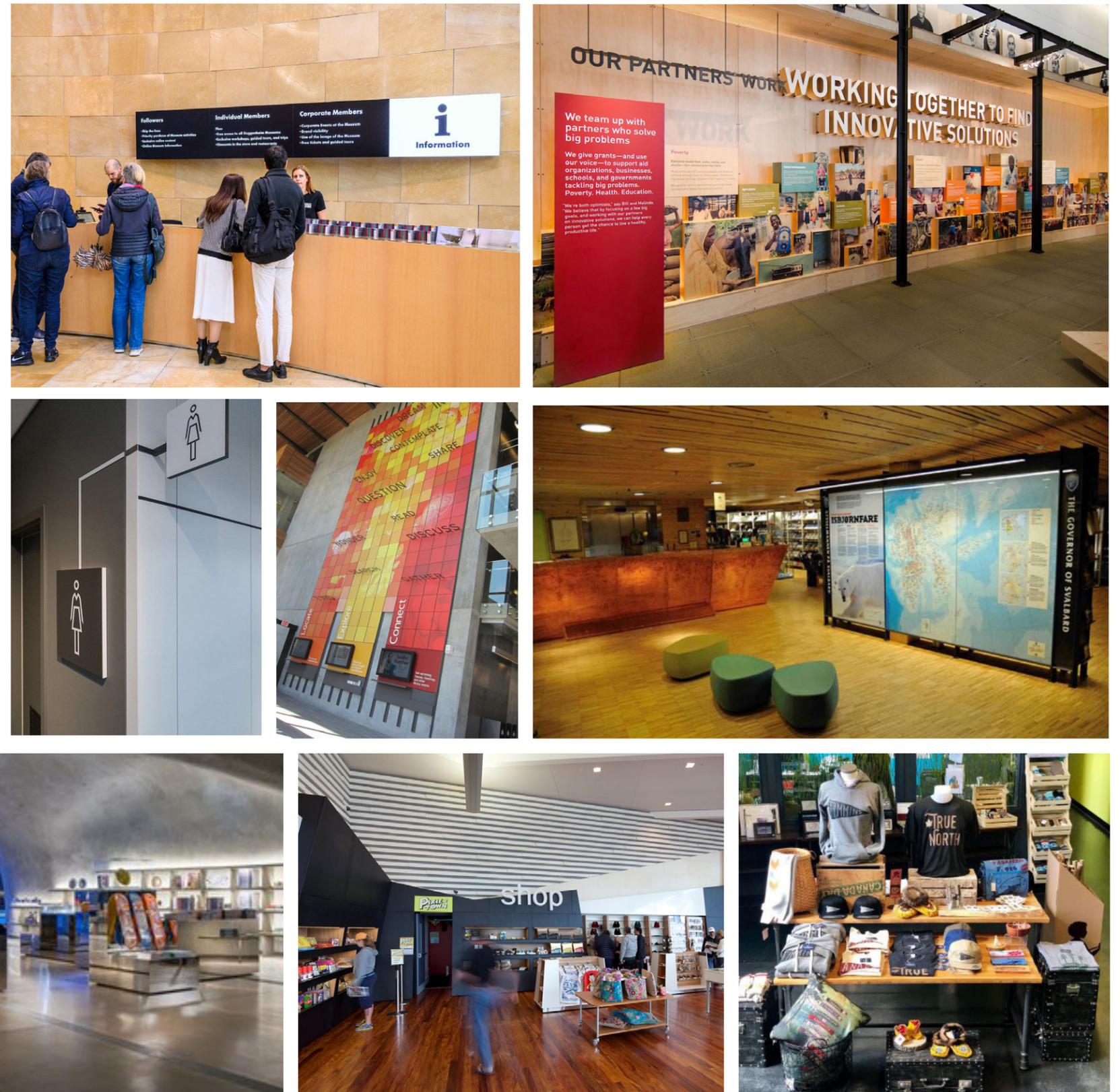
4.1 Reception and Administration

This area features a live staff welcome, reception and ticketing as required, as well as washrooms, office and storage space. Upon arrival, visitors will be provided with information about prices and programs (as needed) before they begin their exploration. This area will also allow direct access to outdoor program spaces for classroom group leaders. Interpretive features within this space will include Welcome and Orientation displays (with some overlapping information about the site), as well as regional information for tourists. Additionally, large format imagery featuring a mix of powerful, “macro” images of the tidal bore juxtaposed with up-close “micro” images of life in the Bay when the tide is out (e.g., bird species on the intertidal mud flats, a fishing boat at low tide, etc.) will be integrated into the arrival/lobby space.

4.2 Visitor Information Centre/Retail

As part of the province’s VIC network, the Visitor Information Centre at the Fundy Discovery Site will provide a comprehensive, yet succinct overview of the Bay of Fundy region for tourists to aid in their journey/exploration of the area. Along with tourist literature related to Bay of Fundy regional attractions and travel counselling, it will also provide visitors with the opportunity to browse and purchase souvenirs related to both the Fundy Discovery Site and the Cliffs of Fundy Geopark. Scale and content of this space will be developed in coordination with the Province of Nova Scotia.

Precedent Images



4.3 Interpretive Exhibits

New exhibits within the Fundy Discovery Site Visitor Centre will include the following.

Immersive Bay of Fundy Region AV Experience

The anchor piece of the Fundy Discovery Site Visitor Centre will be an animated and interactive AV gallery that introduces visitors to the Bay of Fundy region, its dramatic tides and other natural wonders, and cultures in ways that allow them to interact with aspects of the story via digital technology. The space will be designed to feature an open-ended interactive experience that uses video and audio media including augmented reality (AR) and motion-recognition systems that are responsive to visitors. It is expected to support ±20-30 visitors at once, with opportunities for visitors to flow into and out of the space at their leisure. The AV space will be adjacent to the main exhibit area; movement between the two will be permitted as a way to extend the immersive nature of the exhibit experience beyond this central AV space.

The space is designed to include ample standing and seating areas within a long and dynamically faceted room that provides the setting for an immersive show including projections and AR interaction. The show sequence is a combination of lighting and projection onto physical surfaces such as the floor, ceiling, walls, and several abstract shapes that, when viewed as a whole, create a special environment. Overhead, a large spherical surface will dominate the ceiling area and, when activated, will become the Moon pulling the tides, or the sun and sky setting at dusk over the Bay of Fundy.

The use of dramatic projections, audio effects, AR, and motion capture/recognition effects will immerse visitors into the Bay of Fundy region story without complex and expensive physical motion platforms and ride-like effects. Visitors will be able to move about the space if they wish or sit down and take in the immersive projections and movement. They can interact with elements in the room through movement of hands/arms and/or feet, and can also use their digital devices to reveal special elements via the show's AR functions.

The walls and floor of the show space are faceted, with surfaces created to enhance certain aspects of the show. These surfaces are activated during the show using immersive projections, lighting effects, and motion video/animations to create Fundy-themed environments.

While not a literal landscape, the shape of the space allows thematic and recognizable features to be included such as towering rocky cliffs or a fishing boat resting on the bottom Halls Harbour. Conversely, the space can be flooded with water to immerse visitors into the Bay of Fundy, revealing marine life below the water, or propel them high above to view dramatic cliffs and fossil-rich shores below.

The show sequence will ebb and flow, much like the tides. At certain times, the visitor's attention will be drawn by the immersion and audio storyline, while at other times the AV will be quieter and passive, allowing visitors the opportunity to wander and interact with selected elements that remain visible. Timing of the show sequences will be comfortable and visitors will not feel rushed as they explore and wander, or sit and take in the experience. It can be programmed to repeat on a regular cycle, possibly over 30-45 minutes (±5-6 minutes of focused narrative with ±12-15 minutes of visitor exploration time). This makes the space more of an immersive gallery rather than a theatre, and expands the ability of the Visitor Centre to connect with various age and interest levels.

The show space will be connected to the adjacent exhibit gallery, allowing informal movement of visitors between the show and supporting exhibits. The exhibit and show spaces will have some similarity in tone and treatment, thereby creating an overall sense of a larger immersive space for visitors to explore, but with different emphases and experiences.



This feature AV experience has not been developed beyond an initial concept; however, a preliminary treatment is provided below to illustrate the potential of this unique experience inside the Fundy Discovery Site Visitor Centre.

- » The show grounds itself using a large map of the Bay of Fundy region, from the Atlantic to the innermost reaches of the rivers and inlets, including the Fundy Discovery Site.
- » Visitors see the Bay of Fundy appear before them on the floor—possibly as a satellite view or illustrated by an artist. The map may remain and/or reappear and disappear to help visitors understand the story and locations being presented. The map and surrounding imagery, projected onto the walls and floor, provides context for visitors who are new to the Bay of Fundy region.
- » Portions of the AV show are sequenced thematically, as described below, and may start from the outermost edges of the Bay and work their way inwards toward Truro and the tip of the river influx. Sequences are designed to allow visitors time to watch, then engage with the show environment.



Formation of the Landscape

- » The formation of the Fundy landscape, including the rocky cliffs and shores that feature fossils and world-renowned geological formations, is presented.
- » Dense prehistoric images and sounds of ancient creatures fill the room.
- » Indigenous legends and creation stories are interwoven, balancing our shared scientific and cultural understanding of this unique landscape.
- » Visitors can reveal and interact with living fossils, plants, and prehistoric animals.

Tidal Movement and Range

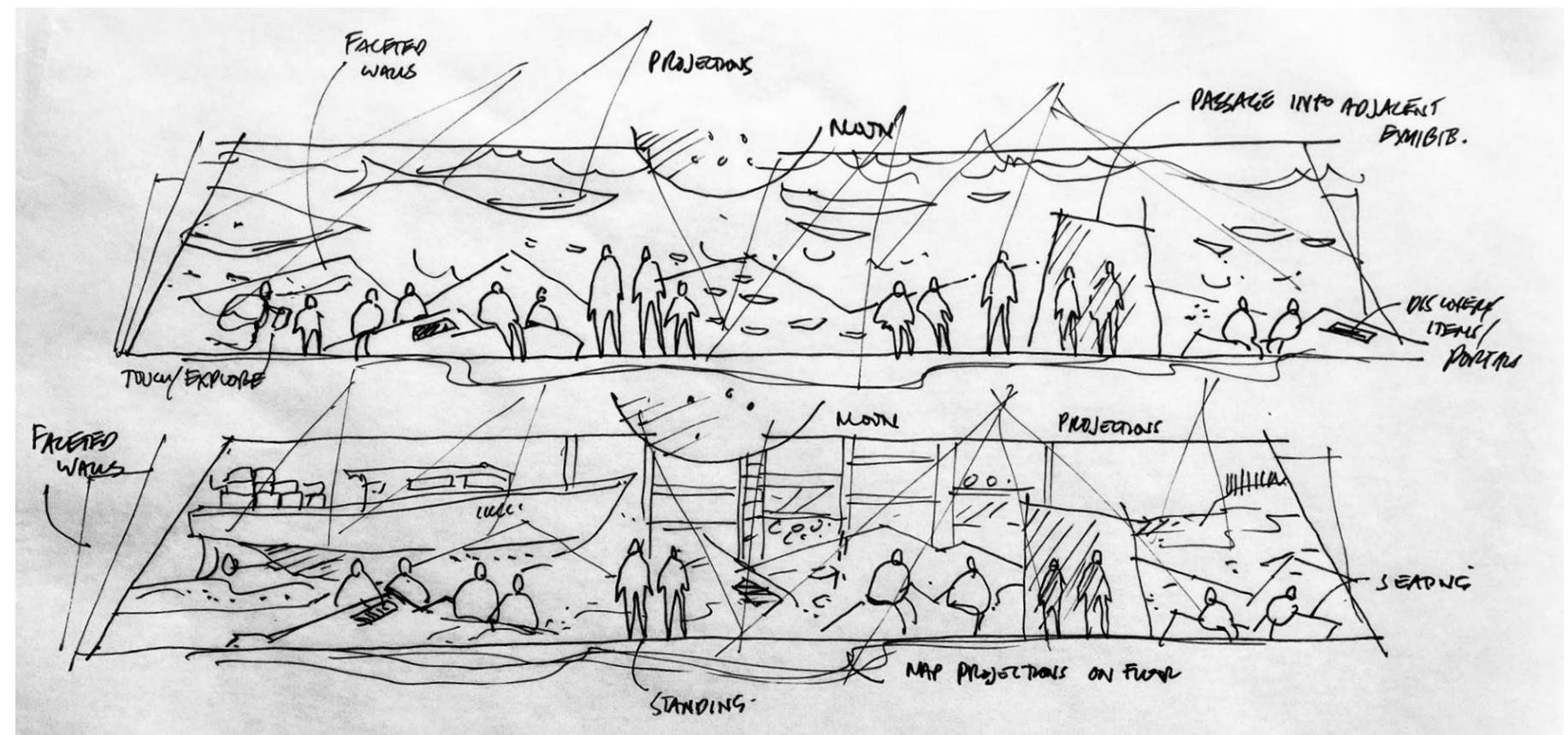
- » Visitors watch as the night sky fills the space, dominated by the moon and stars.
- » The moon cycles and changes, causing the motion of the tides below.
- » The movement of the tides along the Bay are revealed, linked to the moon; the sky brightens and we begin to descend with the water.
- » As the tide goes out, a full-sized fishing boat appears, resting on the bottom of a harbour, adjacent to a dock.
- » Visitors see mud flats, a low tidal landscape, people walking/running and dining on the ocean floor, and children splashing/playing in the mud.
- » Music and cultural activities coming from nearby communities is heard.
- » Visitors are surrounded by ocean bottom and mud, which they can explore.

Underwater World

- » Visitors hear, and then see, water rushing in, flooding the room and creating a rich underwater environment to explore. The power and speed of the tide is overwhelming, roaring and surrounding them as they are plunged beneath the moving surface of the water.
- » The once resting fishing boat fades and is replaced by North Atlantic right whales, porpoises, and fish, along with lobster traps and tidal energy turbines.
- » Enormous Humpback, Minke, and Finback whales move across the walls, offering a sense of scale.
- » Visitors explore the ocean environment and its many features, including plant life.

Dramatic Bay

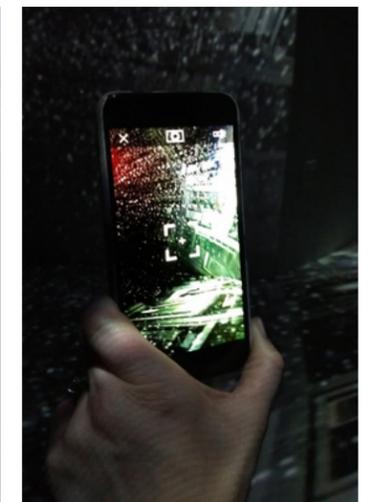
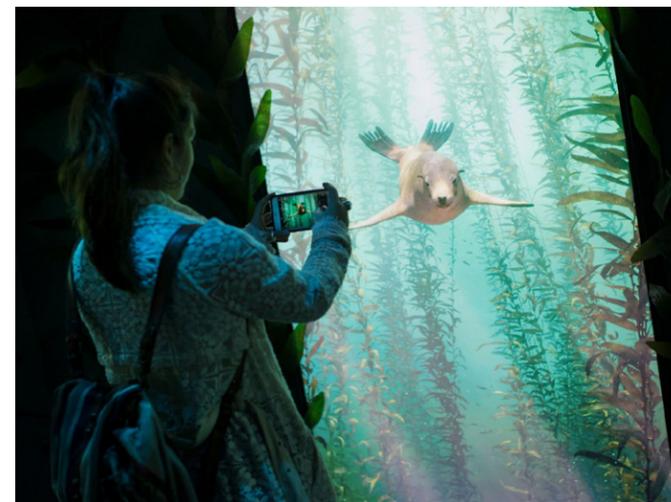
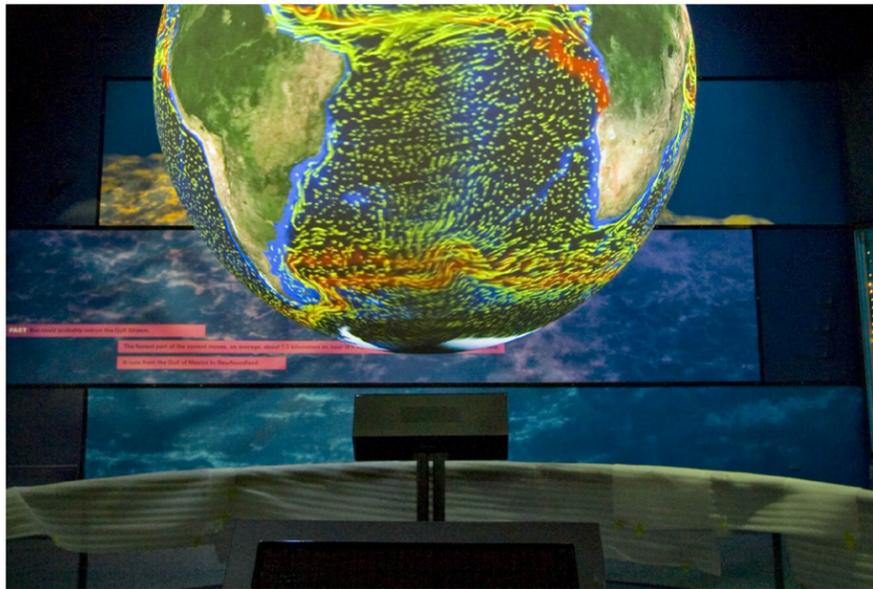
- » The water drains until visitors find themselves on the ocean surface, alongside a whale-watching boat afloat with visitors like themselves.
- » Another fishing boat appears—this time with a crew launching traps that will collect lobsters, scallops, and other seafood for market.
- » Projections leap out of the water against tall cliffs, as gulls fish the coastal waters.
- » The room is propelled above the shoreline cliffs to take in the UNESCO Geopark landscape including Cape Split, Cape Chignecto, etc.
- » Visitors see rock climbers, geology students, and visitors like themselves engaged in some of the Bay of Fundy's most exhilarating activities.
- » Zodiacs and kayakers ride the waves, which boil and ripple with the force of the incoming tide, propelling the water upriver towards the Fundy Discovery Site.
- » Interact with elements of this setting (e.g., contemporary and prehistoric marine life, fossils, etc.).



Immersive Bay of Fundy Region AV Experience



Precedent Images



Bay of Fundy Region Exhibit Gallery

This feature exhibit gallery within the Visitor Centre introduces and explores key themes about the Bay of Fundy, particularly those related to the science and landscape of the greater Bay of Fundy region. These displays will work in tandem with the feature AV experience to explore the regional (i.e., tourism-focused) story in more detail; in fact, visitors can move between the two at their own pace, creating a larger and more immersive exhibit experience overall. Displays will include graphics, objects, and digital AV media/touchscreens including several signature 3D exhibits. These will be organized into two general thematic zones, with smaller (Theme 3—see below) related pods situated where an opportunity exists.

Theme 1: Tidal Landscape

- » Tidal Science Interactive: visitors control the tides using the moon's gravitational pull, and see its effect on the Bay of Fundy.
- » Bore Surf Simulator: visitors sit/stand on a zodiac raft/surfboard and "ride" the tidal bore, possibly using a VR headset; two stations are provided.
- » Zodiac Photo Op: visitors sit in a real zodiac, which is positioned as if it is riding the tidal bore; this could be combined with the surf simulator experience above.
- » Bathymetric Model: visitors explore a model of the Bay of Fundy and/or cross section diagrams of the Bay depicting the depth and range of the tides from the outer to innermost locations.
- » Live Feed Webcams: tidal change in various locations across Bay communities is accessible via a live web camera/s; visitors select locations to view the feed.
- » Touchscreen Infographic: visitors interact with an animated touchscreen infographic diagram that responds to their requests, and presents scale and quantity information related to tidal extremes, resonance, scale, and volume. The diagram extends from the wall to the floor, allowing visitors to make selections using their feet and/or hands, as desired.
- » Projections and Large-format Imagery: three-dimensional tidal and mud flat surfaces and cutout shapes are used throughout the gallery to enhance the sense of movement, change, and layering that comprises the tides and landscape of the Bay of Fundy.

Theme 2: Tidal Living

This theme is presented along the center of the exhibit gallery via a large interactive tabletop map. This digital exploration exhibit allows multiple visitors to delve into the Bay of Fundy-related content of their choice, which is organized around the map of the Bay.

- » Multi-touch Map: organized using the full Bay of Fundy map but allows individual exploration via portals that appear on the map. Interactive content categories are organized to support practical visitor information (e.g., where things are, where to go visit), thematic interpretation (cultural and natural story highlights/teasers), and UNESCO Cliffs of Fundy Geopark storylines (linked to the adjacent UNESCO gallery). Additional layers may be introduced based on further research and content development during subsequent schematic and design development phases.

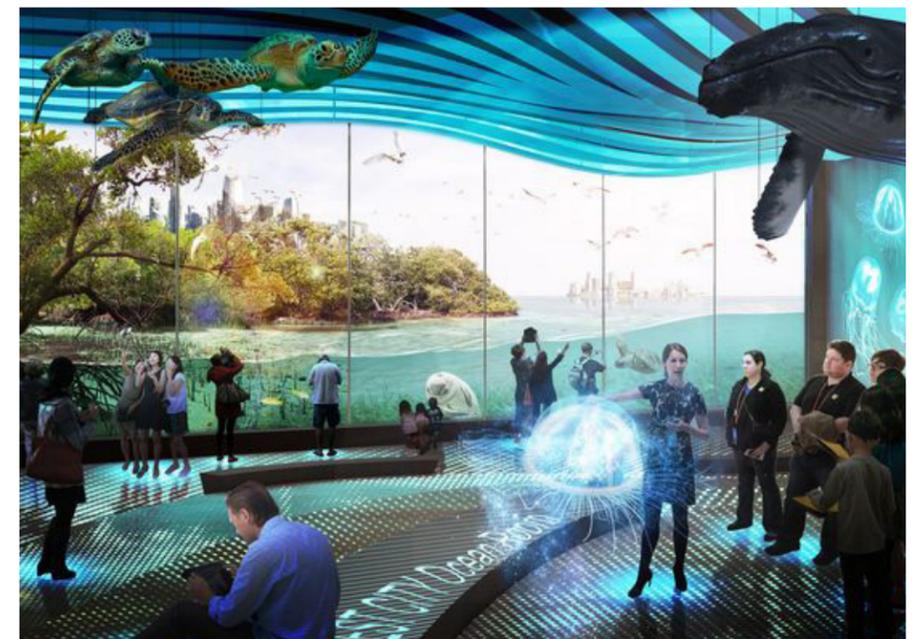


Exhibit Gallery: Tidal Landscape



Exhibit Gallery: Tidal Living



Precedent Images



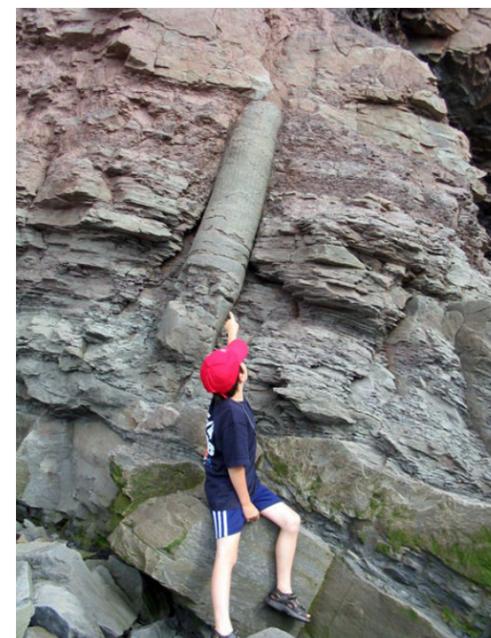
UNESCO Cliffs of Fundy Geopark Exhibits

Visitors will be presented with an overview of the Cliffs of Fundy UNESCO Global Geopark, which introduces them to this unique cliffs/geopark destination as well as the features that are central to its recent UNESCO designation. Exhibit features include:

- » A dramatic cross-sectional view of the UNESCO-designated landscape, including cliffs, shores, and rock formations along the north face of the Bay of Fundy.
- » The cross-section landscape is divided into swaths that visitors can explore in different ways, either as AV interactives, interactive exhibits or tactile models.
- » The touchscreen portions of the landscape allow visitors to delve into several aspects of the UNESCO Cliffs of Fundy Geopark story, including but not limited to:
 - Locations (“geosites”) and highlights of attractions/experiences within the Geopark.
 - Video of a geologist/scientist describing the attraction and features that make this area an important resource.
 - Images of sites, fossils, and other “discoverable” features found in various places within the Geopark region.
- » Tactile rocks/samples of rock formations and types of rock visitors will find.
- » Factoids that reveal unique characteristics of the coastline and geological landscape.
- » Story of how the Cliffs of Fundy Geopark came to be, including individuals/communities who worked to share it with the world.
- » Indigenous relationships with the region over time (origin/creation stories and other cultural geoheritage—e.g. Kluscap, Five Islands, the Three Sisters, Partridge Island)
- » This space may also feature space for a guest programmer from the Geopark who will be able to talk with visitors and share real samples of fossils and rocks from the area (e.g., “Rock Talks”).

