VANCOUVER BOARD OF PARKS AND RECREATION

Report Date: September 24, 2025
VanRIMS No.: 08-3000-30
Submit comments to the Board

TO: Park Board Chair and Commissioners
FROM: Director, Park Planning and Development
SUBJECT: Imagine West End Waterfront Vision: Alternative Phase 1 - Report Back

RECOMMENDATIONS

THAT the Vancouver Park Board direct staff to begin detailed design work for Alexandra Park, as the first phase of Imagine West End Waterfront Vision implementation, as described in this report.

PURPOSE AND SUMMARY

This report is provided in response to Board direction at the July 8, 2024, meeting, for staff to report back on near-term options for implementing a first phase of the Imagine West End Waterfront Vision ("the Vision").

The report recommends Alexandra Park as the first phase of Vision implementation. The project responds to growth needs and addresses playground deficiency in the West End, can be delivered within the available capital budget, and is less complex to deliver than other components of the Vision due to a streamlined process and fewer dependencies. Other Vision components include changes to City of Vancouver assets or require extensive infrastructure to address sea level rise (1.2m) and associated coastal hazards that cannot be achieved with the capital funding available or anticipated and necessitate a multi-government funding approach.

BOARD AUTHORITY & PREVIOUS DECISIONS

As per the Vancouver Charter, the Park Board has exclusive jurisdiction and control over all areas designated as permanent and temporary parks in the City of Vancouver, including any structures, programs and activities, fees, and improvements that occur within those parks.

On April 22, 2024, the Board approved the Imagine West End Waterfront Vision, but directed staff to report back with further information on Phase 1.

On May 8, 2024, City Council approved the "Implementation of Phase 1 of the Imagine West End Waterfront Vision" for Morton Park and Beach Avenue west of Denman Street. Council did not approve the Imagine West End Waterfront Vision.

Following the July 8, 2024 staff report, the Board did not approve the proposed Phase 1 for the Morton Park and west of Denman area, and directed staff to report back on an alternate first phase.

On March 31, 2025, the Board approved a Capital Plan funding reallocation from the West End Waterfront Parks Phase 1 Implementation Project to the Vancouver Aquatic Centre Renewal. The remaining capital funds will be used for implementing the first phase of the Vision as recommended in this report.

CONTEXT AND BACKGROUND

The Imagine West End Waterfront Vision ("the Vision Plan") was initiated in 2021 as a joint project between the Park Board and City of Vancouver's Engineering Services to provide a consistent planning and design approach to the implementation of improvements outlined in the West End Community Plan and other parks, recreation, and sustainability aspects.

The long-term Vision responds to some of the most pressing challenges of our time. The Vision shapes the physical future of Vancouver's beloved West End waterfront as it experiences climate change and sea level rise, coastal squeeze, and unprecedented demand for use by residents and visitors, to ensure the area is enjoyed and resilient today and for years to come.

Following the Board's approval of the Vision in 2024, the Board directed staff to report back on "near-term options for reallocating the $10m proposed capital spending to Phase 4A and Phase 4B." Alexandra Park is a component of Phase 4A, shown in the Phasing Plan in Appendix A.

DISCUSSION

Park Board and COV Jurisdiction

The Board has exclusive jurisdiction over Alexandra Park as a Permanent Public Park. City of Vancouver (COV) has jurisdiction of the adjacent sidewalks and requires a permit for changes to heritage structures like the Haywood bandstand.

Net Gain of Accessible & Inclusive Play Space in the West End

- There is a critical lack of supply of Park Board playground assets in the West End, as shown in Appendix B – Playground Renewals Analysis Mapping.
- At the time of the West End Community Plan, the West End contained the fourth-highest density of children (0-14 years) of any community in the city, with an average of 8.8 children per hectare. This trend has continued.
- The 2021 Census[1] identified that of the 2,700 estimated households with children (of any age) in the West End, 1,265 (47%) are considered to be overcrowded based on national occupancy standards.
- 85 students aged 10-18 participated in an Imagine West End Waterfront planning and design program. A key recommendation was for play areas and gathering spaces to be close to home and in proximity to meet the needs of all ages and abilities within an extended family. Further details on how children and youth shaped the Vision Plan are included in Appendix C.
- A new playground responds to the growth needs of West End residents and is eligible for Community Amenity Contribution and/or Development Cost Levy funding sources for project delivery.