**NOTE: This gallery space may be expanded in future depending on the needs of visitors and UNESCO promotional efforts, whereby increased visitor capacity may become necessary.*

Precedent Images



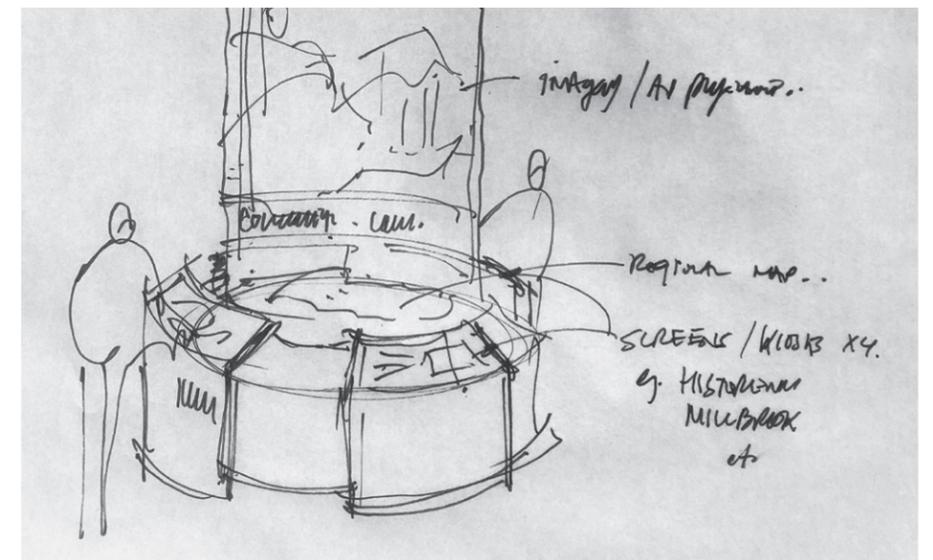


Local Exhibits

Theme 3: Tidal Convergence

The interior exhibits include several smaller “pods” or niches that contain site-specific information to engage both tourists and visitors alike. These pods are not meant to supersede the interpretation outdoors on site; they are simply located indoors because of the unique needs of their recommended media. The location of these smaller exhibits may be adjacent to the Lobby, the Temporary Gallery, and/or situated as part of the main Exhibit Gallery to complement the other thematic experiences. Proposed components include:

- » Board Landing Featurette: a stand-alone scale model of Board Landing as it may have appeared in 1860, including the ferry and shipyard operations, and possibly depicting the bridge as it was being constructed.
- » Palliser Motel Featurette: a stand-alone kiosk featuring photos, oral histories, and objects associated with the Palliser Motel and Restaurant. This might be a touchscreen that resembles a photo album and ephemera from years past.
- » Colchester/Fundy Exploration Featurette: a stand-alone touchscreen and object-based display that highlights partner sites and museums within the Bay of Fundy/Colchester region, including samples of stories one might find when visiting these places (provided as highlights only to tease visitors). This display may possibly include sample objects/artifacts on loan from said sites to give a taste of what visitors can expect (e.g., Mi'kmaw/Debert item, Historem object, etc.). Content can be updated as new information is obtained, or if additional sites/attractions are added to the list of “must-do” places to visit.



Temporary Exhibits

Located within a portion of the Visitor Centre, a Temporary Exhibit space will be developed that can be devoted to locally-themed exhibits and changing subject matter. This will allow local stories and topics of interest to be presented including topics such as:

- » Photography/art displays
- » Historic and current topical subject matter (e.g., town development, COVID-19, etc.)
- » Indigenous (guest) content/initiatives
- » Local industry and/or academia displays (e.g., new tidal power technology, rail systems, scientific research, etc.)
- » Other topics of interest developed through partner initiatives

The space will be fitted out to support flexible display and lighting arrangements. Partition walls/panels may be provided to allow simple configurations to be created as needed (require storage). This space could also be designed to accommodate meetings for small groups.



5. PROGRAMMING OPPORTUNITIES

5.1 Programs

This Concept includes spaces that support active programming by staff and/or guest programmers. It is anticipated that most programs will take advantage of the range of outdoor spaces including the program pavilion, Board Landing view deck, Tidal Bore plaza, the view structure, amphitheatre, and playground spaces to host activities related to local interest and regional curriculum. Programming for the site (whether through RECC or by an outside group such as the Glooscap Centre, etc.) will need to be coordinated and scheduled by the Municipality, including times and costs (where applicable).

Spaces inside the Visitor Centre may be used for programs; however, there is no dedicated classroom or event room proposed in the current plan. If desired, gallery and/or feature AV spaces may be used, but their use for programming must be timed so as not to conflict with regular tourism/visitation schedules. As a majority of school programs occur in the tourism off-season, there is an opportunity to use spaces on site for multiple purposes, where applicable.

Linking to provincial curriculum outcomes should be considered when developing future programs and group activities, particularly those aimed at children and youth. Based on the thematic framework developed for the Fundy Discovery Site (Section 2.2), possible links to Nova Scotia Curriculum outcomes for grades primary through to nine are appended to this report.

Topic	Possible Partner/Host	Curriculum Link
Tidal Bore Science	Fundy Tidal Interpretive Centre	Science 7 + 8
Canoe Building (requires shelter)	Millbrook Cultural and Heritage Centre Mi'kmawey Debert Cultural Centre	Science 2+ 7 Social Studies 1
Mobile Touch Tank	Back to the Sea Society	Science 1, 2, 4, 6 + 7
Speaker Series	Faculty of Agriculture at Dalhousie University	Various (see Curriculum Links summary appended to report)
Little Rays Reptile Zoo (snakes, lizards, turtles, tortoises, amphibians, invertebrates)	Nova Scotia Museum	Science 1, 2, 4, 6 + 7
Astronomy Nights	Astronomy Nova Scotia Halifax Centre of the Royal Astronomical Society of Canada (RASC)	Science 9 (no direct links to FDS themes)
Bike Clinic	Mountain Equipment Co-op/ Rath Eastlink Community Centre	N/A (no direct links to FDS themes, but likely relates to select P-9 Physical Education outcomes)
Climbing Wall	Rath Eastlink Community Centre Climb Nova Scotia	N/A (no direct links to FDS themes, but likely relates to select P-9 Physical Education outcomes)

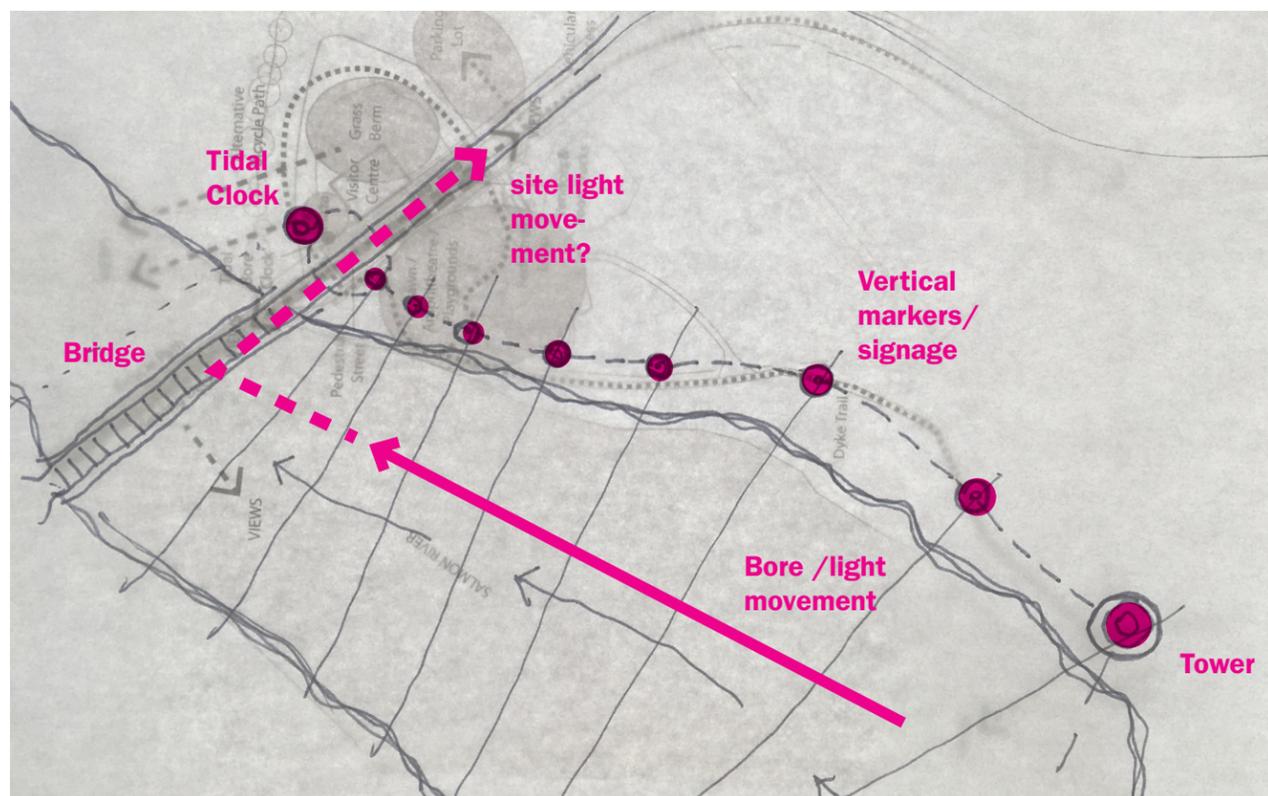
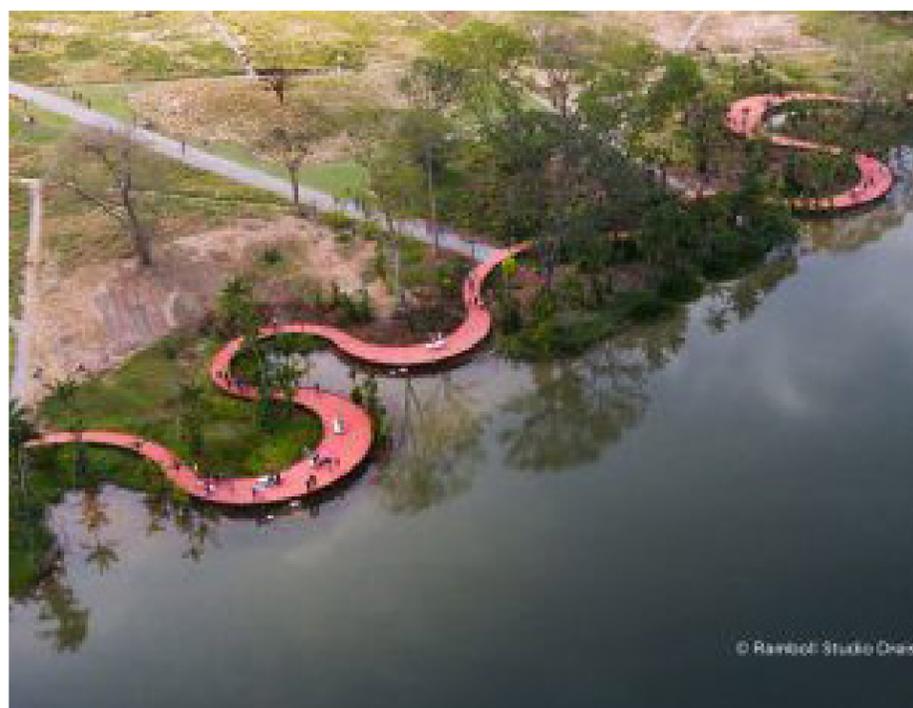
These suggested program concepts are based on research conducted during the consultation process, as well as stakeholder feedback.



5.2 Feature Lightshow

A programmed light (and possibly also sound) experience that celebrates the arrival of the tidal bore at twilight/night during the summer (peak) months is possible and has been considered as part of the development of this Concept plan. A “warning sound” indicated by the tidal clock activates an animated light sequence that moves across the site/bridge in a way that represents the energy and flow of the tidal bore. Visitors watch as lights/markers along the dyke trail/river’s edge begin to pulse/glow as the tidal bore approaches. These could be animated to mirror the movement of the bore, using light pulses/jumping of light from marker to marker, parallel to the waves pulsing up the river. The bridge may also become part of this orchestration, using the movement of light from the river pathway and movement into the plaza area as if the bore impact is spilling and expending outwards into the center of the visitor area. Scripting and flow of this type of experience will require further development and possibly additional structural elements in order to create a seamless and logical flow of light across the overall site.

Precedent Images



5.3 Events

Possible event ideas that could be held at the Fundy Discovery Site include:

- Mi'kmaw Elder conducts a Sunrise Ceremony/Moon Ceremony
- Science-based events (e.g., linked to tides, moon phases, biology of the area, etc.—“Tide Talks”)
- Concert Series (separately as family/youth focused and also for older cohorts, including evening performances)
- Maker fair linked to Truro Market (but ideally held on a separate day)
- Kite flying/design competition
- Toy boat building/floating race using the river at slack tide
- Ice Cream Festival (if ice cream shop is present on site)
- Bike races centered on the site as the start and/or end point of the event
- Start line of a “Tour the Geopark Race” (participants take a themed snapshot of various features within the Geopark by a certain time of day; snapshots are judged)
- Art event: “Paint the Bore”

Precedent Images



6. ARCHITECTURAL CONCEPT & SITE PLAN

6.1 Final Architectural Program

The initial building program has been tested and revised through the conceptual design process, and the table below shows the resulting area allocations incorporated into the building plan “Option A.” These allocations are based on the revised area targets presented in the Phase 2 concept submission and reflect the input from the stakeholder group and the project interpretive team. It should be noted that the areas for building services are based on estimated percentages of net building area and have not been verified by mechanical or electrical engineering opinion. Similarly, the exterior wall thickness is subject to revision through the structural design process, and it is assumed that this will also result in the introduction of some internal columns, especially within the larger spaces such as the exhibit area. It is assumed that some of the walls in the conceptual plan will also incorporate columns to support the roof structure.

Building Plan Options

Two versions of the building plan have been developed: Option A and Option B.

- » Option A is based on the adjacent program totalling 8500 square feet and includes all of the core functions described in the report.
- » Option B is an expanded plan that includes a meeting/ multi-purpose room function that could be used for events, programs, and temporary exhibits. It totals 9905 square feet. Budget estimates for each option are provided in Section 7.

VISITOR CENTRE	Proposed Area Option A (SF)
Reception/Lobby	720
Retail/VIC	415
Fundy Story Exhibits	3,005
Show/Audio-visual Experience	
Fundy Cliffs UNESCO Exhibits	
Changing Exhibits	270
Small Event Room	135
Office	120
Workstations	365
Staff Lunch/Lounge	100
Staff WC	65
Program Storage	120
Outside Storage	90
Public Washrooms	265
Net Area	5,670
Gross-up	2,830 (50%)
(of which, Mechanical/Electrical)	390
(Circulation, vestibules)	1770
(Walls, partitions)	670
Gross Area	8,500

Architectural Precedent Images

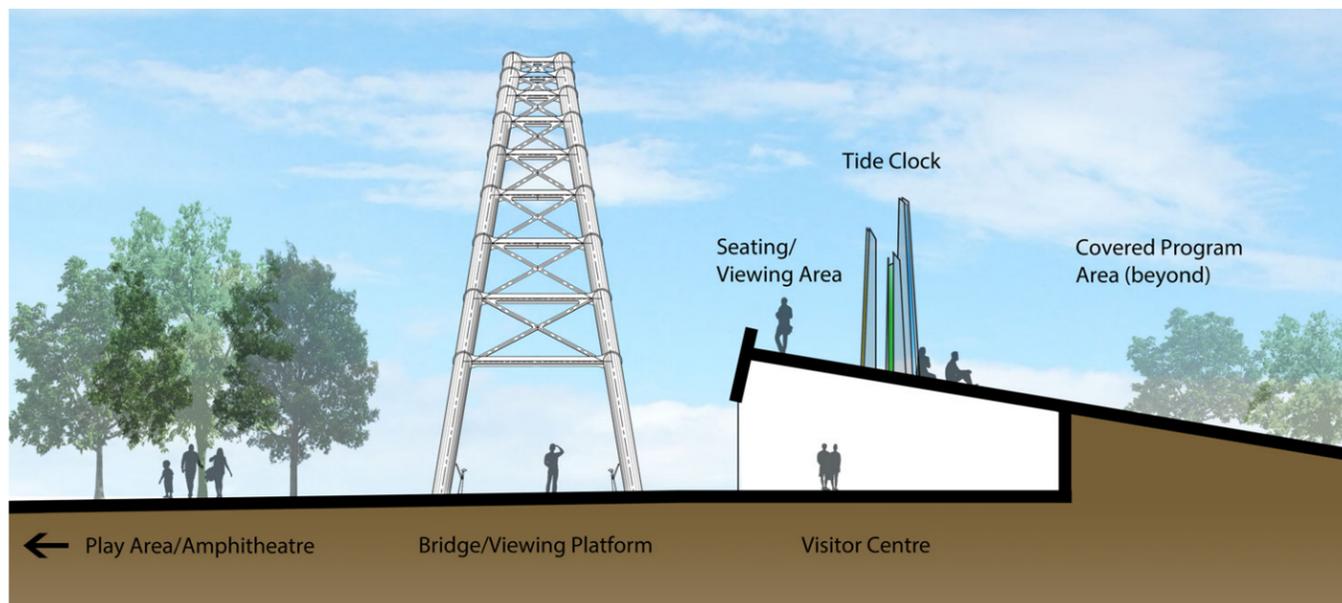


6.2 Conceptual Building Design

The form and expression of the Visitor Centre have been conceptualised as a hill forming a continuation of the landscape. The rationale behind this was outlined in the site and building concept description during the Phase 1 interim presentation stage; namely to:

- » allow the bridge to stand out as the dominant visual element on the site;
- » shelter the building from highway noise;
- » emphasize the geological nature of the site and Bay of Fundy region story;
- » permit a form that echoes the arch form of the bridge facing the visitor plaza; and
- » create an elevated viewpoint from which to view the tidal bore, or to overlook the landscape.

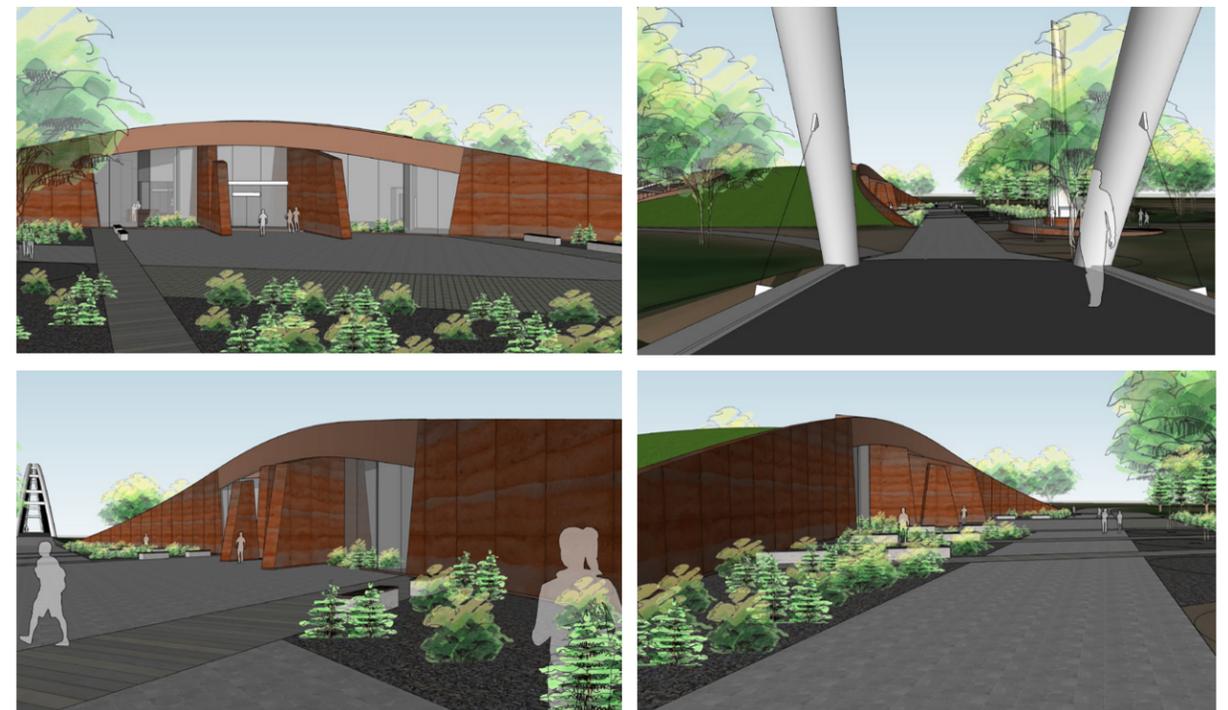
The material palette used in the building underscores the landscape and geological references. A vegetated roof with meadow species consistent with the present site is the principal element. Where the hill is cut away to provide entrances and windows for interior spaces, the walls are formed of poured concrete that is mixed and poured to resemble rammed earth construction, referencing the sedimentary character of the river banks and the cliffs of the Fundy shoreline. The angled walls that frame the main entrance from the plaza are formed of the same material as the exposed “cliff face” walls and recall the eroded cape formations of the Bay, as at Cape d’Or and Cape Split.





This expression continues throughout the public areas of the Visitor Centre, though generally through the application of paint or graphics to the walls, consistent with the interpretive material presented. A floor finish of polished concrete will provide a durable and low maintenance finish in the lobby areas that is also consistent with the building theme. Flooring materials in the exhibit areas would be coordinated with the exhibit design, and ceiling treatments would support the acoustic and lighting needs of the interpretation. Finishes in office and service spaces would be consistent with their respective functions.

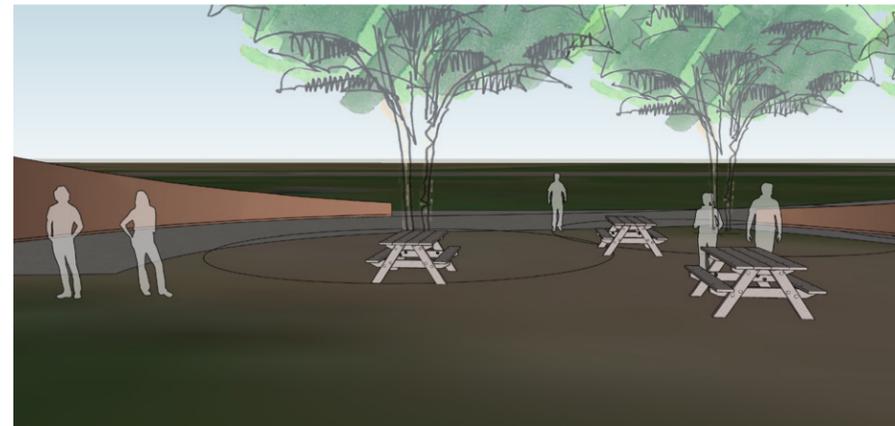
A large glazed wall facing the public plaza provides a visual connection to tie the activities in the lobby area to those on the plaza. The cutaway in the hill form that permits this creates the principal architectural gesture of the building; a continuous curve that grows out of the ground and returns to it, echoing the arch of the new bridge. A smaller, though still full height, glazed wall opening onto the Program Courtyard provides a continuous line of sight through the building. Both the main entrance and the entrance to/ from the Program Courtyard are visible from the reception desk, allowing for easy control and line-of-sight contact between staff and visitors.



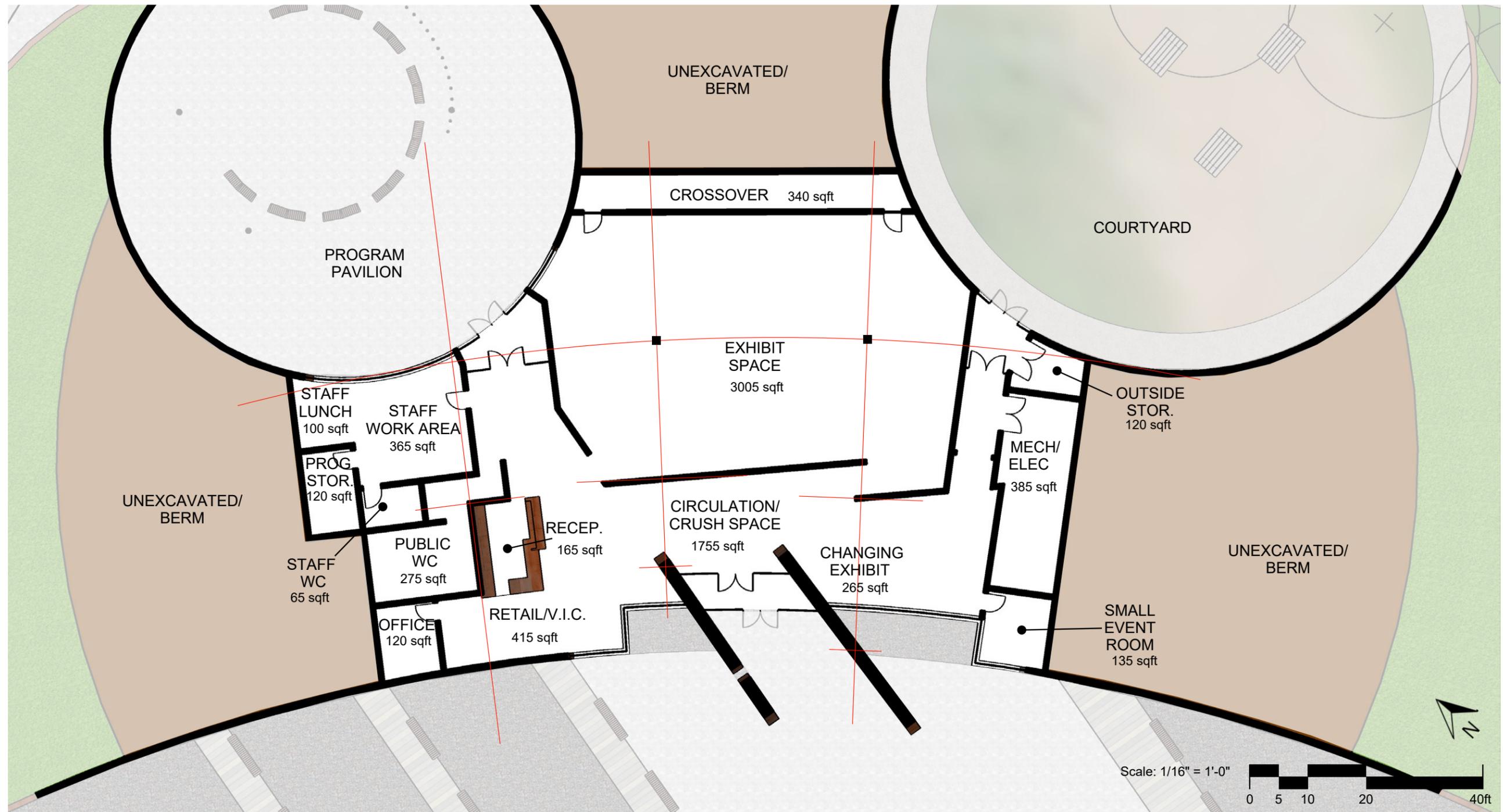
The basic plan of the building follows the simple organisation of visitor and interpretive spaces in the center of the building with staff spaces and visitor washrooms along the northwest side of the center block and building services along the southeast. Staff areas intended for longer-duration occupancy are located along windows, with service or short-duration spaces location on the interior.

Two courtyards cut into the flanks of the hill provide opportunities for glazing and access into the building, and allow space for later expansion of the enclosed building area if this is found to be necessary. The exterior spaces thus created are both sheltered by the building and part of it, and connected to the site and the outdoor activities.

During the course of planning the building, the opportunity was identified to create an event and meeting space along the southeast side of the plan, connected to the service (or eastern) courtyard. One potential configuration for this meeting facility has been sketched out in the “Option B” plan contained in this report. This would result in an increase in building area of roughly 1,400 square feet and in capital cost of approximately \$500,000. A small event room has been shown in the current scheme, Option A. This space could accommodate a catering kitchen or small meeting room. If the meeting facility option is accepted, this function would be incorporated into that facility and the space shown as the Small Event Room in Option A could be enlarged or reconfigured for another function.



Architectural Plan Option A

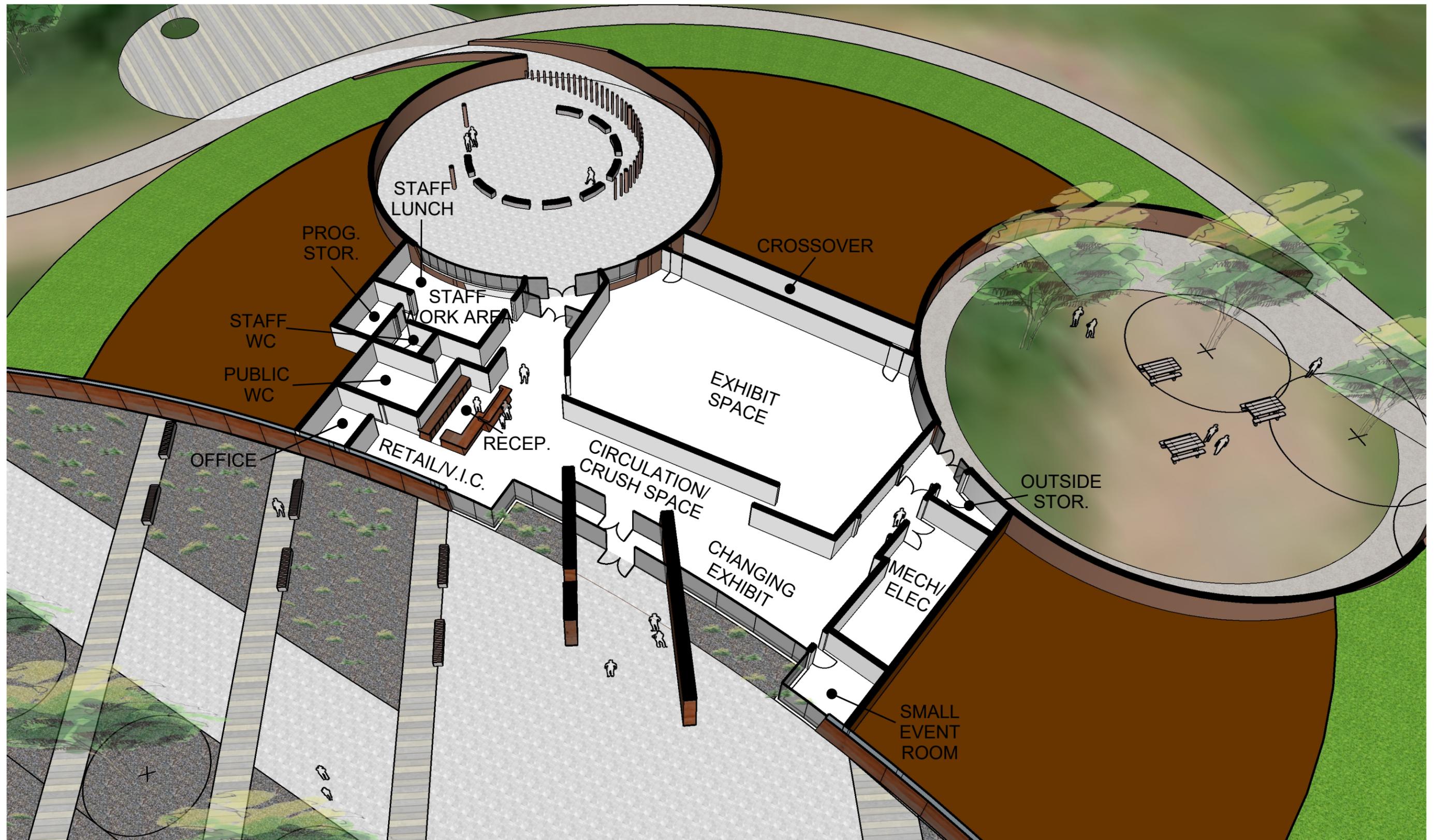


Fundy Discovery Site
 Tidal Bore Road, Truro, NS
 209-00090-00
 2020-11-05

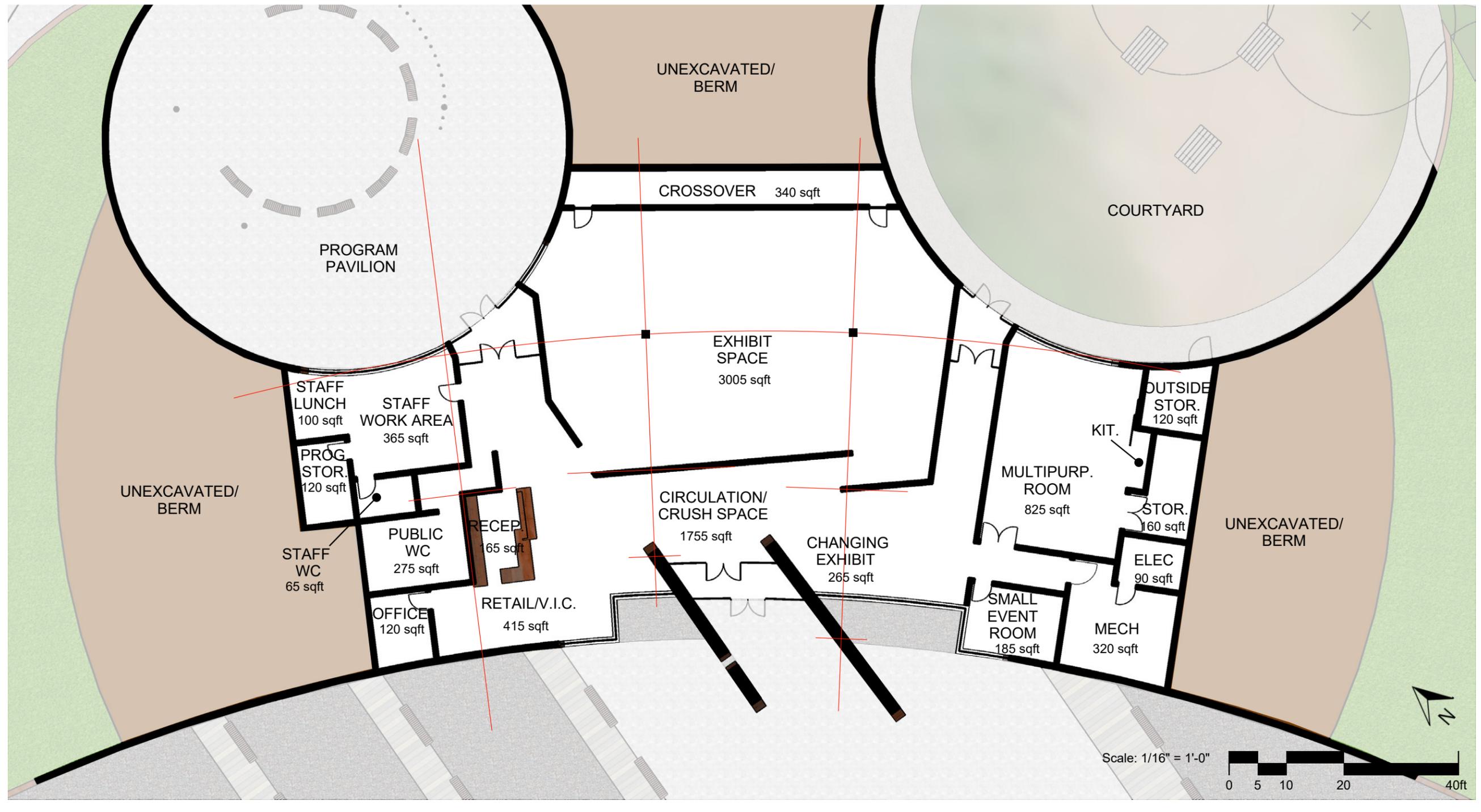
**FLOOR PLAN
 OPTION A**
 Gross Floor Area 8,500 sqft

ARCHITECTURE | 49

Architectural Perspective Option A



Architectural Plan Option B



Fundy Discovery Site
 Tidal Bore Road, Truro, NS
 209-00090-00
 2020-11-05

**FLOOR PLAN
 OPTION B**
 Gross Floor Area 9,905 sqft

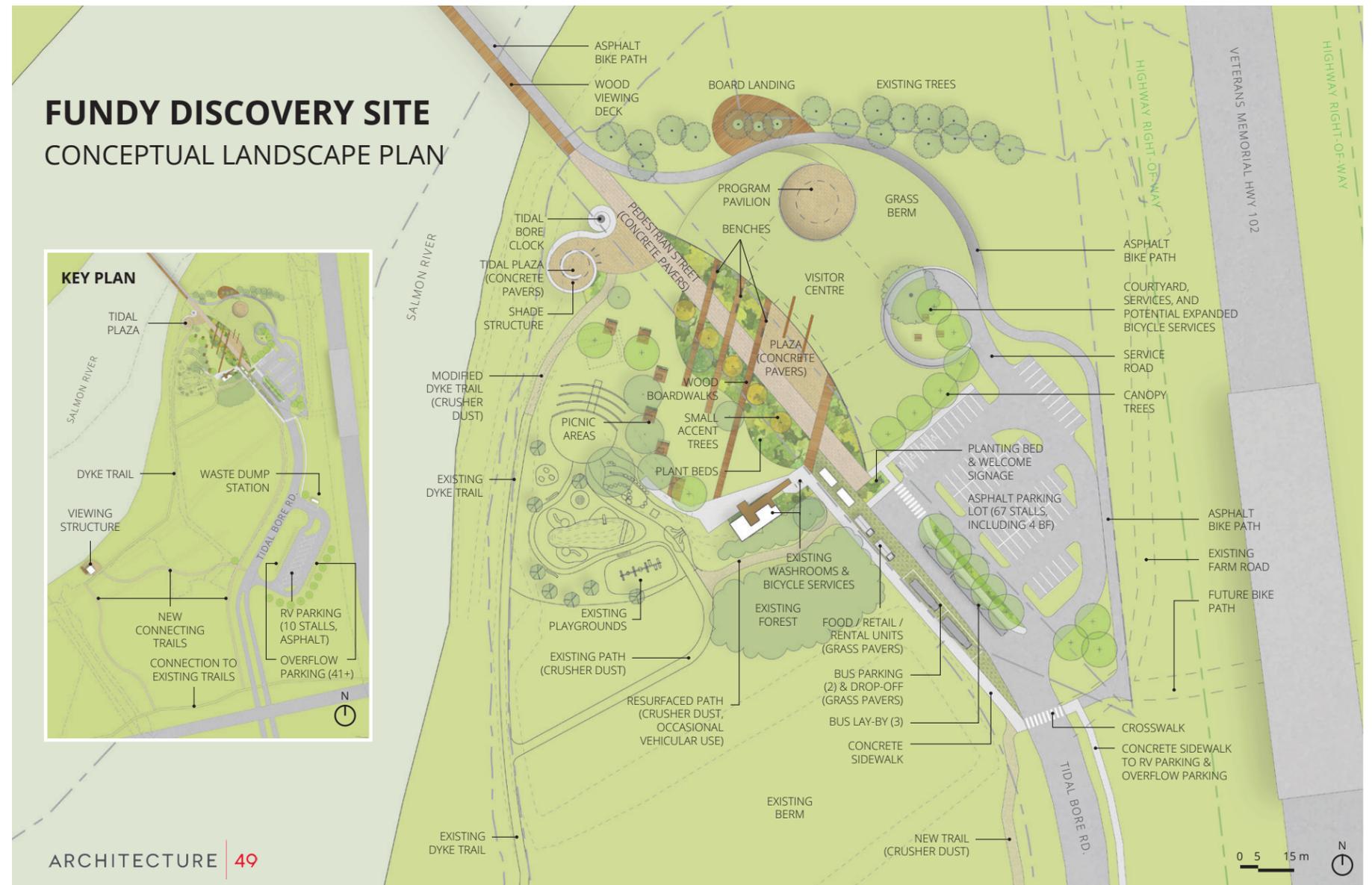
ARCHITECTURE | 49

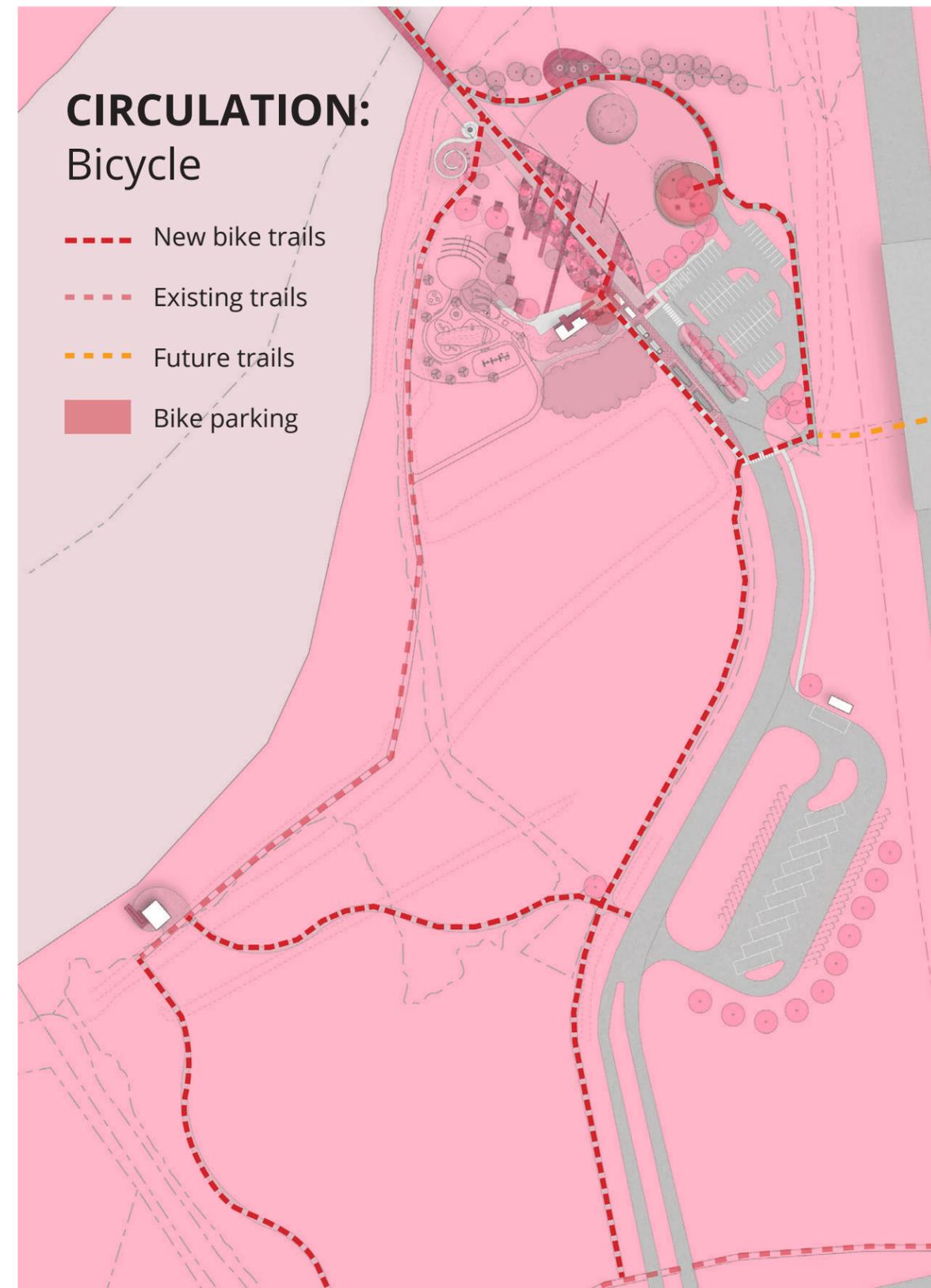
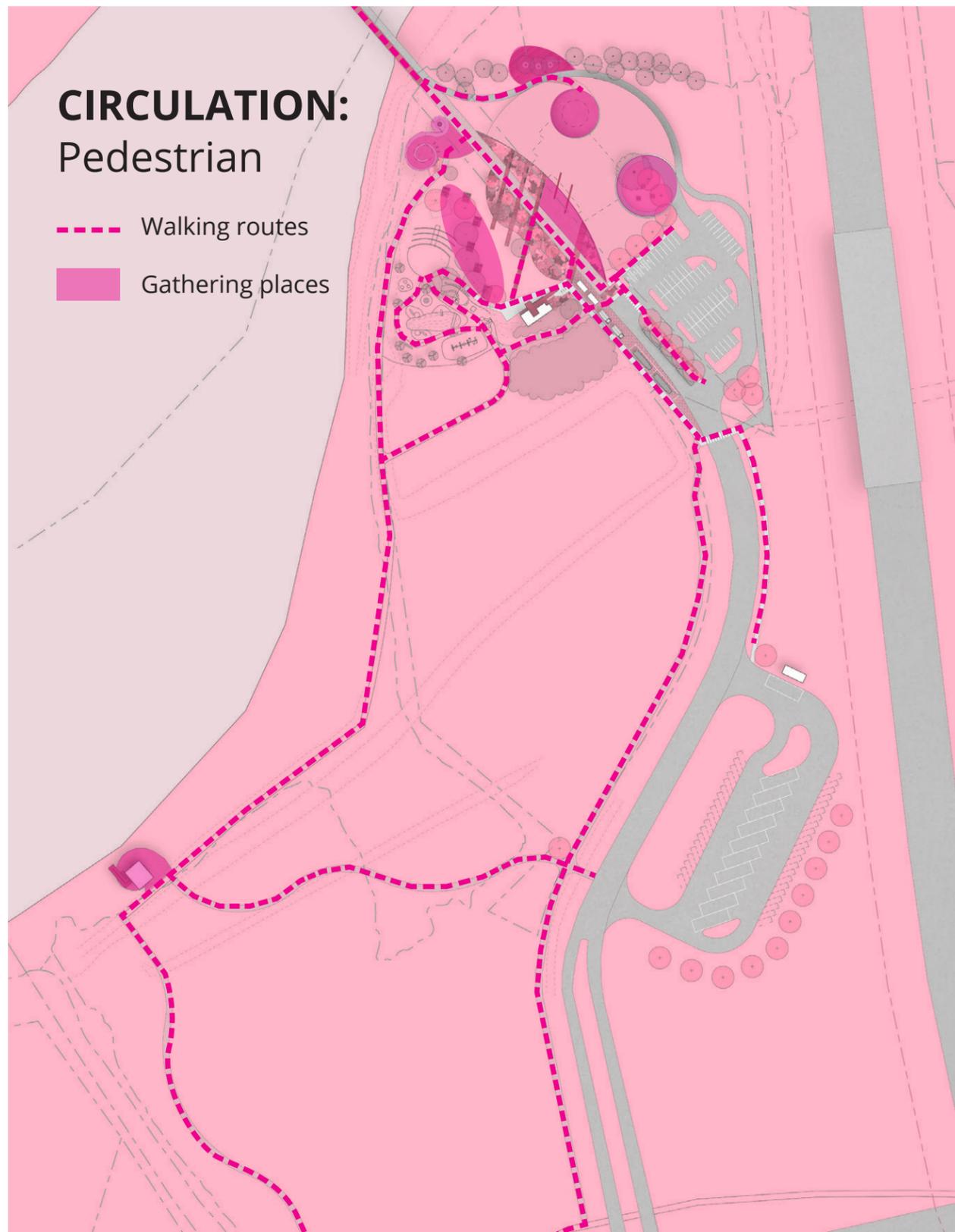
6.3 Conceptual Landscape Design

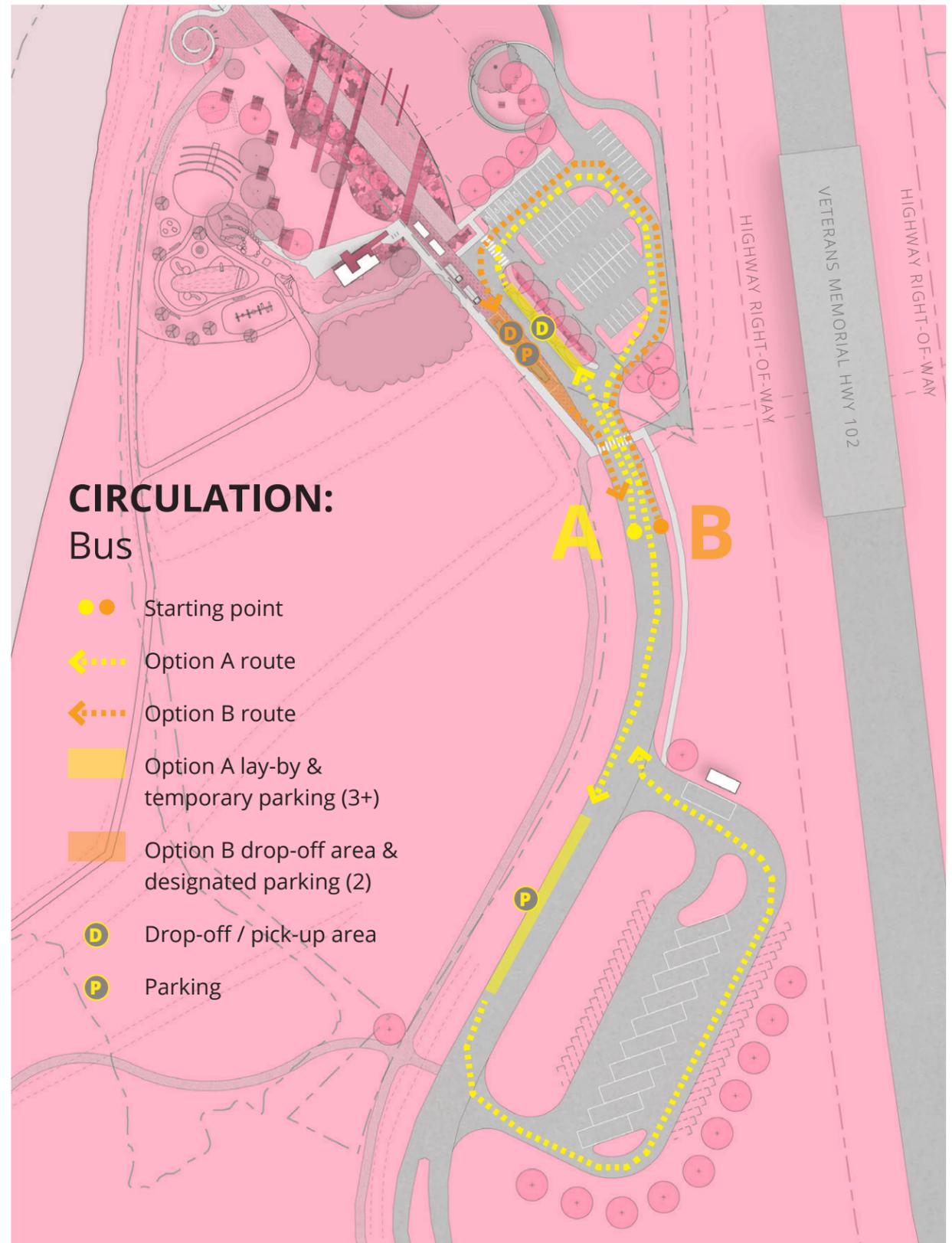
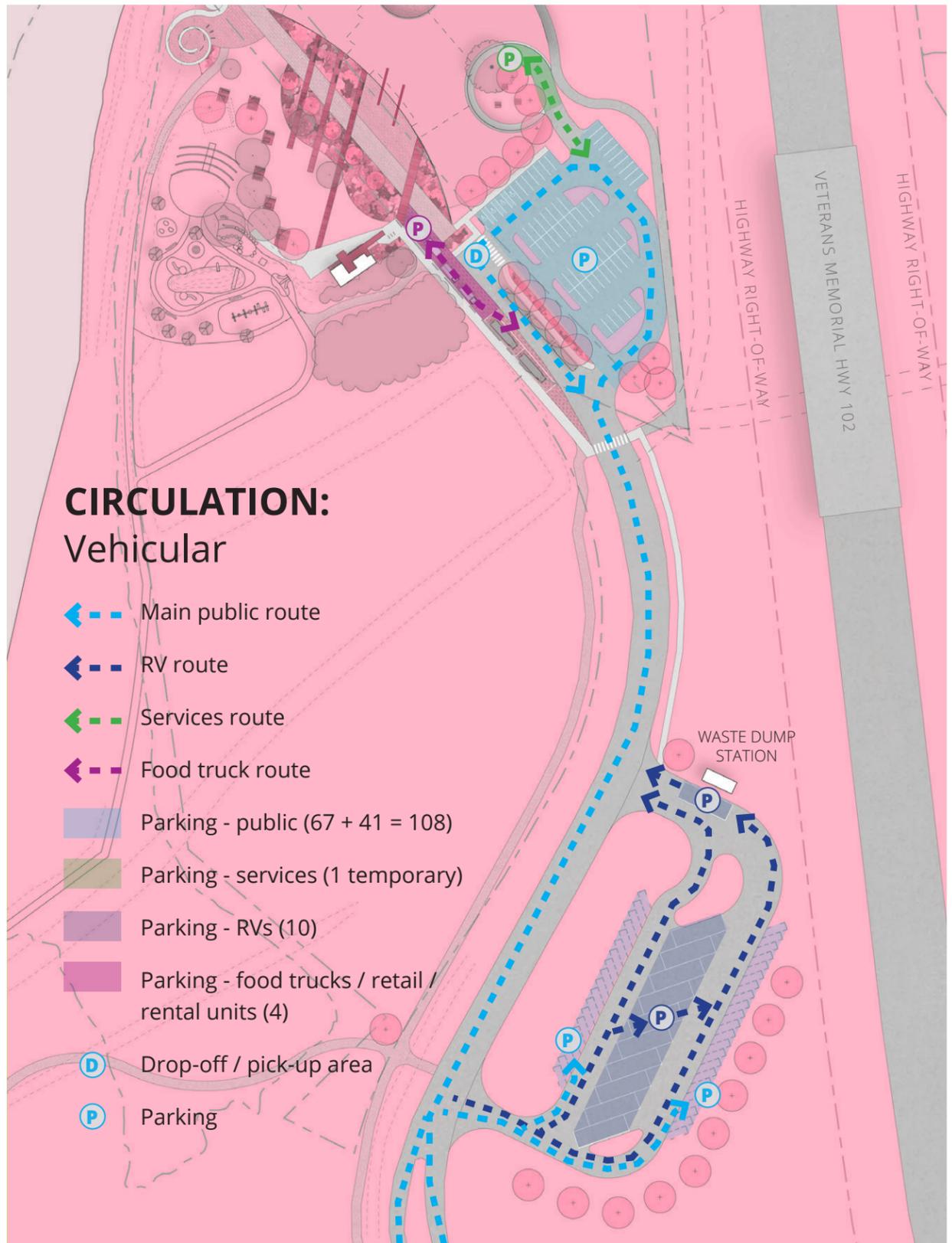
The landscape design concept draws from the movement and structures associated with water. The juxtaposition of the smooth, fluid, natural flow of water against the more rigid, solid, human-made structures associated with water bodies is expressed in the geometry of the landscape design. A “sea” of softly undulating, curvilinear planting beds is intersected by rigid wooden planks, drawing from the form of boardwalks or piers typically found near water. By walking over the planks and across this sea of planting beds, visitors experience an abstracted form of waterside boardwalk experience and a preview of the bridge experience to come. These wooden planks cut through the site at a tilted angle, their bold geometry simultaneously providing a playful interruption and a cohesive connection between the Visitor Centre and grass picnic area, creating both variation and unity. The planks’ wooden material is repeated on the bridge, this time providing visitors with a true boardwalk experience over the water.