[1] Statistics Canada, 2021 Census of Population, custom tabulations accessed through Community Data Program

Implementing the Vision – an Intergenerational Alexandra Park
Key considerations that informed the recommendation to proceed with detailed design for Alexandra Park include the following:

- It can be delivered within Park Board jurisdiction and requires minimal coordination with COV Engineering.
- Delivered with the available 2023-2026 capital funding. Other Phase 4 components include extensive infrastructure and cannot be achieved with the capital funding available or anticipated.
- The procurement process can be streamlined using prequalified consultants and contractors for detailed design and construction.
- The West End is a playground-deficient neighbourhood. Alexandra Park is an opportunity to provide a natural playground, and explore accessible and inclusive sensory design elements.
- Alexandra Park is a defined, contained component of the Vision Plan under Park Board jurisdiction, which advances multiple policy goals for co-benefits, such as:
- Support for Musqueam, Squamish and Tsleil-Waututh cultural practices and local ecologies (City of Vancouver UN Declaration on the Rights of Indigenous Peoples (UNDRIP) Action Plan, adopted by the Board on July 8, 2024.)
- 'Restore or enhance an additional 5 ha of natural area each capital plan (1–3 ha per year)' and 'Provide universally accessible play features at all play areas' (VanPlay 2040 Asset Targets)
- Direction 4.2: to 'Identify, rehabilitate, and connect ecological systems in Vancouver' and Direction 4.4 to 'increase and ensure equitable access to nature' (Vancouver Plan)
- Increase urban forest canopy by 30% by 2050 (Urban Forest Strategy 2025)

Board-approved Alexandra Park Concept Design

The scope of detailed design for the Alexandra Park playground is based on the approved concept design in the Imagine West End Waterfront Vision (Figure 1). The concept aims to ensure the park functions for multiple generations and maintains its neighbourhood feel:

- New, natural playground durable to high-use;
- Maintains the large lawn area for public use and enjoyment, such as picnics, sunbathing and watching sunsets;
- Sustain and enhance the existing large canopy trees and explore opportunities to diversify and grow planted areas to support biodiversity, habitat, and local ecologies and mitigate sound;
- Accessibility improvements, including a new paved pathway, seating and lighting;
- Haywood bandstand potential relocation and restoration; and
- Minimal servicing (water and storm sewer).

Figure 1: *Alexandra Park Concept Design*

Alexandra Park Concept – Community Feedback

The Alexandra Park detailed design will incorporate the feedback gathered through the three rounds of public engagement completed for the Vision. Community input highlighted the need to improve accessibility in Alexandra Park, including the addition of gently graded walkways throughout the park and the inclusion of more spaces for play, gathering, and sitting. Minimal negative feedback was received. A summary of project engagement is included as Appendix D – Planning Process & Engagement Summary.

FINANCIAL CONSIDERATIONS

Capital Funding Considerations

Service	Estimated cost *
Consultant Services (Arborist Report, Geotechnical, Civil Engineer, Architect, Structural)	$500,000
Project Management Fees	$165,000
TOTAL	$665,000 *Capital Project Budget estimated as a percentage-based fee using the BSCLA Fee Guide

Table 1: *Estimated Capital Project Budget - Alexandra Park*

Funds are available from the 2023-2026 Capital Plan for the detailed design of Alexandra Park, inclusive of project management fees.

Construction estimates will be determined during the detailed design process, and funding will be sought and determined through future capital planning processes and is dependent upon the availability of growth-related funds. There is potential for delivering the park in stages if funding is a challenge. The new playground for example, will be a welcomed first element in the compelling vision for Alexandra Park.

Operating Budget Implications

Zero-to-minimal increase in operating budget for Alexandra Park is anticipated as this is an existing park maintained within existing operating budgets. The operating impact of capital for Park Operations will be based on the cost identified through the concept design process.

CONCLUSION AND NEXT STEPS

The first phase of implementing the Imagine West End Waterfront Vision at Alexandra Park will provide a much-needed amenity for the West End and visiting families.

A detailed design, based on the approved Imagine West End Waterfront Vision, will be developed throughout 2026. Project construction is anticipated to commence in 2027, subject to funding availability in the 2027 to 2030 Capital Plan and 2027 Capital Budget. Updates to the Board will be provided at key milestones as the project progresses. Sequencing of future Vision phases will be determined pending Capital Plan funding priorities and Council approval.