The pedestrian street is composed of concrete or stone pavers—a cool, earthen material that draws from the site’s geology while also creating a visually- and texturally-pleasing walking experience. A row of small trees next to the street directs views toward the bridge and demarcates visitors’ progress as they embark on the journey toward the water.

The Tidal Plaza swirls off the pedestrian street like an eddy, demonstrating the various ways water can move; in a fast, linear motion, like the pedestrian street, or in a twisting, circular motion, like the Tidal Plaza. The Tidal Plaza curls upward just as the berm ascends from the ground, and the connection to the berm is formalized through the continuation of radial curvature from the berm to the plaza. The Tidal Clock sits prominently at the “eye” of the eddy, with its heightened elevation suggesting monument-like importance. The Dyke Trail flows off the eddy like a rogue current, establishing the connection to the View Structure at the south end of the site.







Landscape Inspiration Images



7. BUDGET

Cost projections for the Fundy Discovery Site Concept are presented on the following pages. These costs inform future detailed design and fabrication costs for the building, site, and interpretive components of the project, and will assist with fundraising and contracting of future work.

Capital cost estimates are based on the various components identified in Section 3 and 4. This is a Class D Cost Estimate and has been developed based on typical industry standards as well as the consultant's experience with interpretive, architectural, and landscape design projects of this nature. All costs are considered to be preliminary (i.e., within $\pm 20\%$ accuracy). It is recommended that the Municipality carry an Owner's contingency over and above the project budgets (and design contingencies) described below.

7.1 Base Building and Site Costs

Building Assumptions

Building assumptions include:

- » Building program areas have been adjusted as described in Section 6 and the plan as drawn reflects these area assumptions.
- » The cost estimate has been adjusted to reflect the new building areas and similar amendments to the site development components.
- » The option to incorporate an expanded building program to include a meeting facility is reflected in a separate cost summary sheet for this larger gross area scheme.
- » Because of the need to maintain reasonable ceiling or structure heights inside the building and to maintain the same slope on the berm, the overall size of the berm has not changed.
- » The anticipated construction method for the building is a concrete slab-on-grade with poured reinforced concrete walls for the buried portions of the perimeter. Exposed portions of the perimeter walls would be coloured concrete, poured in imitation of rammed-earth construction, and insulated on the inner side of the concrete. Insulated aluminum glazing and insulated metal stud infill walls would form the balance of the exterior.
- » Use will be made of locally/regionally sourced materials wherever possible. This is especially important in the aggregates used in the concrete if the allusion to the eroded stone of the Bay of Fundy region in the "rammed earth" walls is to be effective.
- » Poured concrete columns and roof structure would support the insulated green roof assembly, which forms the top of the berm.
- » Interior partitions would be of conventional steel stud and gypsum board construction, finished as appropriate for the use of the space.
- » Further refinements to the proposed layout, the configuration of the structural elements, and the size and distribution of mechanical and electrical/data utilities will be subject to the coordination that takes place during the detailed building design process, necessitating the engagement of a full engineering design team.

Site Assumptions

Site assumptions include:

- » Tidal Bore Road does not require demolition and/or repair. Existing areas that will remain, as per the site plan, can be left in existing condition.
- » Sod in picnic areas will remain in existing condition except in areas affected by demolition/removals (e.g., existing Visitor Centre building, existing picnic areas, existing concrete pads).
- » Existing hydro corridor along Tidal Bore Road (along entrance facade of the proposed Visitor Centre) will be relocated.
- » Screw piling will suffice for footings of light poles, signage, furniture, etc.
- » Materials will be locally sourced wherever possible.

ELEMENTAL COST SUMMARY CLASS 'D' ESTIMATE							
Project: Fundy Gateway Project		Date: Nov. 17, 2020		AltusGroup			
Location: Truro, Nova Scotia		Project Number: 100283		Option 'A'			
Client: Architecture 49		Gross Floor Area: 8,500 sf					
Element	Ratio to GFA	Elemental Quantity	Elemental Unit Rate	Elemental Amount	Cost/sf	Total	%
A SHELL							
A1 SUBSTRUCTURE							
A11 Foundation	1.00	8,500 sf	\$12.14	\$103,200	\$12.14		
A12 Basement Excavation	0.00	0 cf	\$0.00	\$0	\$0.00	\$103,200	1.5%
A2 STRUCTURE							
A21 Lowest Floor Construction	1.00	8,500 sf	\$10.47	\$89,000	\$10.47		
A22 Upper Floor Construction	0.00	0 sf	\$0.00	\$0	\$0.00		
A23 Roof Construction	1.00	8,500 sf	\$66.94	\$569,000	\$66.94	\$658,000	9.6%
A3 EXTERIOR ENCLOSURE							
A31 Walls Below Grade	0.49	4,200 sf	\$36.00	\$151,200	\$17.79		
A32 Walls Above Grade	0.25	2,086 sf	\$54.03	\$112,700	\$13.26		
A33 Windows & Entrance	0.21	1,826 sf	\$150.71	\$275,200	\$32.38		
A34 Roof Covering	1.00	8,500 sf	\$14.00	\$119,000	\$14.00		
A35 Projections	0.00	1 sum	\$669,500.00	\$669,500	\$78.76	\$1,327,600	19.4%
B INTERIORS							
B1 PARTITIONS & DOORS							
B11 Partitions	1.17	9,986 sf	\$5.36	\$53,500	\$6.29		
B12 Doors	0.00	20 lvs	\$2,525.00	\$50,500	\$5.94	\$104,000	1.5%
B2 FINISHES							
B21 Floor Finishes	0.90	7,613 sf	\$6.50	\$49,500	\$5.82		
B22 Ceiling Finishes	0.90	7,613 sf	\$2.01	\$15,300	\$1.80		
B23 Wall Finishes	3.09	26,258 sf	\$1.50	\$39,500	\$4.65	\$104,300	1.5%
B3 FITTING & EQUIPMENT							
B31 Fitting & Fixtures	0.00	1 Sum	\$35,000.00	\$35,000	\$4.12		
B32 Equipment	0.00	1 NIC	\$0.00	\$0	\$0.00		
B33 Conveying Systems	0.00	0 No.	\$0.00	\$0	\$0.00	\$35,000	0.5%
C SERVICES							
C1 MECHANICAL							
C11 Plumbing & Drainage	1.00	8,500 sf	\$10.18	\$86,500	\$10.18		
C12 Fire Protection	1.00	8,500 sf	\$3.87	\$32,900	\$3.87		
C13 HVAC	1.00	8,500 sf	\$25.35	\$215,500	\$25.35		
C14 Controls	1.00	8,500 sf	\$5.44	\$46,200	\$5.44	\$381,100	5.6%
C2 ELECTRICAL							
C21 Service & distribution	1.00	8,500 sf	\$16.79	\$142,700	\$16.79		
C22 Lighting, Devices & Heating	1.00	8,500 sf	\$21.14	\$179,700	\$21.14		
C23 Systems & Ancillaries	1.00	8,500 sf	\$12.55	\$106,700	\$12.55	\$429,100	6.3%
NET BUILDING COST (Excluding Site)							
					\$369.68	\$3,142,300	46.0%
D SITE							
D1 SITE WORK							
D11 Site Development	0.00	1 Sum	\$2,431,500.00	\$2,431,500	\$286.06		
D12 Mechanical Site Services	0.00	1 Sum	\$135,000.00	\$135,000	\$15.88		
D13 Electrical Site Services	0.00	1 Sum	\$210,000.00	\$210,000	\$24.71	\$2,776,500	40.6%
D2 ANCILLARY WORK							
D21 Demolition	0.00	0 Sum	\$0.00	\$0	\$0.00		
D22 Alterations	0.00	0 Sum	\$0.00	\$0	\$0.00	\$0	0.0%
NET BUILDING COST (Including Site)							
					\$696.33	\$5,918,800	86.6%
Z MARKUPS							
Z1 GENERAL REQUIREMENTS							
Z11 General Requirements	15.0%			\$591,900	\$69.64		
Z13 Fee	5.00%			\$325,500	\$38.29	\$917,400	13.4%
TOTAL CONSTRUCTION ESTIMATE (Excluding Contingencies)							
					\$804.26	\$6,836,200	100.0%
Z2 CONTINGENCIES							
Z21 Design Contingency	20.0%			\$683,600	\$80.42		
Z22 Escalation Contingency	10.0%			\$0	\$0.00		
Z23 Construction Contingency	0.0%			\$752,000	\$88.47	\$1,435,600	17.4%
SALES TAX (HST)							
0% EXCLUDED					\$0	\$0	0.0%
TOTAL CONSTRUCTION ESTIMATE (Including Allowances)							
					\$973.15	\$8,271,800	117.4%

GFA:	790 m2	per m2:	\$ 10,474.92
GFA:	8,500 sf	per sf:	\$ 973.15

ELEMENTAL COST SUMMARY CLASS 'D' ESTIMATE							
Project: Fundy Gateway Project		Date: Nov. 17, 2020		AltusGroup			
Location: Truro, Nova Scotia		Project Number: 100283		Option 'B'			
Client: Architecture 49		Gross Floor Area: 9,880 sf					
Element	Ratio to GFA	Elemental Quantity	Elemental Unit Rate	Elemental Amount	Cost/sf	Total	%
A SHELL							
A1 SUBSTRUCTURE							
A11 Foundation	0.86	8,500 sf	\$14.11	\$119,955	\$12.14		
A12 Basement Excavation	0.00	0 cf	\$0.00	\$0	\$0.00	\$119,955	1.6%
A2 STRUCTURE							
A21 Lowest Floor Construction	0.86	8,500 sf	\$12.17	\$103,449	\$10.47		
A22 Upper Floor Construction	0.00	0 sf	\$0.00	\$0	\$0.00		
A23 Roof Construction	0.86	8,500 sf	\$77.81	\$661,379	\$66.94	\$764,828	10.3%
A3 EXTERIOR ENCLOSURE							
A31 Walls Below Grade	0.43	4,200 sf	\$41.84	\$175,748	\$17.79		
A32 Walls Above Grade	0.21	2,086 sf	\$62.80	\$130,997	\$13.26		
A33 Windows & Entrance	0.18	1,826 sf	\$175.18	\$319,880	\$32.38		
A34 Roof Covering	0.86	8,500 sf	\$16.27	\$138,320	\$14.00		
A35 Projections	0.00	1 sum	\$778,195.29	\$778,195	\$78.76	\$1,543,140	20.9%
B INTERIORS							
B1 PARTITIONS & DOORS							
B11 Partitions	1.01	9,986 sf	\$6.23	\$62,186	\$6.29		
B12 Doors	0.00	20 lvs	\$2,525.00	\$50,500	\$5.11	\$112,686	1.5%
B2 FINISHES							
B21 Floor Finishes	0.77	7,613 sf	\$7.56	\$57,536	\$5.82		
B22 Ceiling Finishes	0.77	7,613 sf	\$2.34	\$17,784	\$1.80		
B23 Wall Finishes	2.66	26,258 sf	\$1.75	\$45,913	\$4.65	\$121,233	1.6%
B3 FITTING & EQUIPMENT							
B31 Fitting & Fixtures	0.00	1 Sum	\$35,000.00	\$35,000	\$3.54		
B32 Equipment	0.00	1 NIC	\$0.00	\$0	\$0.00		
B33 Conveying Systems	0.00	0 No.	\$0.00	\$0	\$0.00	\$35,000	0.5%
C SERVICES							
C1 MECHANICAL							
C11 Plumbing & Drainage	0.86	8,500 sf	\$11.83	\$100,544	\$10.18		
C12 Fire Protection	0.86	8,500 sf	\$4.50	\$38,241	\$3.87		
C13 HVAC	0.86	8,500 sf	\$29.47	\$250,487	\$25.35		
C14 Controls	0.86	8,500 sf	\$6.32	\$53,701	\$5.44	\$442,973	6.0%
C2 ELECTRICAL							
C21 Service & distribution	0.86	8,500 sf	\$19.51	\$165,868	\$16.79		
C22 Lighting, Devices & Heating	0.86	8,500 sf	\$24.57	\$208,875	\$21.14		
C23 Systems & Ancillaries	0.86	8,500 sf	\$14.59	\$124,023	\$12.55	\$498,766	6.7%
NET BUILDING COST (Excluding Site)							
					\$368.28	\$3,638,580	49.2%
D SITE							
D1 SITE WORK							
D11 Site Development	0.00	1 Sum	\$2,400,833.33	\$2,400,833	\$280.10		
D12 Mechanical Site Services	0.00	1 Sum	\$156,600.00	\$156,600	\$15.85		
D13 Electrical Site Services	0.00	1 Sum	\$210,000.00	\$210,000	\$21.26	\$2,767,433	37.4%
D2 ANCILLARY WORK							
D21 Demolition	0.00	0 Sum	\$0.00	\$0	\$0.00		
D22 Alterations	0.00	0 Sum	\$0.00	\$0	\$0.00	\$0	0.0%
NET BUILDING COST (Including Site)							
					\$648.38	\$6,406,014	86.6%
Z MARKUPS							
Z1 GENERAL REQUIREMENTS							
Z11 General Requirements	15.0%			\$640,600	\$64.84		
Z13 Fee	5.00%			\$352,300	\$35.66	\$992,900	13.4%
TOTAL CONSTRUCTION ESTIMATE (Excluding Contingencies)							
					\$748.88	\$7,398,914	100.0%
Z2 CONTINGENCIES							
Z21 Design Contingency	20.0%			\$683,600	\$69.19		
Z22 Escalation Contingency	10.0%			\$0	\$0.00		
Z23 Construction Contingency	0.0%			\$752,000	\$76.11	\$1,435,600	16.2%
SALES TAX (HST)							
0% EXCLUDED					\$0	\$0	0.0%
TOTAL CONSTRUCTION ESTIMATE (Including Allowances)							
					\$894.18	\$8,834,514	116.2%

GFA:	918 m2	per m2:	\$ 9,624.88
GFA:	9,880 sf	per sf:	\$ 894.18

7.2 Exhibits Costs

In this estimate, three phases have been used to organize the interpretive exhibit budget into manageable portions including:

- » Phase 1 – Site Improvements
- » Phase 2 – Building and Exhibits
- » Phase 3 – Miscellaneous/Infill Elements

Fabrication and AV Production Costs

Capital costs for key projects are based on several types of budget items typically considered at this stage:

» **Exhibit Fabrication/AV Media Costs**

These reflect costs associated with interpretive media developed as part of the new visitor experience (e.g., signage, exhibitions, AV productions, sculptures, etc.) as described in Section 3 and 4. Interpretive costs include an allowance for fabrication and/or multimedia production related to general interpretive media components. In some cases, costs are worked out based on typical square foot estimates or allowances for an appropriate range of display and media techniques. Where details are still unknown, lump-sum allowances have been made until further study or design work can help determine a precise cost. In these cases, the final design will be developed to meet the stated allowance, or money should be reallocated from another component or budget.

» **Contingency**

A standard project contingency of ±20% has been included to cover unknowns in all instances and is separate from Owner's project contingency. This amount will decrease as the project moves forward and more design details are resolved. During the detailed design process, a contingency should be managed between 10-15%. At the conclusion of the design phase (and during the fabrication phase), a 8-10% contingency is typical.

» **Professional Fees**

Estimates represent professional fees and expenses associated with the planning and design requirements required to complete a particular project or initiative.

- **Exhibit Design:** Fees are estimated at 22% (based on work completed to date). Fee estimates include a typical range of services including content development, AV treatments, exhibit design, graphics, technical drawings, specifications, and supervision/administration.
- **Architectural/Landscape Architecture:** Fees are estimated at 12% of specific costs. This includes design of exhibit-related structural installations, sculptures, and footings, as well as below-grade and code-compliant engineering within the interpretive concept. Architectural fees noted within the exhibit budget DOES NOT include base building or site design/development work.
- **Project Management:** OH/P costs are included at 10% and represent an allowance for general conditions and disbursements associated with management/mobilization of the project contract.

Exhibit Budget Assumptions

In developing preliminary exhibit cost estimates, the consultants have used a series of assumptions. Costs shown DO NOT include applicable taxes. Additionally, costs do not include:

- » Fabrication and installation costs assume shipping to Truro, Nova Scotia.
- » Exhibit budget estimates do not include base building and/or site structural construction costs, and/or owner's fit-out costs including:
 - Floor finishes
 - HVAC and M/E
 - All electrical outlets and data conduit, including those required for immersive show and AV system spaces
 - Gallery/Public area maintenance lighting
 - Exterior public area and structural lighting
 - Painting of interior spaces/walls
 - Interior FF/E
 - Exterior FF/E (picnic tables, garbage cans, etc.)
 - Exterior site preparation, grading and landscaping
- » Legal and accounting fees and expenses
- » Permitting, site and associated area connection fees
- » Partnership costs (e.g., M.O.U.s, lease agreements, etc.)
- » Removal of hazardous materials (e.g., asbestos, etc.)
- » Unforeseen site preparation and sub-surface work (e.g., soil remediation, drainage, testing, pilings, etc.)
- » Operating, maintenance, energy and life-cycle costs
- » Unforeseen or erratic market conditions affecting labour and material supplies
- » Staffing/operational costs
- » Consumables (e.g., food, craft supplies, etc.) unless noted
- » Temporary exhibit production costs, unless noted

Fundy Discovery Site - Exhibit Budget Estimates

Nov 12-020

Site Exhibits	Notes	PHASE A -SITE			PHASE B - VISITOR CENTRE			PHASE C - MISC.		
		SF	Costs / SF	Allowances	SF	Costs / SF	Allowances	SF	Costs / SF	Allowances
Welcome and Orientation signage										
Main Arrival	Graphics, tactile map, signage structures	LS		\$ 35,000						
Peripheral Arrival locations (4)	Graphics, tactile map, signage structures	LS		\$ 35,000						
Wayfinding Signage System	Graphics, signage posts	LS		\$ 45,000						
Entry Roadway Elements/Signage	Allowance for monolithic installation and signage	LS		\$ 45,000				LS		\$ 250,000
Picnic Park	Graphics at picnic tables (±8)	LS		\$ 20,000						
Tidal Plaza	Graphics, embedments, tidal calendar, misc.	LS		\$ 80,000						
Tidal Clock	Allowance for artistic sculptural work/technical and lighting effects	LS		\$ 350,000						
Pedestrian Bridge	Graphics along rail	LS		\$ 40,000						
Program Pavilion	Graphics, feature water map program interactive				LS		\$ 100,000			
Board Landing	Graphics, embedments, board elements, rail viewers							LS		\$ 50,000
New Node (Location TBD)	Graphics, misc. TBD							LS		\$ 50,000
View Structure (Tower)	Graphics, interactive aboiteau, viewers									\$ 50,000
Site-Specific Interpretation (5-6 locations)	Graphics, signage structures	LS		\$ 45,000						
Playground/Amphitheatre Interpretation	Graphic add-ons	LS		\$ 20,000						
Speciality Site Lighting	Allowance for animated lighting systems/effects	LS		\$ 100,000				LS		\$ 100,000
<i>Sub-Total</i>				\$ 815,000			\$ 100,000			\$ 500,000

Visitor Centre Exhibits	Notes	SF	Costs / SF	Allowances	SF	Costs / SF	Allowances	SF	Costs / SF	Allowances
Lobby/Reception Areas	Graphics				LS		\$ 30,000			
Exhibit Galleries					3000	\$ 450	\$ 1,350,000			
Immersive Bay of Fundy Region AV Experience	Allowance for additional immersive/motion effects				LS		\$ 150,000			
Bay of Fundy Region Exhibit Gallery							Included above			
UNESCO Exhibits							Included above			
Temporary Exhibits	TBD by Municipality				600		n/a			
Exhibit Lighting	Allowance for track and speciality lighting				3600	\$ 60	\$ 216,000			
<i>Sub-Total</i>				\$ -			\$ 1,746,000			\$ -
Sub-Total Exhibit Fabrication/AV Productions				\$ 815,000			\$ 1,846,000			\$ 500,000

Contingencies/Below the Line Costs	Notes	PHASE A -SITE			PHASE B - VISITOR CENTRE			PHASE C - MISC.		
Contract/Design Contingency		20%	\$	163,000	20%	\$	369,200	20%	\$	100,000
Interpretive Design Fees		23%	\$	224,940	23%	\$	509,496	23%	\$	138,000
Architectural/LA Design Fees related to Interpretive		12%	\$	72,000	12%	\$	12,000	12%	\$	30,000
Project Management OH/P		10%	\$	97,800	10%	\$	221,520	10%	\$	60,000
Project Total			\$	1,372,740		\$	2,958,216		\$	768,000
				<i>Plus taxes</i>			<i>Plus taxes</i>			<i>Plus taxes</i>

8. TECHNICAL IMPLICATIONS

8.1 Site Materials & Maintenance

Landscape Materials

In addition to their aesthetic qualities, the selected hardscape materials should be cost-efficient in terms of installation, maintenance, and durability over their entire lifetime. The materials and construction should be designed to withstand seasonal damage such as frost heaving, cracking, salting/sanding, and wet/icy conditions. Hardscape materials should also ensure that the surface treatment provides a good grip for those walking or cycling during icy or rainy conditions.

To increase groundwater infiltration, porous materials should be incorporated where appropriate. The grass paver area for bus/food truck parking, as well as the grass overflow parking area, use porous materials to increase sustainability on site.

Winter Maintenance

Trees and shrubs should be set back so as not to interfere with snow clearing. A snow dump area should be defined. Hardscape materials should minimize gaps, bumps, and interruptions that could interfere with snow clearing.

Plant Selection & Maintenance

The proposed planting materials and layout should be carefully selected to ensure low maintenance requirements. Ideally, the planting palette should be selected so as not to require an irrigation system or regular fertilization. Planting beds and trees should prioritize species that suit the site's climate conditions (wind, rain, snow, sunlight), Hardiness Zone, and geologic conditions (soil pH, soil texture, topography), and are ideally native to Nova Scotia. Plants that naturally thrive in this site will require less maintenance over the long term. Considering the large area of planting beds, the planting palette should also prioritize plants that require less hands-on maintenance such as pruning, dividing, cleaning up fruit drop, etc.

The grass berm should be composed of low-maintenance grass species that establish quickly and reliably without requiring long-term irrigation.

Protection of Existing Trees

Existing trees to remain should be protected during construction to ensure survival. Standard tree protection procedures should be followed as a minimum; however, the standard specifications are often not enough to ensure survival. Great care should be taken not to compact the soil within the trees' drip line or to change the existing grade.

8.2 Site Accessibility & Safety

It is assumed that the exterior site will meet code standards for universal and barrier-free accessibility. CPTED (Crime Prevention through Environmental Design) principles will be used to ensure that safety is prioritized and integrated in the design.

Pedestrian & Vehicular Accessibility

Wheelchair access must be considered for all outdoor spaces, including careful consideration of materials, curbs, slopes, and pathway widths. All key destinations within the site (Visitor Centre, courtyards, plazas, viewing areas, play/picnic area) should be designed for barrier-free access. For areas that inherently cannot be barrier-free, such as the lawn picnic area, efforts will be made to ensure at least partial wheelchair access to the area (such as a picnic area that directly accesses the concrete pathway).

The minimum number of required barrier-free parking stalls will be incorporated, with designated sidewalks to allow direct access to the site without moving through vehicular lanes or parking areas.

In terms of vehicular access, the design should consider turning radii of at least 12 metres and lane widths of at least 6.1 metres to accommodate service trucks, buses, and RVs.

Wayfinding & Circulation

Wayfinding and informational signage should be incorporated to direct visitors to key areas of the site (e.g., overall maps, welcome signage at entrance, directional signage to Visitor Centre, trail connections, viewing structure, RV/overflow parking, public washrooms, services entrance, bike services, bus/food truck/barrier-free parking). Directional signage should be included along Tidal Bore Road to direct those entering the site by car, RV, or bus.

Temporary signage (e.g., one-way traffic signs, signage that signals where people should park, drop-off areas) should be considered, especially for larger events. Recalling the earlier bus circulation diagrams, temporary directional signage will be needed to direct buses to the desired circulation/drop-off/parking option.

Where pedestrians must cross vehicular roads, including Tidal Bore Road and parking lot lanes, appropriate crosswalk elements (e.g., painted lines, signage, curb cuts) should be incorporated to promote pedestrian safety.

Grass Berm

The slope of the berm must be gradual enough to allow for safe mowing and safe pedestrian access. Barriers/fences must be installed around drop points (courtyards, entrance façade) to promote pedestrian safety.

Lighting

Lighting is an important consideration for CPTED (Crime Prevention through Environmental Design). Exterior lighting should meet minimum guidelines and standards for outdoor public spaces. There should be sufficient lighting to allow for safe and accessible use of the site during open hours, especially during winter with reduced daylight hours. Security lighting should be present at all times, regardless of open hours.

8.3 Building

Before detailed design for the building begins, geotechnical and environmental testing should be performed to ascertain the bearing capacity of the soil, and whether soil contaminants such as hydrocarbons or heavy metals are present. Because the proposed concept is for a partially buried building, it would also be advisable to test for the presence of radon gas. The reports resulting from these tests will provide important information to the consultant team who will undertake the detailed design of the facility.

8.4 Indoor Exhibits

The proposed interpretive concept, associated programming, and services for the Fundy Discovery Site present specific implications for the base building design, as well as exhibit-related systems and operations. This section presents a general summary of anticipated building-exhibit coordination requirements that are necessary to support exhibitions and program spaces within a Fundy Discovery Site facility (i.e., Visitor Centre).

This includes the anticipated physical, environmental, and control interfaces between various building and exhibition elements, and defines the boundary between exhibit scope and architectural scope at these interfaces. In some instances, there will be overlap between building and exhibition systems and code-related characteristics, which will need to evolve and be resolved as the detailed design proceeds. Additional considerations are noted in other sections, where applicable, while some factors may not appear here and will arise during the subsequent design process.

Accessibility

It is presumed that entry into the building and galleries will meet universal code standards for accessibility. Exhibition areas and layouts must consider universal/wheelchair access functions. Additionally, signage, and wayfinding systems must be developed to meet or exceed municipal accessibility standards. Development of wayfinding and directional signage may be divided between base building (e.g., washrooms, back-of-house areas) and exhibits (general directional signage, gallery IDs, etc.).

Ceilings & Flooring

Design of exhibit gallery ceilings and flooring will be coordinated between the base building and exhibition team as the design proceeds, and will be based on operational and maintenance considerations, as well as on the specific requirements for unique/defined exhibit areas/functions.

- » Soundproofing may be required where AV/audio-rich environments are anticipated, to buffer sound spill into other floors. This may include ceiling, wall, and floor acoustic dampening measures.
- » Flooring will be coordinated between base building and the exhibit design team during the design process. Solid surface flooring (concrete or wood) is good for maintenance and wear; however, there are potential drawbacks for exhibit galleries that feature sound or loud noises. Concrete may be stained to create special patterns or effects, while wood is often used to create a more comfortable and warm environment. Carpeting is often used for galleries where sound absorption is desired, or where the visitor experience requires a more comfortable setting however this has to be balanced against maintenance and wear factors. Resilient and/or linoleum surfacing may also be used where there is anticipated water, wear, and/or scuffing (usually in program and class areas, but also where colour or special patterns are desired). Plastic-based materials afford many design and style opportunities.
- » Ceilings will require attachment of lighting and other technical hardware such as projectors. This is typically managed via direct connections and power feeds, or via unistrut and cable tray systems with runs back to a central power source, depending on the specific hardware needs.

Power and Data Distribution

The base building contractor will be responsible for distributing power and data cabling to all floor and ceiling boxes indicated by the exhibit AV and lighting consultants. The exhibit fabrication/AV hardware contractors will connect the exhibits to the floor boxes as necessary. Where exhibits consist of AV-rich environments (e.g., special show or immersive experience) additional electrical infrastructure may be required to support speciality projection, audio and lighting hardware.

- » Exhibit Power Supply
All permanent exhibits will have their power loads calculated by an electrical engineer during the design process. Twenty amps of dedicated power for audio visual systems should typically be provided per ten square metres of flexible exhibit space. Estimated power requirements are 70 W/m² in exhibit galleries, as follows:
 - Exhibit and theatrical lighting power is typically 15 W/m²
 - Feature AV exhibit power is typically 35 W/m²
 - Small exhibit power is typically 20 W/m²
 - AV/IT Control Rooms are typically 250 W/m²
- » Power and Data on Floor and Wall
Power and data floor boxes will be distributed in relation to an approved exhibit plan, or in combination with a grid distribution plan. Where a grid is used, additional (infill) power/data points may be required based on the individual layout within exhibit galleries, as specified by the exhibit designer. Wall outlets are anticipated, for both exhibit power and maintenance purposes. Some outlets may be positioned higher up on the wall to accommodate monitors and special equipment.

- » Power and Data for Overhead Exhibit Lighting and AV Equipment
Power and data ceiling boxes will be distributed in relation to an approved exhibit plan, or in combination with a grid distribution plan. Where a grid is used, additional (infill) power/data points may be required based on the individual lighting requirements within exhibit, AV or program spaces, as specified by the exhibit designer's lighting and AV design.
- » Typical Gallery Floor Box Requirements include:
 - One 120 V power receptacle, circuit A (nominally for AV)
 - Circuit A shared between 3 floor boxes
 - One 120 V power receptacle, circuit B (nominally for case lighting)
 - Circuit B shared between 3 floor boxes
 - Two RJ45 data connectors, each with a CAT6 cable home run to lighting and AV patch bays in the closest AV data room.
 - AV and lighting data should be separate from building data systems but should have a connection to building data to facilitate remote access.
- » Exhibit Light & Show Control Systems
 - All exhibit lighting circuits will be provided with central dimming and programmable controls.
 - ASHRAE 90.1-2016 recommends a lumen power density of no more than 1.05 watts/square foot for general exhibition areas in museums.
 - A programmable lighting control system should be considered to allow for beginning/end of day control and for the selection of preset scenes for normal visitor experience, cleaning, emergencies, and special events.
 - Controls should be situated adjacent to staff areas (e.g., reception or AV room control space) and not accessible to visitors. Coordination of master switch locations for general areas and galleries must be coordinated between the architect, staff, and exhibit designer during base building design development.
 - Dimming systems, where provided, must be fully compatible with LED sources and provide smooth dimming from 5% to 100%.

NOTE: Many types of LEDs do not dim well. If dimming is to be used, then care must be taken to ensure that all aspects of the system (lamp, driver, and dimmer) are carefully selected and tested for compatibility.

- The lighting control system should be complete with an astronomical clock that can be easily programmed for beginning and end of day lighting states.
- The system should be easily interfaced with the building automation system and/or AV system as required for operational needs. The system should include simple-to-operate overrides (i.e., buttons, sliders, or touchscreens) for cleaning, special events, emergencies, and other special functions.
- Emergency lighting and egress lighting should be provided separately from the exhibit lighting system. Where possible, the lighting control system should be interfaced with the Building Management System for remote triggering if/when required.
- » Exhibit AV/IT Control Rooms
The base-building layout should provide a dedicated and secure room(s) that is/are ventilated and temperature controlled to house central AV hardware and control systems. The AV room should contain racks for AV and lighting control systems. These should be located in proximity to major gallery areas, and easily accessible for servicing/operations. In some instances, AV hardware may be located in proximity to the exhibits it serves; however, this should be determined on a case-by-case basis.

Gallery Lighting

Exhibit lighting will be provided for all exhibit areas and some selected common areas. All exhibit lighting will be provided via a museum-grade track lighting system, which will provide flexibility, durability, and provision for a wide range of accessories including filters, louvers, barn doors, and light blocking screens. LED lamp technology should be utilized to reduce maintenance and energy costs.

**NOTE: Emergency, maintenance and house lighting are to be provided through the base building design and construction process.*

The Exhibition Gallery **lighting scope inclusions** comprise the following:

- » Feature lighting and general circulation lighting within galleries, which will be provided by the exhibition track systems, exhibition structures and/or perimeter ceilings and gallery walls.
- » Lighting fixed to or within exhibition display structures.
- » Exhibit cases will be fitted with internal LED lighting and/or an internal fibre-optic lighting system as appropriate for accenting objects.
- » Colour wash lighting may be considered to enhance the experience in certain areas as appropriate.

- » Pattern projection and theatrical effects projectors may be used if appropriate in selected areas. LED lamp technology will be utilized in these devices to reduce maintenance and energy costs.
- » Spotlights and show-related fixtures may be required for performance and special events areas.
- » Other exhibit lighting effects will be provided as required to suit specific needs.
- » A dimming system will be required with controls for each exhibit zone for fine-tuning of the overall lighting levels, reduction of illuminance levels to meet conservation requirements, and the custom programming of special effects. This will be tied back into the base building system (see above).
- » Light Control: the use of immersive film, AV shows, and performance events as part of the visitor experience will require light control to help maximize the experience. Light control may be required via some internal partitioning and buffering within the space in order to help control light and sound spill, where AV is occurring separately from other exhibit or visitor areas.

Exhibition **lighting scope exclusions** are as follows:

- » Emergency, maintenance, and house lighting are to be supplied through the base-building design and construction.
- » Power distribution to the exhibit lighting system is to be provided via dimmer/electrical panels to exhibit lighting backboxes in the gallery ceilings, walls, and/or floors.
- » Conduit and control wiring for exhibit lighting systems should be provided from the exhibit lighting control rack to backboxes in the gallery ceilings, walls, and/or floors.

8.5 Outdoor Exhibits

Similar design considerations are noted for proposed outdoor exhibits where power, lighting, and operational functions are necessary to operate exhibits. Requirements for control, AV, and lighting systems associated with live performance and events are not defined here. These will need to be developed further if they are to be included, in coordination with a performance technical advisor.

Power and Data Distribution

The landscape contractor will distribute power and data cable to all site and structural power locations.

Lighting

The landscape contractor will distribute power to all outdoor boxes as required.

Plumbing/Water Systems

Outdoor water-based exhibits such as the large map in the proposed Program Pavilion will require a water supply and drainage system to support programming and maintenance activities.

- » Water should be controllable at the pavilion location for staff to easily control.
- » Accommodation for the exhibit unit to be installed and connected at a later date should be considered.
- » Drainage at several points around the central pad must be provided (including appropriate slope) to allow map overspill and maintenance/drainage water to escape. Drainage of water into the municipal and or natural site system must be considered, per municipal code.
- » Pumping electrical draw and filtration requirements will be determined during the design process.

Outdoor Exhibit and Signage Materials

Outdoor signage and interpretive exhibit materials must consider the following:

- » Use of aluminum or galvanized metal for all frameworks and structural components where exposed to weather and humidity.
- » Ability to remove and replace components without damaging surrounding site materials and structures.
- » Use of treated woods or woods with a high degree of exterior longevity (e.g., hemlock, cedar, etc.).
- » Aluminum, stainless steel, and/or galvanized hardware and fasteners.
- » Ability to remove signage seasonally via fasteners and/or drop-and-lock systems.
- » Resilient signage fabrication processes and materials with a minimum ten-year warranty.
- » Castings must be made from bronze, brass, aluminum, steel or exterior-grade resins with a high resistance to weathering, wear and tear, and grime from visitor use and natural debris.

APPENDICES

Content & Visitor Experience Matrix

Content Resources

Curriculum Links

Atlas Building and Site Budget Estimates

MAIN THEME—*At the Peak of the Tide, on the Edge of Wonder: The tidal bore is the powerful peak of the Bay of Fundy tides—a sampling of one of the world’s greatest natural wonders and an invitation to experience first-hand the dramatic landscape and the rich cultures of the region.*

SUB-THEMES: **Tidal Landscapes | Tidal Convergence | Tidal Living**

AREA/ FEATURE	VISITOR EXPERIENCE OBJECTIVES	THEMES / POSSIBLE CONTENT	VISITOR EXPERIENCES	MEDIA/DESIGN FEATURES	NOTES
THE SITE					
Website	<ul style="list-style-type: none"> Connect with the Fundy Discovery Site (FDS) through an engaging and dynamic web platform. Enable viewing of the web platform on a mobile device. 	<ul style="list-style-type: none"> Welcome What is this place? <ul style="list-style-type: none"> – how to get here – where to park (car/RV) – services (food, retail, rental space) What can I do here? (orientation info) <ul style="list-style-type: none"> – site overview – visitor amenities + experiences – program/event info (changeable) – admission costs (where applicable) – hours of operation (where applicable) – safety and ethical guidelines (e.g., water safety, COVID-19 protocols, etc.) Tidal bore times/best times to view 	<ul style="list-style-type: none"> Find out how to get here and what services are available Find out about the FDS site (experiences, amenities), and what to expect while visiting (e.g., tide times, services, etc.). See what programs, activities, and/or events are on right now at the site. 	<ul style="list-style-type: none"> Mobile-friendly web platform 	<ul style="list-style-type: none"> Platform could be a web portal through the Municipality’s official website or function as a stand-alone entity. Linkages to UNESCO Cliffs of Fundy Geopark information and web platform (cross marketing)
Welcome and Orientation	<ul style="list-style-type: none"> Encourage tourists crossing into Nova Scotia by road/arriving (via airport) to visit the Fundy Discovery Site. Attract and welcome visitors arriving by vehicle, bike or on foot. Introduce visitors to the site and its themes. Provide basic orientation information to help answer visitor questions before their visit begins. 	<ul style="list-style-type: none"> Welcome What is this place? <ul style="list-style-type: none"> – how to get here – where to park (car/RV) – services (food, retail, rental space) Where am I on the site? <ul style="list-style-type: none"> – map/location in relation to Truro, to Highway 102 What can I do here? (orientation info) <ul style="list-style-type: none"> – site overview – visitor amenities + experiences – program/event info (changeable) – admission costs (where applicable) – hours of operation (where applicable) – safety and ethical guidelines (e.g., water safety, COVID-19 protocols, etc.) Tidal bore times 	<ul style="list-style-type: none"> Feel encouraged to begin your Bay of Fundy adventure at the Fundy Discovery Site in Truro. Feel reassured as you navigate provincial highways, secondary roads, and exits to reach the site. Know you have arrived at the Fundy Discovery Site and where to go when you arrive: <ul style="list-style-type: none"> – see cues/identity signage at main road – see an iconic and highly visible welcome and orientation kiosk at the start of the main site, where entry road, parking and bike paths converge – see cues/signage at various trail arrival points at the periphery of the site Find out where you are, what to do, and where to go. 	<ul style="list-style-type: none"> Welcome/identity signage at highway border crossings and the Halifax Stanfield International Airport Highway directional signage and billboards Thematic/attractor and identity signage on site at key arrival locations Welcome and Orientation signage, including map/s 	<ul style="list-style-type: none"> N/A

AREA/ FEATURE	VISITOR EXPERIENCE OBJECTIVES	THEMES / POSSIBLE CONTENT	VISITOR EXPERIENCES	MEDIA/DESIGN FEATURES	NOTES
Wayfinding Signage System	<ul style="list-style-type: none"> • Provide clear wayfinding signage and navigation aids for visitors as they explore the site. • Assist visitors in decision making and movement on site pathways and when exploring indoor areas. • Use signage to encourage visitors to stop and explore. • Create a consistent signage environment across outdoor and indoor spaces. • Guide general expectations regarding site behaviour, particularly where visitors are close to the river and during tidal bore events. 	<ul style="list-style-type: none"> • Where am I? How do I get around? – cyclist and pedestrian pathway considerations • Site safety and ethical guidelines/health regulations 	<ul style="list-style-type: none"> • Feel comfortable getting around the site. • Easily and safely navigate pedestrian and bicycle pathways, outdoor spaces, and indoor areas (e.g., Visitor Centre). 	<ul style="list-style-type: none"> • Wayfinding program, including: <ul style="list-style-type: none"> – map of site – directional signage (exterior—e.g., pathways) – decision point markers – directional signage (interior—e.g., Visitor Centre) 	<ul style="list-style-type: none"> • Wayfinding program should be thematically and visually linked to welcome and orientation signage, with similar design elements and materials. • Map of the site should be oriented and scaled based on its use/location on site. • Ensure current FDS branding is used for new signage. • The same style of wayfinding and directional signage should be employed inside the Visitor Centre and other buildings to create a consistent wayfinding environment.
Entry Roadway	<ul style="list-style-type: none"> • Establish a sense of place and arrival. • Provide cues to Fundy Discovery Site themes. 	<ul style="list-style-type: none"> • Tidal Landscapes • Tidal Convergence • Tidal Living <p>(*various content)</p>	<ul style="list-style-type: none"> • From a car or bicycle, encounter sculptural elements that cue visitors to the energy and dynamism of the Bay of Fundy, including the interaction between cliffs and tides. • At dusk and after dark, see select sculptural elements illuminated from the road and feel enticed to visit the site and/or get there safely. 	<ul style="list-style-type: none"> • Sculptural/lighting elements 	<ul style="list-style-type: none"> • Physical elements may be enhanced to help light the way for visitors arriving at dusk.
Services Area	<ul style="list-style-type: none"> • Provide value-added experiences and access to additional services, such as food, retail, and rentals. 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Grab lunch or a snack (including ice cream!) at one of several food trucks or refreshment stations on site. • Rent a bike to explore the site and nearby trails or safely make a quick repair at the bike station/rest area. • Pick up an FDS souvenir as a reminder of your visit. • Browse a unique selection of local wares and handmade items, including pottery, art and crafts, etc. at the Made in Maritimes Artisan Boutique (or similar enterprise). 	<ul style="list-style-type: none"> • Directional signage • Food trucks/refreshment stations • Retail space/s + products (FDS souvenirs, local/handmade wares, etc.) 	<ul style="list-style-type: none"> • Coordinate design of structures and choice of materials (where structures are permanent) to match site standards established by the design team and the Municipality. • Food and retail units may expand during peak event times when visitation is higher. • Refine food + retail offerings in response to visitor feedback and trends.

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The Park	<ul style="list-style-type: none"> Offer a relaxing, shady space to sit, eat your lunch, and take in the views of the river. “Activate” picnic tables and adjacent spaces via interpretation to help convey stories and themes in a way that does not conflict with the use/enjoyment of such services. 	<ul style="list-style-type: none"> Picnic tables could include: <ul style="list-style-type: none"> – Salutations in relevant local languages – Names for traditional regional foods – Bay of Fundy species (flora/fauna) 	<ul style="list-style-type: none"> Find a shady space to sit and rest. Eat lunch at a picnic table—and perhaps discover an interesting factoid or two! Linger awhile and enjoy the river views or watch the tidal bore come in. Stroll to and from the bridge, stop by the Visitor Centre, or wander over to the nearby food and retail pods. Attend a special event on site. 	<ul style="list-style-type: none"> Picnic tables enhanced with graphics Tents set up during special events 	<ul style="list-style-type: none"> Area is open and unprogrammed unless a special event is on. Tabletop interpretation will be organized based on the actual amount of tables/spaces installed.
Tidal Bore Plaza	<ul style="list-style-type: none"> Create a natural focal point that gathers visitors, especially those who come to see the tidal bore. Convey contextual information about the tidal bore, where it is arriving from, and its significance to the Bay of Fundy. Convey other FDS themes before visitors begin to explore further. Create a space that can be activated for programs and events. 	<ul style="list-style-type: none"> Big picture overview of the Bay of Fundy Region <ul style="list-style-type: none"> – introduces all FDS themes – provides context for tidal bore Tidal Landscapes <ul style="list-style-type: none"> – Tidal Bore: what is it, why it occurs/conditions to form, tidal bore times, why isn’t anything happening? – Fundy Tides 101: causes, tidal cycle, spring vs. neap tides, Perigee-apogee influence – Tidal Extremes: flows, highs, volumes + range; why so high (resonance); turbulence + rapids – Up Close: safety around the tides + mudflats Tidal Convergence <ul style="list-style-type: none"> – To the Other Side: canoe ferry, Board Landing Bridge, current pedestrian bridge 	<ul style="list-style-type: none"> Gather with other visitors to witness the tidal bore at designated times. Compare the tide times (via a calendar) and the arrival of the tidal bore. Interact with interpretive elements within the plaza infrastructure. Take part in a special themed program or stay for a special event, if one is on. Rest and reflect on this special place. 	<ul style="list-style-type: none"> Sculptural elements Interpretive signage Programs and events 	<ul style="list-style-type: none"> The Tidal Bore Plaza is positioned in relation to a large tidal clock that will become an icon for the site. Space inside the Tidal Bore Plaza, and along any raised walls, must accommodate large groups who gather to watch peak tidal events.
Tidal Clock	<ul style="list-style-type: none"> Signal the coming of the tidal bore, alerting visitors who may be waiting for its arrival and/or busy enjoying other aspects of the site. Communicate the height of the Bay of Fundy tides. 	<ul style="list-style-type: none"> Tidal Landscapes <ul style="list-style-type: none"> – Tidal Bore: tidal bore times – Tidal Extremes: flows, highs, volumes + range; why so high (resonance) 	<ul style="list-style-type: none"> Be alerted to the arrival of the tidal bore. See when the tidal bore is coming next so you can plan your visit accordingly. Note the scale/height of the Bay of Fundy tides (including various locations in the region). 	<ul style="list-style-type: none"> Vertical artistic sculptural structure Design will include themed textures/patterns/lighting elements related to the scale and movement of tides Interpretive elements at the base (e.g., signage) Audible ‘warning’ sound/lighting effect alerting visitors to pending arrival of the tidal bore. 	<ul style="list-style-type: none"> The Tidal Clock is positioned in relation to the Tidal Bore Plaza. The clock could be lit and will play a role in an after-hours lighting show/effects related to the tidal bore, with the ability to support projections and lighting that indicates not only the arrival of the

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	<ul style="list-style-type: none"> Communicate tidal bore arrival times. Interpret the movement and flow of the tide. 		<ul style="list-style-type: none"> Compare the height of the tides to your own height. 		<p>tidal bore, but also movement and changes in the tides further out in the Bay as well as relative depth/scale at key locations.</p> <ul style="list-style-type: none"> Clock will be designed with a minimum vertical rise of 47.5 feet (reflecting the average tide height at Burntcoat Head Park, which is recognized by multiple agencies, including the Municipality, as having the highest recorded tides in the world—extreme tidal ranges reach 53.6 feet at this location). A 55-foot sculpture would address these ranges. Design and construction will be considered a commissioned artistic piece and contracted separately from core interpretive media fabrication; artist selection criteria will be required.
<p>Pedestrian Bridge</p>	<ul style="list-style-type: none"> Provide a signature space for visitors to view the tidal bore. 	<ul style="list-style-type: none"> Tidal Landscapes <ul style="list-style-type: none"> Tidal Bore: what is it, why it occurs/conditions to form, tidal bore times, why isn't anything happening? Fundy Tides 101: causes, tidal cycle, spring vs. neap tides, Perigee-apogee influence Tidal Extremes: flows, highs, volumes + range; why so high (resonance); turbulence + rapids Up Close: safety around the tides + mudflats Tidal Convergence <ul style="list-style-type: none"> Boom on the Banks: Board Landing, ships + shipyards, trade routes, movement of enslaved Africans To the Other Side: canoe ferry, Board Landing Bridge, current pedestrian bridge 	<ul style="list-style-type: none"> See the tidal bore in action. Hear the sound/see the lights of the tidal clock indicating that the tidal bore is approaching. Understand what you see when the tidal bore arrives + why it occurs. 	<ul style="list-style-type: none"> Viewing platform (bridge railing) Interpretive signage (integrated along railings) linked to views up + down river Lighting elements, activated as part of a sequence linking the bridge to the plaza for special after-dark shows Select interpretive elements (e.g., text in wood planking, possibly arranged in sequence) 	<ul style="list-style-type: none"> The Bridge, Plaza, and Boulevard should feature similar hardscape materials to connect them visually and thematically. Bridge, Plaza, and Boulevard spaces can be united using kinetic lighting effects and show sequences, as part of a tide-themed evening event.