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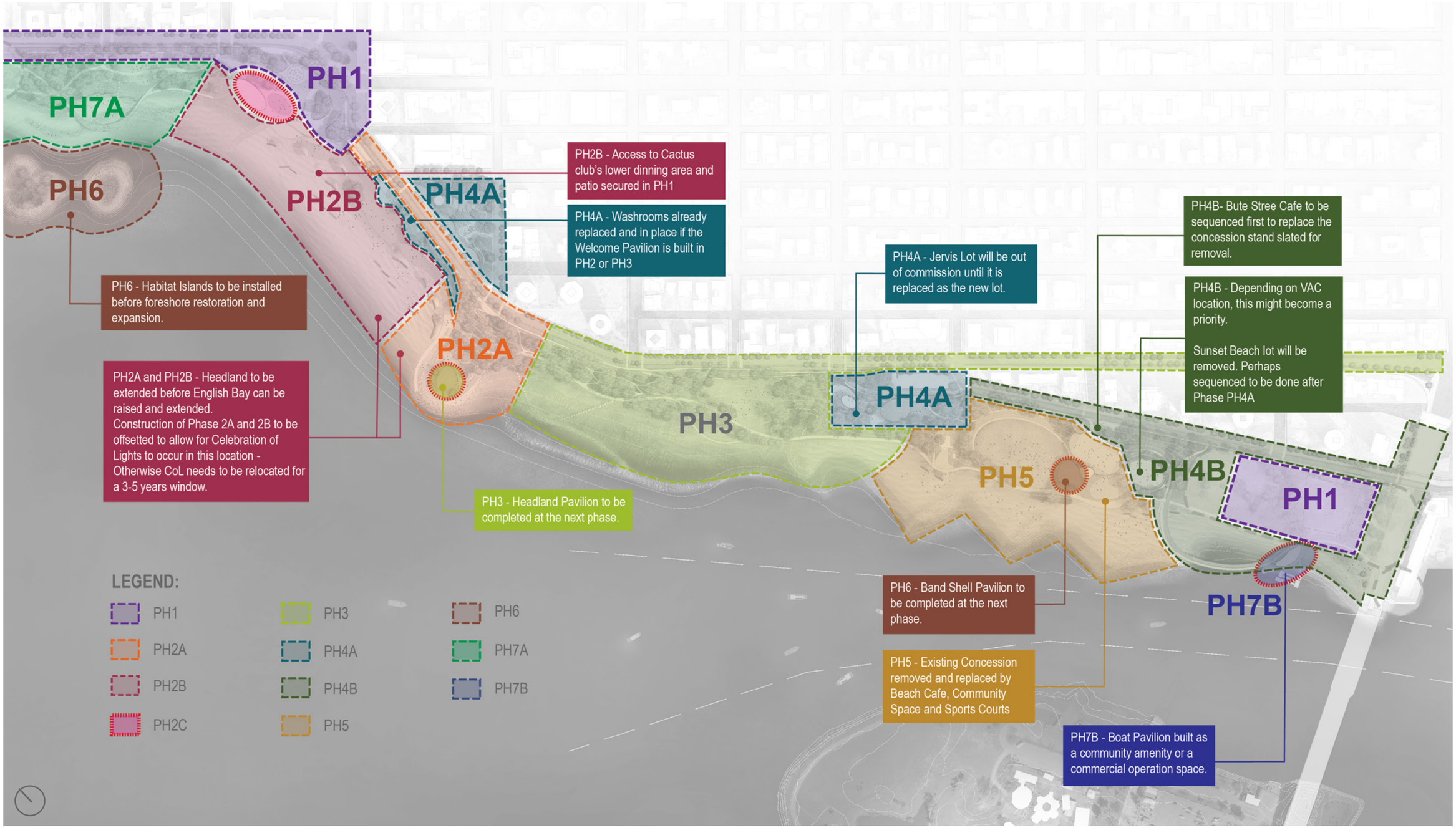
5.1 Phasing Plan



APPENDIX B
FOR DISCUSSION ONLY

Playground Renewals Mapping

Completed (2015-2025) and In Progress (2024+)

Prospect Point
Ceperly
Aberthau
Hastings Mill
Tatlow
McBride
Charleson
sθəqəlxenəm
ts'exwts'áxwi7
(rainbow park)
CRAB
Oppenheimer
Andy
Livingstone
East
Ray-Cam
Andy Livingstone
West
Creekside
Jonathan Rogers
China Creek
North
Major Matthews
Robson
Daycare
Lilian To
Douglas
Prince Edward
Trinity
Burrard View
Oxford
Templeton
Hastings CC
Thunderbird
W.C. Shelley
Kaslo
Cedar Cottage
Clark East
Beaconsfield
John Hendry
Daycare
John Hendry
West
Brewers
General Brock
Slocan
Riley North
Riley South
Price
Collingwood
Jones
Memorial South
Nanaimo
Tisdall
Sunset
Humm
Winona
Champlain Heights CC
William Mackie
Ash
Champlain Heights SE
Neighbourhood
Park North
Riverfront
West
Promontory
Kinross South