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Program Pavilion	<ul style="list-style-type: none"> Provide space for demonstrations and programming promoted by the Municipality and/or its stakeholders, particularly those that are water related and benefit from the infrastructure provided. 	<ul style="list-style-type: none"> Tidal Landscapes <ul style="list-style-type: none"> Tidal Bore: what is it, why it occurs/conditions to form, tidal bore times, why isn't anything happening? Fundy Tides 101: causes, tidal cycle, spring vs. neap tides, Perigee-apogee influence Tidal Extremes: flows, highs, volumes + range; why so high (resonance); turbulence + rapids Up Close: best places to see the tidal bore/highest tides/tidal rapids; safety around the tides + mudflats From the Rock: bay creation, the tides + geological processes, fossils + minerals, UNESCO Geopark Tidal Landscapes Tidal Convergence Tidal Living (*various content—program dependent) 	<ul style="list-style-type: none"> Attend a live, map-based tidal demonstration (scheduled group or class) replicating the tidal bore effect at a scale that is easy to comprehend, or another water-dependent/ stream table related science activity. 	<ul style="list-style-type: none"> Covered shelter, possibly featuring weather-protective panels or screens Large, tactile map/stream table of the Bay of Fundy region Interpretive signage/infographics Seating Lockable storage unit (for staff program materials/props) 	<ul style="list-style-type: none"> The Program Pavilion will hold approximately ±30 students/participants and any accompanying teachers/chaperones. Signage could tie into the structural/storage walls and/or positioned to create windbreak partitions.
View Structure	<ul style="list-style-type: none"> Provide both high-level and trail-level viewing for visitors wishing to take in the tidal bore from various angles. Allow visitors to get close to the river (without getting in). 	<ul style="list-style-type: none"> Tidal Landscapes <ul style="list-style-type: none"> Tidal Bore: what is it, why it occurs/conditions to form Tidal Convergence <ul style="list-style-type: none"> Sustenance & Settlement: Mi'kmaq and the Salmon River, farming the Minas Basin (Acadians + aboiteau) Natural Impact: flood plain + modern aboiteau; ice jams, storm surges + coastal erosion; Saxby Gale 	<ul style="list-style-type: none"> Use a view scope to watch for and view the arrival of the tidal bore. Climb the tower to take in the incredible views of the site and tidal bore (if it's approaching). Use the cantilevered deck to walk out "over" the river. "Move" the tidal bore over a river surface to see how the water rushes over the river, creating the layered tidal bore effect. Explore quotations related to the Bay of Fundy region and the power of the tides. Touch and explore river mud as part of a supervised program (samples brought up by staff). 	<ul style="list-style-type: none"> Tower featuring several decks and a cantilevered promontory View scopes Interpretive signage linked to key views Graphic/tactile elements <ul style="list-style-type: none"> 3D aboiteau model allowing water to pass through (or illustrated sculptural water lines) tidal bore rotating graphic quotations themed graphic treatments for walls/surfaces/stairtreads 	<ul style="list-style-type: none"> The aboiteau model could be designed to move for programming use.

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Board Landing View Deck	<ul style="list-style-type: none"> Connect visitors to the historic use of the site as centre for shipbuilding and commercial activity. Connect visitors to the natural environs and the flora/fauna that call this area home. 	<ul style="list-style-type: none"> Tidal Convergence <ul style="list-style-type: none"> – Boom on the Banks: Board Landing, ships + shipyards, trade routes, movement of enslaved Africans – To the Other Side: canoe ferry, Board Landing Bridge, today’s pedestrian bridge Tidal Living <ul style="list-style-type: none"> – By the Bay: activities + economies (traditional + new), key cultures (Mi’kmaq, Acadian, etc.) Tidal Living <ul style="list-style-type: none"> – Intertidal Ecosystems: flora/fauna, habitats (salt marshes, mud flats, etc.); migratory birds, Cobequid Bay + the Atlantic Flyway 	<ul style="list-style-type: none"> Explore the site’s historic use as a shipbuilding and commercial centre. From this view deck, imagine what it was like to cross the river in a canoe ferry, before the first bridge was constructed. “See” the historic Board Landing site through an overlay glass panel featuring an illustration of what the site might have looked like in the mid-19th century. Scan the marshes and fields nearby for wildlife using a viewscope. 	<ul style="list-style-type: none"> View deck/platform Abstract seating (lumber piles/beams) featuring interpretive factoids Interpretation affixed/engraved onto deck planking, lumber piles, and/or railing (e.g., quantity and names of ships built at Board Landing) Railing overlay panel featuring views of historic scenes (glass/illustration) View scopes 	<ul style="list-style-type: none"> N/A
New Node (Placeholder)	<ul style="list-style-type: none"> Connect visitors to the region’s Indigenous history and culture. Provide visitors with an additional waterfront ‘destination’ at the site. 	<ul style="list-style-type: none"> TBD—possibly use this area to deliver Indigenous content, developed in collaboration with Indigenous partners. 	<ul style="list-style-type: none"> TBD (future phases) 	<ul style="list-style-type: none"> TBD (future phases) 	<ul style="list-style-type: none"> The location of this new node is TBD.
Site-Specific Interpretation	<ul style="list-style-type: none"> Emphasize key views and site-specific stories along pathways and elsewhere throughout the site. 	<ul style="list-style-type: none"> Tidal Convergence <ul style="list-style-type: none"> – Sustenance & Settlement: Mi’kmaq and the Salmon River, farming the Minas Basin (Acadians + aboiteau), Planters + the rise of townships, the railroad + African NS communities – To the Other Side: canoe ferry, Board Landing Bridge, today’s pedestrian bridge – Traveller’s Rest: Truro’s first inn, roadside cabins, Tideview Motel/Palliser + famous guests – Natural Impact: flood plain + modern aboiteau; ice jams, storm surges + coastal erosion; Saxby Gale 	<ul style="list-style-type: none"> Stumble upon unexpected, interesting interpretive elements or points of interest as you explore the site and its trails. 	<ul style="list-style-type: none"> Interpretive signage Embedments Sculptural features Vertical icons (possibly also used as kinetic lighting elements) 	<ul style="list-style-type: none"> Outdoor interpretive elements may be integrated with built structures or appear as stand-alone structures. Some may include special elements. Distribution of specific stories and interpretive locations on site will be refined further in subsequent design phases, and based on which major proposed site features are approved for further development and construction (i.e., to ensure a rational juxtaposition of site-based content where possible).
Playground/ Amphitheatre	<ul style="list-style-type: none"> Augment natural play/gathering spaces with select interpretive media. 	<ul style="list-style-type: none"> Tidal Landscapes Tidal Convergence 	<ul style="list-style-type: none"> Stumble upon unexpected, interesting interpretive elements as you play (or watch your children play) at the playground or 	<ul style="list-style-type: none"> Interpretive elements (graphics/labels) Sculptura/tactile elements 	<ul style="list-style-type: none"> All interpretation in this area must be safe, and integrated subtly

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	<ul style="list-style-type: none"> Boost the thematic strength of the existing and planned playground features, which also serve to prompt visitors to further explore the playground. Continue to provide opportunities for pure fun and delight for younger visitors. Serve as an event/performance space for large groups (both tourists and residents). 	<ul style="list-style-type: none"> Tidal Living (*various content—the following themes/content have been already identified for key playspace elements) <ul style="list-style-type: none"> – Three Sisters – Waterfalls (Economy Falls, Wards Falls, Londonderry Falls/Great Village River Falls, Delaps Cove, etc.) – Minas Basin/Bay of Fundy – Mud flats – Beaches (Five Islands, Evangeline, Kingsport, Blomidon, Blue Beach) – Fossils – Sand spit – Eagles + their nests – Ebb + flow of the tide – Driftwood (e.g., Advocate Beach) – Sandstone: red rocks at Chignecto, Burntcoat Head, Five Islands cliffs – Posts in old wharves/remnants of old wharves seen around the Bay today – Dory rips at Cape d’Or/Old Sow whirlpool (NB/Maine) – Schooner mast – Ocean (tidal bore, wave) – Waves, cliff face (e.g., Joggins Fossil Cliffs) – Fishing weir (Partridge Island) – Crow’s nest of ship – Vertical tidal range – Boat at low tide beside wharf (Hall’s Harbour, Parrsboro) – Bow + stern of boat, ship wheel – Wharves 	<p>gather at the amphitheatre.</p>		<p>into/adjacent to the existing playground designs.</p>
VISITOR CENTRE					
Reception and Administration	<ul style="list-style-type: none"> Provide visitors with an in-person, staff welcome to the site. 	<ul style="list-style-type: none"> Welcome What is this place? What can I do here? (orientation info) <ul style="list-style-type: none"> – site overview – visitor amenities + experiences 	<ul style="list-style-type: none"> Find out where you are, what to do, and where to go. 	<ul style="list-style-type: none"> Reception/ticketing Welcome and orientation displays Large-format imagery Back-of-house office/storage space 	<ul style="list-style-type: none"> N/A

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	<ul style="list-style-type: none"> • Introduce visitors to the site and its themes. • Provide basic orientation information to help answer visitor questions before their visit begins. • Invite residents to drop in and see what’s on display or bring their visiting friends and family. • Provide direct access to outdoor program spaces (for classroom group leaders). 	<ul style="list-style-type: none"> – program/event info (changeable) – admission costs (where applicable) – hours of operation (where applicable) – safety and ethical guidelines • Regional tourist information 	<ul style="list-style-type: none"> • Purchase admission to the FDS Visitor Centre and/or sign up for a special on-site event or program. • Talk to staff and find out about FDS experiences and other special programs. • Access/meet for a special program. 	<ul style="list-style-type: none"> • Directional signage (interior—e.g., Visitor Centre) 	
Visitor Information Centre/Retail	<ul style="list-style-type: none"> • Serve as a comprehensive, yet succinct overview of the Bay of Fundy region for tourists to aid in their journey/exploration of the area. • Provide travel counselling services. • Provide literature for visitors. • Provide access to FDS and Cliffs of Fundy Geopark souvenirs. 	<ul style="list-style-type: none"> • What can I do in this region? • Bay of Fundy regional attractions 	<ul style="list-style-type: none"> • Find out where you are, what to do, and where to go. • Purchase souvenirs. 	<ul style="list-style-type: none"> • Graphics • Literature 	<ul style="list-style-type: none"> • Scale and content of VIC to be developed in coordination with the Province.
Immersive Bay of Fundy Region AV Experience	<ul style="list-style-type: none"> • Create an anchor experience for the Fundy Discovery Site Visitor Centre. • Introduce visitors to the Bay of Fundy region—its dramatic tides and other natural wonders, and cultures—in ways that invite interaction with aspects of the story via digital technology. • Immerse visitors into the Bay of Fundy region themes (and landscapes) without complex and expensive physical motion platforms and ride-like effects. 	<ul style="list-style-type: none"> • Tidal Landscapes • Tidal Living <p>(*various content)</p>	<ul style="list-style-type: none"> • “Step into” a special ticketed ±15-20 minute interactive gallery “show experience” that introduces the Bay of Fundy region—its wonders, dramatic tides, and cultures—from the Atlantic Ocean to the innermost reaches of its rivers and inlets. • Feel relaxed enough to wander and explore, or to sit and take in the experience/unique “environment.” • Use your hands, arms, and feet to interact with elements in the gallery through body movement. • Use a digital device to reveal special elements. 	<ul style="list-style-type: none"> • Immersive and open-ended interactive gallery featuring: <ul style="list-style-type: none"> – video and audio effects – augmented reality (AR) interaction – responsive motion-recognition/capture – lighting and projections onto physical surfaces (floor, ceiling, walls, shapes) – possible special effects and movement (or simulated movement) – spherical “Moon/Sun” surface overhead • Seating (as well as standing areas) • Projected map of Bay of Fundy region and tidal movement 	<ul style="list-style-type: none"> • Show experience is expected to support ±15-25 visitors at once, with opportunities for visitors to flow into and out of the space at their leisure. • This interactive space will be adjacent to the main exhibit area; movement between the two will be encouraged as a way to extend the immersive nature of the exhibit experience beyond this central space. These spaces will have some similarity in tone and treatment, thereby creating an overall sense of one larger immersive gallery for visitors to explore.

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	<ul style="list-style-type: none"> • Enable visitors to move about the space or sit down and take in an immersive experience. • Connect to the adjacent exhibit gallery, allowing informal movement of visitors between the show and supporting exhibits. • Provide context for visitors who are new to the Bay of Fundy region. • Expand the Visitor Centre’s ability to connect with various age and interest levels. 		<p><i>[Show Highlights]</i></p> <p><i>Formation of the Landscape</i></p> <ul style="list-style-type: none"> • See the formation of the Fundy landscape, including the rocky cliffs and shores that feature fossils and world-renowned geological formations. • See the Bay of Fundy appear (and possibly also disappear) on the floor. • See prehistoric images as the sounds of ancient creatures fill the room. • Reveal and interact with living fossils, plants, and prehistoric animals. <p><i>Tidal Movement and Range</i></p> <ul style="list-style-type: none"> • See the Sun set at dusk over the Bay of Fundy. • Watch as the night sky fills the room, dominated by the moon and stars. • See the Moon cycle and change, causing the motion of the tides below. • Watch as the sky brightens and the tides fall, revealing a fishing boat resting on the bottom of a harbour, adjacent to a dock. • See mud flats, a low tidal landscape, people walking/dining on the ocean floor, and kids playing in the mud. Feel surrounded by the ocean bottom and mud flats. • Hear music and cultural activities coming from nearby communities. <p><i>Underwater World</i></p> <ul style="list-style-type: none"> • Hear, and then see, water rushing into the space, flooding the room and plunging you beneath the surface. • Explore a rich, underwater environment, replete with North Atlantic right whales, 		<ul style="list-style-type: none"> • The show could be programmed to repeat on a regular cycle, possibly over 30-45 minutes (±5-6 minutes of focused narrative with ±12-15 minutes of visitor exploration time). • Physical design and shapes within the gallery will be developed to support the show’s projection effects and imagery, while ensuring a safe and accessible space for visitors.

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			<p>porpoises, fish, and plant life, along with lobster traps and tidal energy turbines.</p> <p><i>Dramatic Bay</i></p> <ul style="list-style-type: none"> • Watch the water “drain” until you return to the surface alongside a whale-watching boat afloat with visitors just like you. • Watch as a fishing boat and its crew launches traps—splash!—into the water. • Soar above the shoreline cliffs to take in the UNESCO Geopark landscape including Cape Split, Cape Chignecto, etc. • Watch kayakers and zodiacs ride the waves, which boil and ripple with the force of the incoming tide, propelling the water upriver towards the Fundy Discovery Site. • See rock climbers, geology students, and others engaged in some of the Bay of Fundy’s most exhilarating activities. 		
<p>Bay of Fundy Region Exhibit Gallery</p>	<ul style="list-style-type: none"> • Introduce and explore key themes about the Bay of Fundy, particularly those related to the science and landscape of the greater Bay of Fundy region. • Engage both tourists and local visitors alike. 	<ul style="list-style-type: none"> • Tidal Landscapes • Tidal Living <p>(*various content)</p>	<p><i>Tidal Landscape</i></p> <ul style="list-style-type: none"> • Control the tides using the moon’s gravitational pull, and see its effect on the Bay of Fundy. • Sit/stand on a zodiac raft/surfboard and “ride” the tidal bore, possibly using a VR headset; two stations are provided. • Sit in a real zodiac, positioned as if it is riding the tidal bore, and have your photo taken. • Explore a model of the Bay of Fundy and/or cross section diagrams of the Bay depicting the depth and range of the tides from the outer to innermost locations. • Select and view tidal change/ranges in various locations across Bay communities via a live web camera/s. 	<ul style="list-style-type: none"> • Graphics • Large-format imagery • Objects (artifacts/props) • Digital AV media/touchscreens • Projections • Signature interactives (e.g., bore surf simulator) • Bathymetric model • Live feed webcams • 3D exhibits: tidal and mud flat surfaces, cutout shapes • Interactive, multi-touch tabletop map 	<ul style="list-style-type: none"> • The zodiac photo op could be combined with the bore surf simulator. • Additional layers of the multi-touch tabletop map may be introduced based on further research and content development during subsequent schematic and design development phases. This digital map-based exhibit allows content to be updated over time. • Characters and stories about the Bay of Fundy should be drawn from key cultural communities (e.g., Indigenous, Acadian, African Nova Scotian, etc.).

AREA/ FEATURE	VISITOR EXPERIENCE OBJECTIVES	THEMES / POSSIBLE CONTENT	VISITOR EXPERIENCES	MEDIA/DESIGN FEATURES	NOTES
			<ul style="list-style-type: none"> • Interact with an animated touchscreen infographic diagram that responds to your requests, presenting scale and quantity information related to tidal extremes, resonance, scale, and volume—use your hands or feet to make selections! <p><i>Tidal Living</i></p> <ul style="list-style-type: none"> • Delve into the Bay of Fundy-related content of your choice, organized around a large interactive map of the Bay and its shoreline (including cultural and natural subject matter). • Listen to residents from around the Bay tell stories about what makes this place unique. • Find out where things are and where to visit next/what to see + do. 		
<p>UNESCO Cliffs of Fundy Geopark Exhibits</p>	<ul style="list-style-type: none"> • Introduce visitors to the Cliffs of Fundy UNESCO Global Geopark, as well as to the features that are central to its recent UNESCO designation. • Attract visitors wishing to explore the connections between geology, local communities, culture, and nature. • Promote the Bay of Fundy region and celebrate its uniqueness. • Highlight opportunities for exploring/enjoying the Geopark. • Reinforce linkages with other Geopark welcome centres and venues. 	<ul style="list-style-type: none"> • UNESCO Cliffs of Fundy Geopark – locations (“geosites”) and highlights of attractions/experiences – fossils and other discoverable features found in various places within the Geopark – why it’s an important resource (reasons for designation) + how the Cliffs of Fundy Geopark came to be, including individuals/communities who worked to share it with the world – unique characteristics of the coastline and geological landscape – The Geopark’s first geologists: Indigenous relationships with the region over time (rocks as tools/for ceremonial use, origin/creation stories and other cultural geoh heritage—e.g, Kluscap, Five Islands, the Three Sisters, Partridge Island) https://fundygeopark.ca/ 	<ul style="list-style-type: none"> • Examine a dramatic cross-sectional view of the UNESCO-designated landscape, including cliffs, shores, and rock formations along the north face of the Bay of Fundy. • Explore touchscreen/motion responsive digital interactives related to segments of landscape along the Geopark. • Watch a video of a geologist/scientist describing the Geopark attraction and the features that make this area an important resource. • See, and possibly touch, rocks/samples of rock formations to better understand what you might find as you explore the Geopark. • Listen to a guest programmer talk about fossils and share real samples of fossils and rocks from the area. • Delve into the UNESCO Geopark story, and feel compelled to explore this unique area. 	<ul style="list-style-type: none"> • Graphics • AV interactives/touchscreen • Tactile models and specimens • Artifacts/props • Programming (e.g., “Rock Talks”) 	<ul style="list-style-type: none"> • This gallery space may be expanded in future depending on the needs of visitors and UNESCO promotional efforts, whereby increased visitor capacity may become necessary.

AREA/ FEATURE	VISITOR EXPERIENCE OBJECTIVES	THEMES / POSSIBLE CONTENT	VISITOR EXPERIENCES	MEDIA/DESIGN FEATURES	NOTES
Local Exhibits	<ul style="list-style-type: none"> Explore stories related to the Fundy Discovery Site in particular, and also the wider Bay of Fundy/Colchester region. Highlight partner sites and museums in the Bay of Fundy/Colchester region, giving visitors a taste of what to expect on the next leg of their Bay of Fundy journey. 	<ul style="list-style-type: none"> Tidal Landscapes Tidal Convergence Tidal Living <p>(*various content)</p>	<p><i>Tidal Convergence</i></p> <ul style="list-style-type: none"> See a scale model of Board Landing as it may have appeared in 1860, including the ferry and shipyard operations. Explore a kiosk/touchscreen featuring photos, oral histories, and objects associated with the Palliser Motel and Restaurant. Explore stories and objects related to partner sites and museums in the Bay of Fundy/Colchester region. 	<ul style="list-style-type: none"> Board Landing Featurette: scale model Palliser Motel Featurette: kiosk/touchscreen Colchester/Fundy Exploration Featurette: touchscreens/kiosks + object-based displays (e.g., sample artifacts on loan) 	<ul style="list-style-type: none"> Location of these smaller “pod” exhibits may be adjacent to the Lobby, the Temporary Gallery, and/or as part of the main Exhibit Gallery to complement the other thematic experiences—TBD. Digital and artifact content for the Colchester/Fundy Exploration Featurette can be updated as new information is obtained, or if additional sites/attractions are added to the list of “must-do” places to visit in the region.
Temporary Exhibits	<ul style="list-style-type: none"> Provide space for temporary exhibits and continue to bring in new exhibits over time. Present content related to the Bay of Fundy. 	<ul style="list-style-type: none"> Various content (changeable), including but not limited to: <ul style="list-style-type: none"> – Photography/art – Historic and current topical subject matter (e.g., town development, COVID-19, etc.) – Indigenous content – Local industry and/or academia (e.g., new tidal power technology, rail systems, scientific research, etc.) – Other topics of interest developed through partner initiatives 	<ul style="list-style-type: none"> View the latest temporary exhibit at the Fundy Discovery Site Visitor Centre. Be inspired by temporary exhibits at the Fundy Discovery Site Visitor Centre to seek out complementary regional sites and experiences. 	<ul style="list-style-type: none"> Temporary exhibitions from other museums, sites and private sector groups (i.e., industry). 	<ul style="list-style-type: none"> The space will be fitted out to support flexible display and lighting arrangements. Partition walls/panels may be provided to allow simple configurations to be created as needed (require storage). Temporary exhibit space may rely on space within the Lobby area, or in a dedicated gallery space (e.g., optional meeting room).
PROGRAMMING OPPORTUNITIES					
Feature Lightshow	<ul style="list-style-type: none"> Celebrate the arrival of the tidal bore at twilight/after dark during the summer (peak) months. Represent the energy and flow of the tidal bore. 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Hear the Tidal Clock emit a “warning sound” and watch as an animated light sequence moves across the site, representing the energy and flow of the tidal bore. Watch kinetic lights/markers along the dyke trail/river’s edge pulse and glow as the tidal bore approaches, mirroring the movement of the bore as it makes its way up toward the bridge. 	<ul style="list-style-type: none"> Programmed light (and possibly sound) experience 	<ul style="list-style-type: none"> The Pedestrian Bridge may also become part of this orchestration, using the movement of light from the river pathway and into the Plaza area as if the bore impact is spilling and expanding outward into the center of the visitor area. Scripting and flow will require further development, and possibly also additional structural elements, to create a seamless and logical flow of light across the overall site.

Content Resources

A range of resources applicable to the Fundy Discovery Site are available to inform the development of interpretation during future planning phases. These potential resources have been compiled and loosely organized as the beginnings of an inventory for use during future planning phases. To date they include:

- **Subject Matter Experts**

- Sue Abbott, Conservation Coordinator, Acadia University Centre for Estuarine Research / Environment and Climate Change Canada
- Stephen Augustine, Hereditary Chief of the Mi'kmaq Grand Council and the Associate Vice-President of Indigenous Affairs and Unama'ki College at Cape Breton University
- Dr. Roy Bishop, Acadia University (astronomy, tidal phenomena)
- Tony Bowron, CEO and Coastal Wetland Ecologist, CBWES Inc.
- John Calder, Manager, UNESCO Cliffs of Fundy Geopark
- Tim Fedak, Curator of Geology, Nova Scotia Museum
- Gerald Gloade, Program Development Officer, Mi'kmawey Debert Cultural Centre
- Dr. Stephen Henderson, Acadia University/Planters Studies Centre
- Joanne Hunt, Interim Curator, Colchester Historeum
- Roger Lewis, Curator of Ethnology, Nova Scotia Museum
- Oralee O'Byrne, Curator, Age of Sail Heritage Centre (Port Greville)
- David Piper & Georgia Piper (geology, sea level rise)
- Anna Redden, Director, Acadia Tidal Energy Institute + DTIR Salt Marsh Restoration Project (Onslow)
- Ronald Robichaud
- Danielle Serratos, Director/Curator, Fundy Geological Museum
- Ashley Sutherland, Archivist/Administrator, Colchester Historeum
- Lorna Terrio, Joggins Fossil Cliffs
- Tony Wright, General Manager, FORCE

- **Print Materials**

- *Planters and Grantees of Cobequid, Nova Scotia, 1761-1780* (Carol Campbell and James F. Smith)
- *Necessaries and Sufficiencies: Planter Society in Londonderry, Onslow and Truro Townships, 1761-1780* (Carol Campbell and James F. Smith)
- *The Cobequid Townships Truro, Onslow, Londonderry 1760-1780* (Carol Campbell)
- *Colchester County: A Pictorial History* (S.F. Creighton)
- *Wolverine & Little Thunder: An Eel Fishing Story* (Alan Syliboy)
- *The History of Lower Truro, 1696-1999* (Mildred Burrows)
- Genealogies of the early Planters who were granted that land (Andrew Gammel was the Planter Grantee of the plot at the Fundy Discovery Site)—available at the Colchester Historeum
- *Palliser Restaurant, Motel and Gifts Site Historical Review* (author unknown)
- Transcriptions of primary source documents detailing the process of the Acadian Expulsion in this region (available at the Colchester Historeum)

Content Resources

- **Web Resources/Materials**

- History of Truro (Colchester Historeum):
<https://colchesterhistoreum.ca/the-history-of-truro/>
- Native American Legends: the Legend of the Tidal Bore
https://www.firstpeople.us/FP-HTML-Legends/The_Chocolate_Waters_Of_The_Petitcodiac_River-Micmac.html
- Millbrook First Nation Culture and History:
<https://www.millbrookband.com/about-us/culture-history/%20April%202016>
- *History of Truro in a Nutshell* (Nan Harvey, Colchester Historical Society) Archives)
<https://www.truro.ca/truros-past-and-history.html>

Linking to provincial curriculum outcomes should be considered when developing future programs and group activities for the Fundy Discovery Site, particularly those aimed at children and youth. Based on the thematic framework developed for the Fundy Discovery Site (refer to Section 2.2), possible links to Nova Scotia Curriculum outcomes for grades primary through to nine are summarized below.

Science 1 Curriculum Links

- Learners will analyse daily and seasonal change in the environment.
 - Concepts (and Guiding Questions)
 - Effect of weather on living things: How does weather affect living things? How do plants change when it is sunny? How does animal behaviour change in different weather? How do temperature and sunlight change throughout the day?
 - Effect of seasons on the environment and living things: How do animals and plants change their behaviours or appearance for different seasons? How do the activities I do change with the seasons?
 - Weather observed in seasons: How do temperature and sunlight change with the seasons? How can I predict when it will be warm? When it will rain a lot?
 - Weather and seasonal preparedness: How can I prepare to stay safe in various seasons? How can I predict what weather protection I need each day?
 - Interconnectiveness of living things and seasonal cycles: How do living things show interconnectiveness? How do seasonal cycles affect living things?
- Learners will analyse interconnectiveness of living things and the environment.
 - Concepts (and Guiding Questions)
 - Requirements for life: How does my favourite animal or plant get nourishment? How are plants and animals affected when they don't get the nourishment they need?
 - Classification of living things: How are living things similar? How are they different? How can living things be classified?
 - Interconnectiveness of living things of the environment: How does the environment help my favourite plant or animal survive? How do animals and plants interact? How do animals and plants interact with their environment?
 - Personal actions that can contribute to a healthy environment: How can my actions hurt the environment? How can I keep the environment healthy?

Science 2 Curriculum Links

- Learners will analyse the interconnectiveness of air and water in the environment, inclusive of a Mi'kmaw perspective.
 - Concepts (and Guiding Questions)
 - Temperature affects the movement of air: How can I show that air is a real substance if I can't see it? How can I tell that air takes up space? How does warm air move? How can I move an object using only air?
 - Evaporation and condensation: How can I find evidence of moisture in the environment? How does water form on the outside of a cold glass? How can I determine where the water from a puddle goes when it is sunny? How can I create an instrument to measure the amount of rainfall?
 - Interconnective relationship of Mi'kmaw people with air and water: How are air and water important to Mi'kmaw people? How can we keep water clean?
 - Personal actions can contribute to a healthy environment: How is water important to me? How can I keep the environment healthy?
 - Learners will analyse the relationship between animal growth and the environment
 - Concepts (and Guiding Questions)
 - Patterns of growth: How do plants change as they grow? How do I change as I grow up?
 - Life cycles of various animals: How do plants make more plants? How do life cycles of various animals compare?
 - Conditions for healthy growth: How do the needs of animals and plants change as they grow? How can I stay healthy?
 - Interconnectiveness between animals and the environment: How can I design a home for my favourite organism? How can the environment hurt or help the growth of various organisms?
- ### **Science 3 Curriculum Links**
- Learners will analyse soil in the environment
 - Concepts (and Guiding Questions)
 - Properties of soil: How do soils from different areas compare? How do soil characteristics change when digging down deeper into the earth?
 - Soil separation: How can I separate soil into its component parts? How does separating the soil into its component parts help with soil classification? How do the component parts that make up soil differ in samples from various areas?

Curriculum Links

Science 5 Curriculum Links

- Earth and Space Science: Weather
 - Measuring and Describing Weather
 - Identify and use weather-related folklore to predict weather
 - Using correct names of weather instruments, construct and use instruments to record temperature, wind speed, wind direction, and precipitation
 - Identify, classify, and compare clouds
 - Using a variety of sources, gather information to describe the key features of weather systems and identify weather-related technological innovations and products that have been developed by cultures in response to weather conditions
 - Sun's Energy Reaching the Earth
 - Relate the transfer of energy from the Sun to weather and discuss the Sun's impact on soil and water.
 - Movement of Air and Water
 - Relate the constant circulation of water on Earth to processes of evaporation, condensation, and precipitation.
 - Environmental Issues
 - Identify examples of weather phenomena that are currently being studied.
 - Describe how studies of the depletion of the ozone layer, global warming, and the increase in acid rain have led to new innovations and stricter regulations on emissions from cars, factories, and other polluting technologies.

Science 6 Curriculum Links

- Life Science: Diversity of Life
 - Provide examples of how science and technology have been used in identifying and controlling microorganisms by different people around the world.
 - Identify changes in animals over time and research and model the work of scientists.
 - Propose questions and gather information about the relationship among the structural features of plants and animals in their environments and identify the positive and negative impacts of humans on these resources.

Curriculum Links

Science 7 Curriculum Links (Renewed Curriculum—Pilot: Fully Implemented in 2021/2022)

- Learners will analyse the interconnectiveness of living things and the environment, in relation to the concept of netukulimk.
 - Concepts (and Guiding Questions)
 - Ecosystems: What are some characteristics that different ecosystems have in common? How is the size of an ecosystem determined?
 - Biotic and abiotic components: How can the impacts of abiotic components be determined? How do abiotic and biotic components compare?
 - Interconnectedness: What are some of the interconnections that can be observed in various ecosystems? How do abiotic and biotic components interact in various ecosystems?
 - Energy input and matter recycling: How does the flow of energy and the flow of matter in an ecosystem compare? How can we design a sustainable biosphere?
 - Food Webs: How do organisms interact within an ecosystem? How do producer populations impact consumer populations?
 - Netukulimk: How can natural resources be used in a sustainable way? How does environmental racism impact various local and global communities? How have human relationships with the environment changed over time?
 - Human Impact: How are humans impacting ecosystems? How has the impact of humans on ecosystems changed over time?
- Learners will investigate factors that affect species adaptation and evolution.
 - Concepts (and Guiding Questions)
 - Classification: How can organisms be grouped? How does classification help us learn about organisms?
 - Adaptation: How do organisms adapt to survive? How have local organisms adapted to their specific environmental demands?
 - Evolution: Why do living things change over time? How can we see evidence of species evolution?
 - Natural Selection: How do living things change over time? Why can't a single organism evolve?
 - Geological evidence of evolution: How can we observe geological evidence of evolution in the local environment? How can we infer information about the past in the absence of direct evidence?

Curriculum Links

- Learners will implement an environmental stewardship plan.
 - Concepts (and Guiding Questions)
 - Netukulimk: How can we live according to Netukulimk? Why is it important to care for the environment?
 - Stewardship: How can it be determined whether a local environment needs to be protected? How can the impact of local environmental initiatives be determined? How do people take care of the environment? How can I take care of the environment?
 - Mitigating Environmental Harm: How can more green space be created? How can you determine if conservation and sustainability strategies are effective?
- Learners will analyse how geographic features are formed and changed.
 - Concepts (and Guiding Questions)
 - Plate Tectonics: How does the movement of Earth's tectonic plates cause observable changes and effects? How do we know plates are moving?
 - Geological Formations: How have the geological features of Nova Scotia changed over time? How quickly does/can geological change happen?
 - Seismology: How can we prepare for seismic events? How does human development in areas with dramatic geologic change impact communities?
 - Erosion and Deposition: How do human activities impact geological change? How have local landforms been impacted by erosion and deposition?
- Learners will analyse factors that affect coastline change.
 - Concepts (and Guiding Questions)
 - Waves and Tides: How do beaches/coastlines change from season to season? How do coastlines change naturally over time?
 - Erosion and Weathering: How do geological features and processes affect where and how we live? How does the shape of coastlines affect erosion? How do humans interact with the natural processes of coastline erosion? How can we control erosion without causing more erosion?

Curriculum Links

Science 7 Curriculum Links (Current Curriculum at schools not piloting Renewed Curriculum)

- Earth and Space Science: Earth's Crust
 - Geological Plate Tectonics and Time Scale
 - Analyze and compare data to determine patterns and trends on some catastrophic events that occur on or near Earth's surface.
 - Describe theories from the past to present plate tectonics, including Canadian examples.
 - Organize and develop a chronological model or geological time scale of major events in Earth's history.
 - Rocks and Minerals
 - Classify minerals and rocks on the basis of their characteristics and method of formation, and compare with classification keys.
 - Collaboratively plan and construct a geological land mass profile using simulated core sampling.
 - Explore and describe the composition of Earth's crust, using common samples, scientific studies, and society's needs.
 - Weathering, Soil, and the Rock Cycle
 - Investigate and explain various ways in which rocks can be weathered and explain the rock cycle.
 - Relate various meteorological, geological, and biological processes to the formation of soils.
 - Investigation and discuss procedures and expenditures for enriching soils, providing science and technology examples.
- Life Science: Interactions with Ecosystems
 - Components of an Ecosystem
 - Identify the roles of producers, consumers, and decomposers in a local ecosystem and describe both their diversity and their interactions.
 - Identify questions, investigate, and record collected data on the ecosystem's components using materials effectively.
 - Describe interactions between biotic and abiotic factors in an ecosystem.
 - Distinguish and explain how biological classification reflects the diversity of life on Earth, using specific terms and characteristics.

Curriculum Links

- Food Chains, Food Webs, and Decomposers
 - Describe how matter is recycled in an ecosystem and evaluate potential applications of energy transformations.
 - Describe how energy is supplied to, and how it flows through, the structures and interactions in a natural system, using charts, diagrams, and terminology.
 - Describe essential conditions to the growth and reproduction of plants and microorganisms in an ecosystem, providing examples related to aspects of the human food supply.
- Ecological Succession
 - Identify signs of ecological succession in a local ecosystem and predict its future based on characteristics and succession.
- Action
 - Defend a proposal to protect a habitat and provide examples of various issues that can be addressed in multiple ways.
 - Research individuals/groups in Canada that focus on the environment, using various print and electronic sources.

Science 8 Curriculum Links (Renewed Curriculum—Pilot: Fully Implemented in 2021/2022)

- Learners will evaluate oceanographic evidence of climate change inclusive of a Mi'kmaw perspective.
 - Concepts (and Guiding Questions)
 - Climate Change: How can evidence be used to determine that the earth's climate is changing? How has climate change affected local communities? How will climate change affect local communities in the future? How can we measure climate change? How can ocean careers contribute to a better understanding of climate change?
 - Biological Impact: How does climate change impact/relate to various living organisms? How do organisms respond to climate change?
 - Oceanographic Evidence: How does climate change affect oceans? How can oceanographic data be used to determine changes to earth's climate?
- Learners will evaluate the impact of human activity on climate change.
 - Concepts (and Guiding Questions)
 - Human Impact: How are human activities linked to climate change? How is ecological footprint monitored?
 - Energy Production: How do we get energy? How can the environmental impacts of various forms of energy production be determined?

Curriculum Links

- Enhanced Greenhouse Effect: How do humans impact the greenhouse effect? How is energy production related to climate change?
- Climate Change: How do we know which communities are most affected by climate change? How might climate change impact various communities and ecosystems?
- Environmental Paradigm Shift: How is environmental awareness changing? How can we as individuals impact perceptions of environmental issues?
- Learners will formulate a plan to mitigate or adapt to the effects of climate change.
 - Concepts (and Guiding Questions)
 - Environmental Paradigm Shift: How will humans need to change the way they live in response to changing climate? How do certain careers help to mitigate climate change?
 - Green Technology: How are humans stopping/slowing climate change? How can technology help us adapt to a changing climate? How can climate change solutions pose other problems?

Science 8 Curriculum Links (Current Curriculum at schools not piloting Renewed Curriculum)

- Earth and Space Science: Water Systems on Earth
 - Waves, Tides & Shorelines
 - Explain how waves and tides are generated and how they interact with shorelines.
 - Investigate water currents using experimental data, procedures, and conclusions to formulate operational definitions.
 - Describe processes of erosion and deposition that result from wave action and water flow.
 - Summarize and respond to shoreline's science and technology uses to handle damage due to waves and tides.
 - Oceans: Systems, Distribution, Species
 - Investigate and describe, with technological examples from various sources, processes that lead to the development of ocean basins and continental drainage systems.
 - Survey and generalize strengths and weaknesses of science and technologies, including Canadian, that have improved and that support research and development.
 - Using data, including graphical, analyze and predict factors that affect productivity and species distribution in marine and fresh water environments.
 - Apply the concept of systems to describe the interactions of ocean currents, winds, and regional climates.

*Curriculum Links***Social Studies 1 Curriculum Links**

- Students will implement age-appropriate actions for responsible behaviour in caring for the environment.
 - Concepts (and Guiding Questions)
 - Responsible behaviour for caring for and protecting the environment: Why is it important to care for the environment? What are some of the ways that we can protect the environment?
 - Netuklimk: How do we work together to share and protect the environment?

Social Studies 2 Curriculum Links

- Students will investigate change in the community.
 - Concepts (and Guiding Questions)
 - Reasons why change occurs: How do people change as they grow? How do people's needs and wants change? How does change make things different?
- Students will analyse ways for supporting sustainable development in local communities.
 - Concepts (and Guiding Questions)
 - Sustainable development in a local community: What are the natural resources in our community? How do we share/protect the natural resources in our community?

Social Studies 3 Curriculum Links

- Students will investigate the location of Nova Scotia in Atlantic Canada, including its location in relation to the significant bodies of water surrounding it.
 - Concepts (and Guiding Questions)
 - How can I describe Nova Scotia's location? What sources of information would help you understand where NS is in relation to the Atlantic provinces, and Canada?
 - How does the size of a province on a map relate to its actual size?

Social Studies 4 Curriculum Links

- Exploring Our World: Examine the relationship between humans and the physical environment.
 - Understand that the physical environment affects the way we live and provides the means to live.
 - Understand that people need to be sensitive to the impacts they have on their physical environment.
 - Geographic interactions and associations: How do humans impact the environment? How does the environment impact where people live, how they live, and how they meet the challenges posed by the environment?

Curriculum Links

- Constancy and change: How has the physical environment changed over time and how has it remained the same?

Social Studies 7 Curriculum Links (Renewed Curriculum—Pilot: Fully Implemented in 2021/2022)

- Learners will create responses to challenges and opportunities in present day Atlantic Canadian communities.
 - Concepts (and Guiding Questions)
 - Environmental sustainability in local ecosystems: How can a community contribute to environmental sustainability in Atlantic Canada? How are environmental issues in our oceans impacting Atlantic Canada? What is my responsibility to help the ecosystem?

Social Studies 8 Curriculum Links (Renewed Curriculum—Pilot: Fully Implemented in 2021/2022)

- Learners will formulate responses to change in Canadian society.
 - Concepts (and Guiding Questions)
 - Environmental Factors: How can I make decisions to help sustain and improve the environment? What is my responsibility to the environment?



Fundy Gateway Project

Truro, NS

Class 'D' Estimate

Prepared for:

Architecture 49
1640 Market Street
Halifax, NS B3J 2C8

Prepared by:

ALTUS GROUP LIMITED
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Issued: **November 17, 2020**

Job No.: 27030.100283

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Street Smart. World Wise.

November 17, 2020

Job No. 27030.100283

Architecture 49
1640 Market Street
Halifax, NS B3J 2C8
Ron.Burdock@architecture49.com

Attn: Ron Burdock

Re: Fundy Gateway Project

Dear Ron,

We submit for your review our, Class 'D' Estimate in accordance with the terms of our engagement.

The estimate includes all direct and indirect construction costs, subject to certain exclusions, and general conditions, as well as, contractor's overheads and profit. The provision for contingencies are defined within the body of this report and are based on the information provided.

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Should you have any questions related to this report please do not hesitate to contact the undersigned at the address listed below.

Yours truly,

ALTUS GROUP LIMITED



Per: David Dooks, MRICS, PQS(F), GSC
Senior Cost Consultant



Per: Tammy Stockley, MRICS, PQS
Associate Director

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Appendices

Appendix A – Detailed Elemental Estimate

1 Introduction

1.1 General Information

This Class 'D' Estimate is intended to provide a realistic budget based on the information provided. The estimate reflects our opinion as to the fair market value for the construction of this proposed project and is not intended to predict the lowest bid.

The details outlining inclusions and assumptions are specifically described and itemized within the estimate details provided in the Appendices of this report. This report includes all direct and indirect construction costs with the following exclusions as noted in section 1.2 below.

1.2 Exclusions

The following items are not included in this report:

- Land cost
- Soft costs and professional fees including associated expenses
- Owner's fees and/or administration expenses
- Design and engineering fees
- Legal fees and expenses
- Interest and/or finance charges
- Fees for building and/or development permits
- Sole sourcing of materials, services and equipment
- Premium for accelerated schedule or work after standard business hours
- Operating and/or maintenance expenses
- Premium for security checks and requirements, if required
- If applicable, work with any contaminated or hazardous materials, unless identified
- Demolition, modifications or renovations to the existing building, unless identified
- Owner's furniture and equipment, unless identified
- Interpretive Centre exhibits
- Modifications or upgrades to adjacent Owner's parking lot or neighboring properties, unless identified
- Escalation contingency
- Harmonized Sales Tax (HST)

2 Project Details

2.1 General Information

From the information provided, we have measured quantities where possible and applied unit rates considered competitive for a project of this nature, based on historical and current cost data for this type of project. Where design information was limited, we have had discussions with the relevant design disciplines and/or made assumptions based on our experience with projects of a similar type, size, and standard of quality.

2.2 Location

The location cost base for this estimate is Halifax, NS.

2.3 Measurement and Pricing

The estimate has been prepared using generally accepted principles as to format, method of measurement and pricing. Quantities and project statistics have been calculated in general accordance with the Canadian Institute of Quantity Surveyors' Method of Measurement.

The unit rates within our report are considered competitive and are based on our experience with similar projects, and/or quotes provided by subcontractors as noted. Pricing shown reflects probable construction costs obtainable in Truro, NS on November 17, 2020. Where applicable, unit rates include labour, material, equipment, and subcontractor's overheads and profit. In instances where design information was limited, we have made reasonable assumptions based on our experience on projects of a similar nature and discussions with the design team when possible.

2.4 Taxes

The standard 15.0% Harmonized Sales Tax (HST) are excluded from the estimate.

2.5 General Requirements and Fees

The General Requirements and Fee included within the estimate for the General Contractor are calculated as a percentage of the hard costs. The General Requirements are based on our assumptions of the anticipated construction approach and construction schedule for the project. The General Requirements percentage includes the cost associated with bonding and insurance, however excludes development and/or building permit costs.

2.6 Procurement Methodology

We have assumed that the project will be procured with a General Contractor approach under a CCDC form of contract. We have assumed a minimum of five General Contractor bids and at least three major subtrade/supplier bids received for all trade categories to establish competitive bidding and tender results. The estimate is a determination of fair market pricing and not a prediction of lowest bid in any trade category. Please note that should the above minimum bidding conditions not occur on this project, construction bids received could vary significantly from the estimated costs included within this report.

2.7 Schedule / Phasing

This report is based on the project being completed and/or bid in three phases. A phasing premium is included in Z13. The rates used in this report are based on current dollars and any allowance for escalation beyond the date of this report will be included as Escalation contingency. The unit rates in our estimate are based on construction activities occurring during standard business working hours and proceeding within a non-accelerated schedule.

2.8 COVID-19 pandemic

The COVID-19 pandemic has the potential to materially impact the project construction budget beyond the estimate provided herein and outside of "standard" project contingencies. This estimate does not include any potential COVID-19 related impact costs. We recommend the client assess each project individually and apply an appropriate contingency.

3 Contingencies

3.1 General

The effective use of contingencies in construction cost planning requires a clear understanding of estimating risks in both a project specific and general construction market sense. The appropriate level of contingency is dependent on the amount of information available, knowledge of the design teams' methods and philosophy, the timing of the estimate preparation relative to the project design and construction schedule, and the anticipated complexity of the construction work.

3.2 Design and Pricing

A 10.0% design and pricing contingency has been included in the estimate. If included, this contingency covers the design and pricing evolution during the remaining design stages of the project, please note this contingency is not intended to cover additional scope or additional functional program requirements.

3.3 Escalation

No escalation contingency has been included from the estimate. If included, this contingency is intended to address anticipated changes in construction costs due to market fluctuations between the date of this report and the anticipated tender date.

3.4 Construction Contingency (Post Contract)

A 10.0% construction contingency has been included in the estimate. If included, this contingency is intended to cover post contract change orders.

4 General Statement of Liability

4.1 Probable Costs and Ongoing Cost Control

Altus Group Limited does not guarantee that tenders or actual construction costs will not vary from this estimate. Acute market conditions, proprietary specifications, or competition/collaboration among contractors may cause tenders to vary from reasonable estimates based on normal and abnormal competitive conditions.

Altus Group Limited recommends the owner and/or design team review the cost estimate report including line item descriptions, unit prices, allowances, assumptions, exclusions, and contingencies to ensure the appropriate design intent has been accurately captured within the report.

It should be noted that the cost consultants are not qualified to confirm that construction work and design is in accordance with approved plans and specifications.

5 Project Statistics

5.1 Gross Floor Area/Project Statistics

Description	GFA
Gross Floor Area:	
- Main Floor	8,500 sf
TOTAL Gross Area:	8,500 sf

Based on information supplied by the Design team, the gross floors areas have been reviewed and measured by Altus Group Limited in accordance with the Canadian Institute of Quantity Surveyors' Method of Measurement. If included, the developed site area is the area of the site less the footprint of the building.

Appendix A Detailed Elemental Estimate Option 'A'

**ELEMENTAL COST SUMMARY
CLASS 'D' ESTIMATE**



Project: Fundy Gateway Project
Location: Truro, Nova Scotia
Client: Architecture 49

Date: Nov. 17, 2020
Project Number: 100283
Gross Floor Area: 8,500 sf

Option 'A'

Project: Fundy Gateway Project
Location: Truro, Nova Scotia
Architect: Architecture 49

Date: Nov. 17, 2020
Project Number: 100,283
Gross Floor Area (sf): 8,500

Element	Ratio to GFA	Elemental Quantity	Elemental Unit Rate	Elemental Amount	Cost/sf	Total	%	
A SHELL								
A1 SUBSTRUCTURE								
A11 Foundation	1.00	8,500 sf	\$12.14	\$103,200	\$12.14			
A12 Basement Excavation	0.00	0 cf	\$0.00	\$0	\$0.00	\$103,200	1.5%	
A2 STRUCTURE								
A21 Lowest Floor Construction	1.00	8,500 sf	\$10.47	\$89,000	\$10.47			
A22 Upper Floor Construction	0.00	0 sf	\$0.00	\$0	\$0.00			
A23 Roof Construction	1.00	8,500 sf	\$66.94	\$569,000	\$66.94	\$658,000	9.6%	
A3 EXTERIOR ENCLOSURE								
A31 Walls Below Grade	0.49	4,200 sf	\$36.00	\$151,200	\$17.79			
A32 Walls Above Grade	0.25	2,086 sf	\$54.03	\$112,700	\$13.26			
A33 Windows & Entrance	0.21	1,826 sf	\$150.71	\$275,200	\$32.38			
A34 Roof Covering	1.00	8,500 sf	\$14.00	\$119,000	\$14.00			
A35 Projections	0.00	1 sum	\$669,500.00	\$669,500	\$78.76	\$1,327,600	19.4%	
B INTERIORS								
B1 PARTITIONS & DOORS								
B11 Partitions	1.17	9,986 sf	\$5.36	\$53,500	\$6.29			
B12 Doors	0.00	20 lvs	\$2,525.00	\$50,500	\$5.94	\$104,000	1.5%	
B2 FINISHES								
B21 Floor Finishes	0.90	7,613 sf	\$6.50	\$49,500	\$5.82			
B22 Ceiling Finishes	0.90	7,613 sf	\$2.01	\$15,300	\$1.80			
B23 Wall Finishes	3.09	26,258 sf	\$1.50	\$39,500	\$4.65	\$104,300	1.5%	
B3 FITTING & EQUIPMENT								
B31 Fitting & Fixtures	0.00	1 Sum	\$35,000.00	\$35,000	\$4.12			
B32 Equipment	0.00	1 NIC	\$0.00	\$0	\$0.00			
B33 Conveying Systems	0.00	0 No.	\$0.00	\$0	\$0.00	\$35,000	0.5%	
C SERVICES								
C1 MECHANICAL								
C11 Plumbing & Drainage	1.00	8,500 sf	\$10.18	\$86,500	\$10.18			
C12 Fire Protection	1.00	8,500 sf	\$3.87	\$32,900	\$3.87			
C13 HVAC	1.00	8,500 sf	\$25.35	\$215,500	\$25.35			
C14 Controls	1.00	8,500 sf	\$5.44	\$46,200	\$5.44	\$381,100	5.6%	
C2 ELECTRICAL								
C21 Service & distribution	1.00	8,500 sf	\$16.79	\$142,700	\$16.79			
C22 Lighting, Devices & Heating	1.00	8,500 sf	\$21.14	\$179,700	\$21.14			
C23 Systems & Ancillaries	1.00	8,500 sf	\$12.55	\$106,700	\$12.55	\$429,100	6.3%	
NET BUILDING COST (Excluding Site)						\$369.68	\$3,142,300	46.0%
D SITE								
D1 SITE WORK								
D11 Site Development	0.00	1 Sum	\$2,431,500.00	\$2,431,500	\$286.06			
D12 Mechanical Site Services	0.00	1 Sum	\$135,000.00	\$135,000	\$15.88			
D13 Electrical Site Services	0.00	1 Sum	\$210,000.00	\$210,000	\$24.71	\$2,776,500	40.6%	
D2 ANCILLARY WORK								
D21 Demolition	0.00	0 Sum	\$0.00	\$0	\$0.00			
D22 Alterations	0.00	0 Sum	\$0.00	\$0	\$0.00	\$0	0.0%	
NET BUILDING COST (Including Site)						\$696.33	\$5,918,800	86.6%
Z MARKUPS								
Z1 GENERAL REQUIREMENTS 15.0%								
Z11 General Requirements	10.00%			\$591,900	\$69.64			
Z13 Fee	5.00%			\$325,500	\$38.29	\$917,400	13.4%	
TOTAL CONSTRUCTION ESTIMATE (Excluding Contingencies)						\$804.26	\$6,836,200	100.0%
Z2 CONTINGENCIES 20.0%								
Z21 Design Contingency	10.0%			\$683,600	\$80.42			
Z22 Escalation Contingency	0.0%			\$0	\$0.00			
Z23 Construction Contingency	10.0%			\$752,000	\$88.47	\$1,435,600	17.4%	
SALES TAX (HST) 0% EXCLUDED						\$0	\$0	0.0%
TOTAL CONSTRUCTION ESTIMATE (Including Allowances)						\$973.15	\$8,271,800	117.4%

GFA:	790 m2
GFA:	8,500 sf

per m2:	\$	10,474.92
per sf:	\$	973.15

Description	Quantity	Rate	Amount
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Key Statistics

Gross Floor Area (Main Building):

8,500 sf

TOTAL GROSS FLOOR AREA

8,500 sf

Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
A1 SUBSTRUCTURE			
A11 Foundations			
Reinforced concrete exterior strip footings c/w: Trench excavation Stockpile on site Backfill foundations Concrete supply & placement Rebar Formwork	435 lf	85.00	37,000
Reinforced concrete interior strip footings c/w: Trench excavation Stockpile on site Backfill foundations Concrete supply & placement Rebar Formwork	446 lf	65.00	29,000
Reinforced concrete exterior frostwalls c/w: Trench excavation Stockpile on site Backfill foundations Concrete supply & placement Rebar Formwork	890 sf	35.00	31,200
Reinforced concrete interior column footings & pilaster c/w: Excavation Stockpile on site Backfill foundations Concrete supply & placement Rebar Formwork	2 no.	3,000.00	6,000
TOTAL A11 Foundations	8,500 sf	12.14	103,200
A12 Basement Excavation			
N/A	#		
TOTAL A12 Basement Excavation	0 cy	-	0
TOTAL A1 SUBSTRUCTURE			103,200

Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
A2 STRUCTURE			
A21 Lowest Floor Construction			
Reinforced concrete slab on grade c/w: Excavation Stockpile on site Granular base Rigid Insulation Vapour barrier Concrete supply & placement Rebar Concrete finishing Isolation and control joints	8,500 sf	10.00	85,000
Sump pits (Allowance)	2 no.	2,000.00	4,000
TOTAL A21 Lowest Floor Construction	8,500 sf	10.47	89,000
A22 Upper Floor Construction			
N/A	#		
TOTAL A22 Upper Floor Construction	0 sf	-	0
A23 Roof Construction			
Reinforced concrete suspended roof slabs: Concrete supply & placement Rebar Formwork (soffit) Formwork (drop panels/bulkheads/beams) Concrete finishing	8,500 sf	33.00	280,500
Reinforced concrete shearwalls/interior walls c/w: Concrete supply & placement Rebar Formwork	9,350 sf	30.00	280,500
Reinforced concrete interior columns c/w: Concrete supply & placement Rebar Formwork	2 no.	4,000.00	8,000
TOTAL A23 Roof Construction	8,500 sf	66.94	569,000
TOTAL A2 STRUCTURE			658,000

Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
A3 EXTERIOR ENCLOSURE			
A31 Walls Below Grade			
Reinforced concrete walls below grade c/w:	4,200 sf	36.00	151,200
Concrete supply & placement			
Rebar			
Formwork			
Waterproofing/protection			
TOTAL A31 Walls Below Grade	4,200 sf	36.00	151,200
A32 Walls Above Grade			
Reinforced concrete walls above grade c/w:	2,086 sf	54.00	112,700
@ Entrance	794 sf		
@ Program Pavilion	549 sf		
@ Courtyard	743 sf		
Concrete			
Formwork			
Rebar			
Special finish/colour to exposed concrete face			
TOTAL A32 Walls Above Grade	2,086 sf	54.03	112,700
A33 Windows & Entrances			
Exterior glazing:	1 Sum	233,100.00	
Aluminum framed curtain wall (@ Entrance)	1,700 sf	90.00	153,000
Aluminum framed curtain wall (@ Program Pavilion)	720 sf	90.00	64,800
Aluminum framed curtain wall (Courtyard)	170 sf	90.00	15,300
Exterior Doors:	6 lvs	4,600.00	
Aluminum framed entrance doors, double	3 pr	6,000.00	18,000
Automatic door operator	3 no.	3,200.00	9,600
Extra over to above for:	1 Sum	14,500.00	
special hardware to doors	allow		4,500
rough carpentry & sealants	allow		10,000
TOTAL A33 Windows & Entrances	1,826 sf	150.71	275,200
A34 Roof Covering			
Roof waterproof membrane/protection to be determined	8,500 sf	14.00	119,000
TOTAL A34 Roof Covering	8,500 sf	14.00	119,000

Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
A35 Projections			
Parapets:	1 Sum	228,600.00	
@ Building (6' exposed)	188 lf	250.00	47,000
@ Building (8' exposed)	48 lf	330.00	15,900
@ Building (10' exposed)	65 lf	410.00	26,700
@ Entrance (framed around canopy)	77 lf	330.00	25,500
@ Courtyard (8' exposed)	187 lf	330.00	61,800
@ Program Pavilion (10' exposed)	126 lf	410.00	51,700
Soffit:	1 Sum	13,200.00	
@ Main Entrance	440 sf	30.00	13,200
Curved Retaining walls:	1 Sum	300,600.00	
Reinforced concrete footings to below	501 lf	85.00	42,600
Reinforced Concrete Retaining Wall @ Entrance Wing Walls	2,450 sf	32.00	78,400
Reinforced Concrete Retaining Wall @ Program Pavilion	1,500 sf	32.00	48,000
Reinforced Concrete Retaining Wall @ Courtyard	1,010 sf	32.00	32,400
Special finish/colour to exposed concrete face	4,960 sf	20.00	99,200
Main Entrance (feature) walls:	1 Sum	127,100.00	
Reinforced concrete footings	74 lf	85.00	6,300
Main Entrance (feature) Walls / Reinforced Concrete Walls	1,628 sf	32.00	52,100
Special finish/colour to exposed concrete face	3,432 sf	20.00	68,700
TOTAL A35 Projections	1 Sum	669,500.00	669,500
TOTAL A3 EXTERIOR ENCLOSURE			1,327,600
TOTAL A SHELL			2,088,800

Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
B1 PARTITIONS & DOORS			
B11 Partitions			
Reinforced concrete shearwalls/interior walls c/w:	1 Sum	-	Included
Reinforced concrete shearwalls/interior walls (see A22)	#		
Finishes applied to above	9,350 sf	-	0
Interior glazing partition	636 sf	80.00	50,900
Miscellaneous partitions (not identified)	allow		0
Miscellaneous:			
Rough Carpentry	allow		1,700
Caulking/Sealants	allow		900
TOTAL B11 Partitions	9,986 sf	5.36	53,500
B12 Doors			
Aluminum framed entrance doors	4 lvs	4,600.00	
Aluminum framed door, double	2 pr	6,000.00	12,000
Automatic door operator	2 no.	3,200.00	6,400
Prefinished wood doors c/w pressed metal frames, hardware and finish	16 no.	2,006.25	
Single	10 lvs	1,600.00	16,000
Double	3 pr	3,200.00	9,600
Extra over to above for:	1 Sum	6,500.00	
special hardware to doors	allow		4,500
rough carpentry & sealants	allow		2,000
TOTAL B12 Doors	20 lvs	2,525.00	50,500
TOTAL B1 PARTITIONS & DOORS			104,000

Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
B2 FINISHES			
B21 Floor Finishes			
Floor Finishes (by Program Area):			
<i>polished concrete c/w base board</i>	7,613 sf	6.50	49,500
Main Entrance	120 sf		
Pavilion Entrance	118 sf		
Courtyard Entrance	197 sf		
Reception	317 sf		
Exhibit Space	2,910 sf		
Changing Exhibit	567 sf		
Small Event Room	153 sf		
Office	179 sf		
Staff Workstations	319 sf		
Staff Lunch	160 sf		
Staff W/C	46 sf		
Public W/C	227 sf		
Circulation/Crush Space	1,302 sf		
Outside Storage	94 sf		
Program Storage	160 sf		
Mechanical/Electrical	406 sf		
Crossover	338 sf		
TOTAL B21 Floor Finishes	7,613 sf	6.50	49,500
B22 Ceiling Finishes			
Ceiling Finishes (by Program Area):			
<i>exposed structure above, sealed finish</i>	7,613 sf	2.00	15,300
Main Entrance	120 sf		
Pavilion Entrance	118 sf		
Courtyard Entrance	197 sf		
Reception	317 sf		
Exhibit Space	2,910 sf		
Changing Exhibit	567 sf		
Small Event Room	153 sf		
Office	179 sf		
Staff Workstations	319 sf		
Staff Lunch	160 sf		
Staff W/C	46 sf		
Public W/C	227 sf		
Circulation/Crush Space	1,302 sf		
Outside Storage	94 sf		
Program Storage	160 sf		
Mechanical/Electrical	406 sf		
Crossover	338 sf		
TOTAL B22 Ceiling Finishes	7,613 sf	2.01	15,300

Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
B23 Wall Finishes			
Paint to Concrete	26,258 sf	1.50	
Exterior walls (interior side)	6,286 sf	1.50	9,500
Interior partitions/walls (both sides)	19,972 sf	1.50	30,000
Special finishes	#		N/A
TOTAL B23 Wall Finishes	26,258 sf	1.50	39,500
TOTAL B2 FINISHES	1 Sum		104,300
B3 FITTINGS & EQUIPMENT			
B31 Fittings & Fixtures			
Millwork:	1 sum	9,000.00	
Reception Desk	15 lf	600.00	9,000
Miscellaneous	#		N/A
Washroom accessories:	allow		10,000
Washroom partitions:	allow		16,000
TOTAL B31 Fittings & Fixtures	1 Sum	35,000.00	35,000
B32 Equipment			
Equipment:			
Exhibits/displays/features	#		
Furniture and office equipment			
TOTAL B32 Equipment	0 NIC	-	0
B33 Conveying Systems			
N/A	#		
TOTAL B33 Conveying Systems	0 No.	-	0
TOTAL B3 FITTINGS & EQUIPMENT			35,000
TOTAL B INTERIORS			243,300

Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
C1 MECHANICAL			
C11 Plumbing & Drainage			
by Program Area:	8,500 sf	10.18	86,500
Main Entrance	120 sf		
Pavilion Entrance	118 sf		
Courtyard Entrance	197 sf		
Reception	317 sf		
Exhibit Space	2,910 sf		
Changing Exhibit	567 sf		
Small Event Room	153 sf		
Office	179 sf		
Staff Workstations	319 sf		
Staff Lunch	160 sf		
Staff W/C	46 sf		
Public W/C	227 sf		
Circulation/Crush Space	1,302 sf		
Outside Storage	94 sf		
Program Storage	160 sf		
Mechanical/Electrical	406 sf		
Crossover	338 sf		
Structure/Unassigned	887 sf		
TOTAL C11 Plumbing & Drainage	8,500 sf	10.18	86,500
C12 Fire Protection			
by Program Area:	8,500 sf	3.87	32,900
Main Entrance	120 sf		
Pavilion Entrance	118 sf		
Courtyard Entrance	197 sf		
Reception	317 sf		
Exhibit Space	2,910 sf		
Changing Exhibit	567 sf		
Small Event Room	153 sf		
Office	179 sf		
Staff Workstations	319 sf		
Staff Lunch	160 sf		
Staff W/C	46 sf		
Public W/C	227 sf		
Circulation/Crush Space	1,302 sf		
Outside Storage	94 sf		
Program Storage	160 sf		
Mechanical/Electrical	406 sf		
Crossover	338 sf		
Structure/Unassigned	887 sf		
TOTAL C12 Fire Protection	8,500 sf	3.87	32,900



Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
C13 HVAC			
by Program Area:	8,500 sf	25.35	215,500
Main Entrance	120 sf		
Pavilion Entrance	118 sf		
Courtyard Entrance	197 sf		
Reception	317 sf		
Exhibit Space	2,910 sf		
Changing Exhibit	567 sf		
Small Event Room	153 sf		
Office	179 sf		
Staff Workstations	319 sf		
Staff Lunch	160 sf		
Staff W/C	46 sf		
Public W/C	227 sf		
Circulation/Crush Space	1,302 sf		
Outside Storage	94 sf		
Program Storage	160 sf		
Mechanical/Electrical	406 sf		
Crossover	338 sf		
Structure/Unassigned	887 sf		
TOTAL C13 HVAC	8,500 sf	25.35	215,500
C14 Controls			
by Program Area:	8,500 sf	5.44	46,200
Main Entrance	120 sf		
Pavilion Entrance	118 sf		
Courtyard Entrance	197 sf		
Reception	317 sf		
Exhibit Space	2,910 sf		
Changing Exhibit	567 sf		
Small Event Room	153 sf		
Office	179 sf		
Staff Workstations	319 sf		
Staff Lunch	160 sf		
Staff W/C	46 sf		
Public W/C	227 sf		
Circulation/Crush Space	1,302 sf		
Outside Storage	94 sf		
Program Storage	160 sf		
Mechanical/Electrical	406 sf		
Crossover	338 sf		
Structure/Unassigned	887 sf		
TOTAL C14 Controls	8,500 sf	5.44	46,200
TOTAL C1 MECHANICAL			381,100



Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
C2 ELECTRICAL			
C21 Service & Distribution			
by Program Area:	8,500 sf	16.79	142,700
Main Entrance	120 sf		
Pavilion Entrance	118 sf		
Courtyard Entrance	197 sf		
Reception	317 sf		
Exhibit Space	2,910 sf		
Changing Exhibit	567 sf		
Small Event Room	153 sf		
Office	179 sf		
Staff Workstations	319 sf		
Staff Lunch	160 sf		
Staff W/C	46 sf		
Public W/C	227 sf		
Circulation/Crush Space	1,302 sf		
Outside Storage	94 sf		
Program Storage	160 sf		
Mechanical/Electrical	406 sf		
Crossover	338 sf		
Structure/Unassigned	887 sf		
TOTAL C21 Service & Distribution	8,500 sf	16.79	142,700
C22 Service & Distribution			
by Program Area:	8,500 sf	21.14	179,700
Main Entrance	120 sf		
Pavilion Entrance	118 sf		
Courtyard Entrance	197 sf		
Reception	317 sf		
Exhibit Space	2,910 sf		
Changing Exhibit	567 sf		
Small Event Room	153 sf		
Office	179 sf		
Staff Workstations	319 sf		
Staff Lunch	160 sf		
Staff W/C	46 sf		
Public W/C	227 sf		
Circulation/Crush Space	1,302 sf		
Outside Storage	94 sf		
Program Storage	160 sf		
Mechanical/Electrical	406 sf		
Crossover	338 sf		
Structure/Unassigned	887 sf		
TOTAL C22 Lighting, Devices & Heating	8,500 sf	21.14	179,700



Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
C23 Systems & Ancillaries			
by Program Area:	8,500 sf	12.55	106,700
Main Entrance	120 sf		
Pavilion Entrance	118 sf		
Courtyard Entrance	197 sf		
Reception	317 sf		
Exhibit Space	2,910 sf		
Changing Exhibit	567 sf		
Small Event Room	153 sf		
Office	179 sf		
Staff Workstations	319 sf		
Staff Lunch	160 sf		
Staff W/C	46 sf		
Public W/C	227 sf		
Circulation/Crush Space	1,302 sf		
Outside Storage	94 sf		
Program Storage	160 sf		
Mechanical/Electrical	406 sf		
Crossover	338 sf		
Structure/Unassigned	887 sf		
TOTAL C23 Systems & Ancillaries	8,500 sf	12.55	106,700
TOTAL C2 ELECTRICAL			429,100
TOTAL C SERVICES			810,200
NET BUILDING COST (EXCLUDING SITE)			3,142,300



Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
D1 SITE WORK			
D1 SITE DEVELOPMENT			
Site Preparation:	1 Sum	467,600.00	
Site Clearing @ Berm	32,400 sf	0.50	16,200
Site Clearing @ Site	147,651 sf	0.50	73,900
Excavation (see A11 & A21 for building foundations and slab on grade)	#		
Excavation (assumption: starting elevation point is at existing grade)			
Backfill suitable to construct Berm (to form Berm to u/s finished grade)	11,502 cy	30.00	345,100
Contouring and site grading at Berm	32,400 sf	1.00	32,400
Landscaping at Berm:	1 Sum	89,100.00	
Grass Berm (contoured, topsoil/sod)	32,400 sf	2.75	89,100
Hard Surfaces:	1 Sum	1,100,100.00	
Asphalt c/w granular subbase (Parking Lot)	31,575 sf	4.50	142,100
Asphalt c/w granular subbase (RV Parking Lot)	47,920 sf	4.50	215,700
Asphalt c/w granular subbase (Roadway/Driveway)	#		Existing
Asphalt c/w granular subbase (Bike Path)	9,140 sf	4.50	41,200
Crusher dust paths (walkways/vehicular pathways)	20,986 sf	1.75	36,800
Line Painting	1 sum	7,500.00	7,500
Concrete Pavers (promenade, entrance plaza, tidal plaza, program pavilion courtyard)	35,733 sf	9.50	339,500
Concrete Walkway	9,133 sf	9.50	86,800
Concrete Curb	1,300 lf	25.00	32,500
Grass Pavers @ food truck & vender area	5,156 sf	9.50	49,000
Tidal Plaza Spiral (Concrete)	1,357 sf	30.00	40,800
Wood Planks	3,380 sf	15.00	50,700
Board Landing	3,827 sf	15.00	57,500
Site Improvements:	1 Sum	167,500.00	
Benches c/w footings	8 no	1,500.00	12,000
Pavilion Benches	9 no	1,000.00	9,000
Signage (for parking)	1 no	500.00	500
Picnic Tables	9 no	1,500.00	13,500
Garbage/Recycle Bins	4 no	1,200.00	4,800
Decorative Post (Pavilion, varying heights)	33 no	750.00	24,800
Beams for Pavilion Canopy	84 ft	200.00	16,800
Columns for Pavilion Canopy (varying heights)	4 no	3,000.00	12,000
Pavilion Canopy (Circular, canopy construction)	924 sf	50.00	46,300
Pavilion Canopy (Circular, grass-covered canopy cover)	924 sf	30.00	27,800
Landscaping:	1 Sum	78,500.00	
Sod & Topsoil	38,794 sf	1.50	58,200
Hydroseed & Topsoil	22,508 sf	0.90	20,300



Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
Interpretive Centre Site Features:	1 Allow	100,000.00	100,000
Footings for Interpretive centre signage (Signage by Others)	#		Included
Site Furniture	#		Included
Light standards c/w footings	#		Included
Trees & Shrubs:	1 Sum	103,800.00	
Planting Beds (plant medium & plants, allowance)	10,913 sf	6.50	71,000
Canopy Trees	29 no	1,000.00	29,000
Small Accent Trees	5 no	750.00	3,800
Ancillary Building (Viewing Tower):	1 Sum	324,900.00	
Reinforced concrete footings supporting platform columns	9 no	1,800.00	16,200
6 in x 6 in x 43.5 ft HSS column (full height)	9 no	6,000.00	54,000
3 in x 3 in x 9.33 ft HSS column (b/w platforms)	9 no	700.00	6,300
Viewing Platforms	1,773 sf	30.00	53,200
Stairs (per riser)	46 no	300.00	13,800
Roof	797 sf	30.00	24,000
Wall enclosure	3,273 sf	18.00	59,000
Railing at platforms	82 lf	175.00	14,500
Tower railing	90 lf	175.00	15,900
Reinforced concrete footings supporting ramp post/columns	4 no	800.00	3,200
External ramp	600 sf	35.00	21,000
External ramp railings	250 lf	175.00	43,800
TOTAL D11 Site Development	1 Sum	2,431,500	2,431,500
D12 Mechanical Site Services			
Mechanical Site Services	allow		135,000
TOTAL D12 Mechanical Site Services	1 Sum	135,000.00	135,000
D13 Electrical Site Services			
Electrical Site Services	allow		110,000
Extra over for specialty lighting infrastructure	allow		100,000
TOTAL D13 Electrical Site Services	1 Sum	210,000.00	210,000
TOTAL D1 SITE WORK			2,776,500



Project: Fundy Gateway Project
 Location: Truro, Nova Scotia
 Architect: Architecture 49

Date: Nov. 17, 2020
 Project Number: 100,283
 Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
D2 ANCILLARY WORK			
D21 Demolition			
N/A	#		
TOTAL D21 Demolition	0 Sum	-	0
D22 Alterations			
N/A	#		
TOTAL D22 Alterations	0 Sum	-	0
TOTAL D2 ANCILLARY WORK			0
TOTAL D SITE & ANCILLARY WORK			2,776,500
NET BUILDING COST (INCLUDING SITE)			5,918,800



Project: Fundy Gateway Project
Location: Truro, Nova Scotia
Architect: Architecture 49

Date: Nov. 17, 2020
Project Number: 100,283
Gross Floor Area (sf): 8,500

Description	Quantity	Rate	Amount
Z1 GENERAL REQUIREMENTS & FEE			
Z11 General Requirements			
General Requirements	1	sum	591,900
TOTAL Z11 General Requirements			591,900
Z13 Fee			
Fee	1	sum	325,500
TOTAL Z13 Fee			325,500
TOTAL Z1 GENERAL REQUIREMENTS & FEE			917,400
TOTAL CONSTRUCTION ESTIMATE EXCLUDING ALLOWANCES			6,836,200
Z2 CONTINGENCIES			
Z21 Design Contingency			
Design Contingency	1	sum	683,600
TOTAL Z21 Design Contingency			683,600
Z22 Escalation Contingency			
Escalation Contingency	1	sum	0
TOTAL Z22 Escalation Contingency			0
Z23 Construction Contingency			
Construction Contingency	1	sum	752,000
Total Z23 Construction Contingency			752,000
TOTAL Z2 CONTINGENCIES			1,435,600
TOTAL Z GENERAL REQUIREMENTS & CONTINGENCIES			2,353,000
TOTAL BUILDING COST INCLUDING ALLOWANCES			8,271,800

Appendix B
Detailed Elemental Estimate
Option 'B'



**ELEMENTAL COST SUMMARY
CLASS 'D' ESTIMATE**



Project: Fundy Gateway Project
Location: Truro, Nova Scotia
Client: Architecture 49

Date: Nov. 17, 2020
Project Number: 100283
Gross Floor Area: 9,880 sf

Option 'B'

Element	Ratio to GFA	Elemental Quantity	Elemental Unit Rate	Elemental Amount	Cost/sf	Total	%
A SHELL							
A1 SUBSTRUCTURE					\$12.14		
A11 Foundation	0.86	8,500 sf	\$14.11	\$119,955	\$12.14		
A12 Basement Excavation	0.00	0 cf	\$0.00	\$0	\$0.00	\$119,955	1.6%
A2 STRUCTURE					\$77.41		
A21 Lowest Floor Construction	0.86	8,500 sf	\$12.17	\$103,449	\$10.47		
A22 Upper Floor Construction	0.00	0 sf	\$0.00	\$0	\$0.00		
A23 Roof Construction	0.86	8,500 sf	\$77.81	\$661,379	\$66.94	\$764,828	10.3%
A3 EXTERIOR ENCLOSURE					\$156.19		
A31 Walls Below Grade	0.43	4,200 sf	\$41.84	\$175,748	\$17.79		
A32 Walls Above Grade	0.21	2,086 sf	\$62.80	\$130,997	\$13.26		
A33 Windows & Entrance	0.18	1,826 sf	\$175.18	\$319,880	\$32.38		
A34 Roof Covering	0.86	8,500 sf	\$16.27	\$138,320	\$14.00		
A35 Projections	0.00	1 sum	\$778,195.29	\$778,195	\$78.76	\$1,543,140	20.9%
B INTERIORS							
B1 PARTITIONS & DOORS					\$11.41		
B11 Partitions	1.01	9,986 sf	\$6.23	\$62,186	\$6.29		
B12 Doors	0.00	20 lvs	\$2,525.00	\$50,500	\$5.11	\$112,686	1.5%
B2 FINISHES					\$12.27		
B21 Floor Finishes	0.77	7,613 sf	\$7.56	\$57,536	\$5.82		
B22 Ceiling Finishes	0.77	7,613 sf	\$2.34	\$17,784	\$1.80		
B23 Wall Finishes	2.66	26,258 sf	\$1.75	\$45,913	\$4.65	\$121,233	1.6%
B3 FITTING & EQUIPMENT					\$3.54		
B31 Fitting & Fixtures	0.00	1 Sum	\$35,000.00	\$35,000	\$3.54		
B32 Equipment	0.00	1 NIC	\$0.00	\$0	\$0.00		
B33 Conveying Systems	0.00	0 No.	\$0.00	\$0	\$0.00	\$35,000	0.5%
C SERVICES							
C1 MECHANICAL					\$44.84		
C11 Plumbing & Drainage	0.86	8,500 sf	\$11.83	\$100,544	\$10.18		
C12 Fire Protection	0.86	8,500 sf	\$4.50	\$38,241	\$3.87		
C13 HVAC	0.86	8,500 sf	\$29.47	\$250,487	\$25.35		
C14 Controls	0.86	8,500 sf	\$6.32	\$53,701	\$5.44	\$442,973	6.0%
C2 ELECTRICAL					\$50.48		
C21 Service & distribution	0.86	8,500 sf	\$19.51	\$165,868	\$16.79		
C22 Lighting, Devices & Heating	0.86	8,500 sf	\$24.57	\$208,875	\$21.14		
C23 Systems & Ancillaries	0.86	8,500 sf	\$14.59	\$124,023	\$12.55	\$498,766	6.7%
NET BUILDING COST (Excluding Site)					\$368.28	\$3,638,580	49.2%
D SITE							
D1 SITE WORK					\$280.10		
D11 Site Development	0.00	1 Sum	\$2,400,833.33	\$2,400,833	\$243.00		
D12 Mechanical Site Services	0.00	1 Sum	\$156,600.00	\$156,600	\$15.85		
D13 Electrical Site Services	0.00	1 Sum	\$210,000.00	\$210,000	\$21.26	\$2,767,433	37.4%
D2 ANCILLARY WORK					\$0.00		
D21 Demolition	0.00	0 Sum	\$0.00	\$0	\$0.00		
D22 Alterations	0.00	0 Sum	\$0.00	\$0	\$0.00	\$0	0.0%
NET BUILDING COST (Including Site)					\$648.38	\$6,406,014	86.6%
Z MARKUPS							
Z1 GENERAL REQUIREMENTS 15.0%					\$100.50		
Z11 General Requirements	10.00%			\$640,600	\$64.84		
Z13 Fee	5.00%			\$352,300	\$35.66	\$992,900	13.4%
TOTAL CONSTRUCTION ESTIMATE (Excluding Contingencies)					\$748.88	\$7,398,914	100.0%
Z2 CONTINGENCIES 20.0%					\$145.30		
Z21 Design Contingency	10.0%			\$683,600	\$69.19		
Z22 Escalation Contingency	0.0%			\$0	\$0.00		
Z23 Construction Contingency	10.0%			\$752,000	\$76.11	\$1,435,600	16.2%
SALES TAX (HST) 0% EXCLUDED					\$0	\$0	0.0%
TOTAL CONSTRUCTION ESTIMATE (Including Allowances)					\$894.18	\$8,834,514	116.2%

GFA:	918 m2
GFA:	9,880 sf

per m2:	\$	9,624.88
per sf:	\$	894.18

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