EQUITY INITIATIVE ZONE INDICATORS (EIZ) VANPLAY

- Park Access Gaps
  Areas with low access to park space
- Demand for Low-Barrier Recreation
  Areas with a higher demand for low-barrier recreation services
- Urban Forest Canopy Gaps
  Areas of the city with a less robust urban forest

1 EIZ Indicator 2 EIZ Indicators 3 EIZ Indicators

LEGEND

- Playground Locations
- Completed (49)
- In-Progress (6)

Completed and In-Progress Playground
(As of Aug 2025)

Playgrounds Completed (since 2015)			
Aberthau	CRAB	McBride	Stanley - Ceperley
Andy Livingstone - East	Creekside - North Edge	Nanaimo	Stanley - Prospect Point
Andy Livingstone - West	Douglas	Neighbourhood Park North (EFL) NEW	Sunset
Ash	Hastings Community Centre	Oxford	Tatlow
Beaconsfield	Hastings Mill	Oppenheimer	Templeton
Brewers	Humm	Price	Thunderbird Park
Cedar Cottage	John Hendry - Trout Lake CC Daycare	Prince Edward	Tisdall
Champlain Heights - South Trail	John Hendry - West	Promontory Park (EFL) NEW	Trinity
Champlain Heights Community Centre	Jones	Ray-Cam Community Centre	WC Shelley
Charleson - Southwest	Kaslo	Riley - North	Winona
China Creek North	Kinross South Park (EFL) NEW	Riley - South	
Collingwood	Lilian To	Riverfront - West	
Clark -East	Major Matthews	Robson Daycare Family Place	

In-Progress Playgrounds			
Burrard View	Jonathan Rogers	Slocan	
General Brock	Memorial South	William Mackie	

CITY OF VANCOUVER

VANCOUVER BOARD OF PARKS AND RECREATION

SOCIETY FOR children and youth OF BC

URBAN EXPLORERS 2023

Imagine West End Waterfront

Child and Youth Engagement in Park Planning
Final Report



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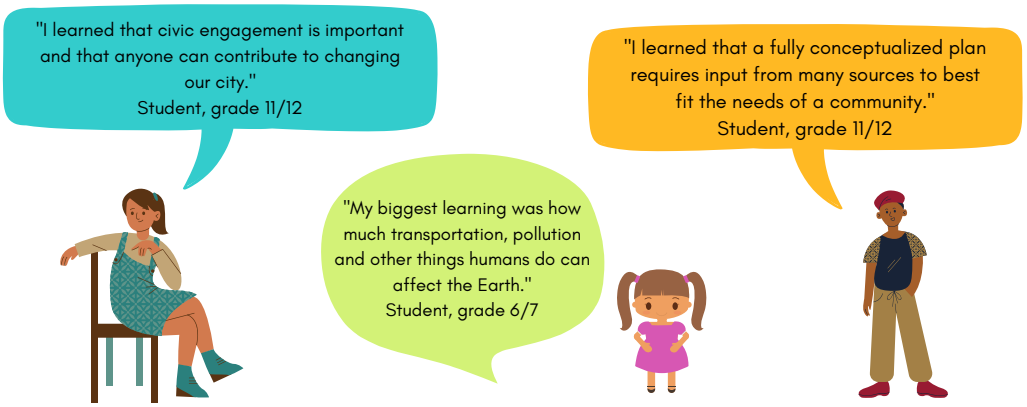


Children and Youth shaping the West End Waterfront – 30 years and beyond

The Vancouver Park Board is planning for a West End Waterfront that is a welcoming and joyful place for everyone and a place where humans and nature can thrive together for generations to come. Park Board and City of Vancouver planners worked in collaboration with the Society for Children and Youth of BC to gather youth input as part of the public engagement to help shape this area for the next 30 years and beyond.

Urban Explorers is a Participatory Planning Pedagogy (PPP) and curriculum designed for meaningful public engagement in planning with children and youth. Urban Explorers is:

- Civics and sustainability education.
- Real world problem solving
- Project and inquiry based experiential learning.

The West End Waterfront Urban Explorers Program:

- Engaged 28 high school students and 57 elementary students ages 10-18
- Through 18 in-class lessons, 2 workshops, 3 fieldtrips, 2 showcases and with 12 expert guest speakers

Student highlights:

- Model Building - Inquiry Based Research - Presenting to Park Board

Biggest Learning:

- Civic Engagement - Collaboration & Group Work

85 Students

2 Workshops

3 Fieldtrips

2 Showcases

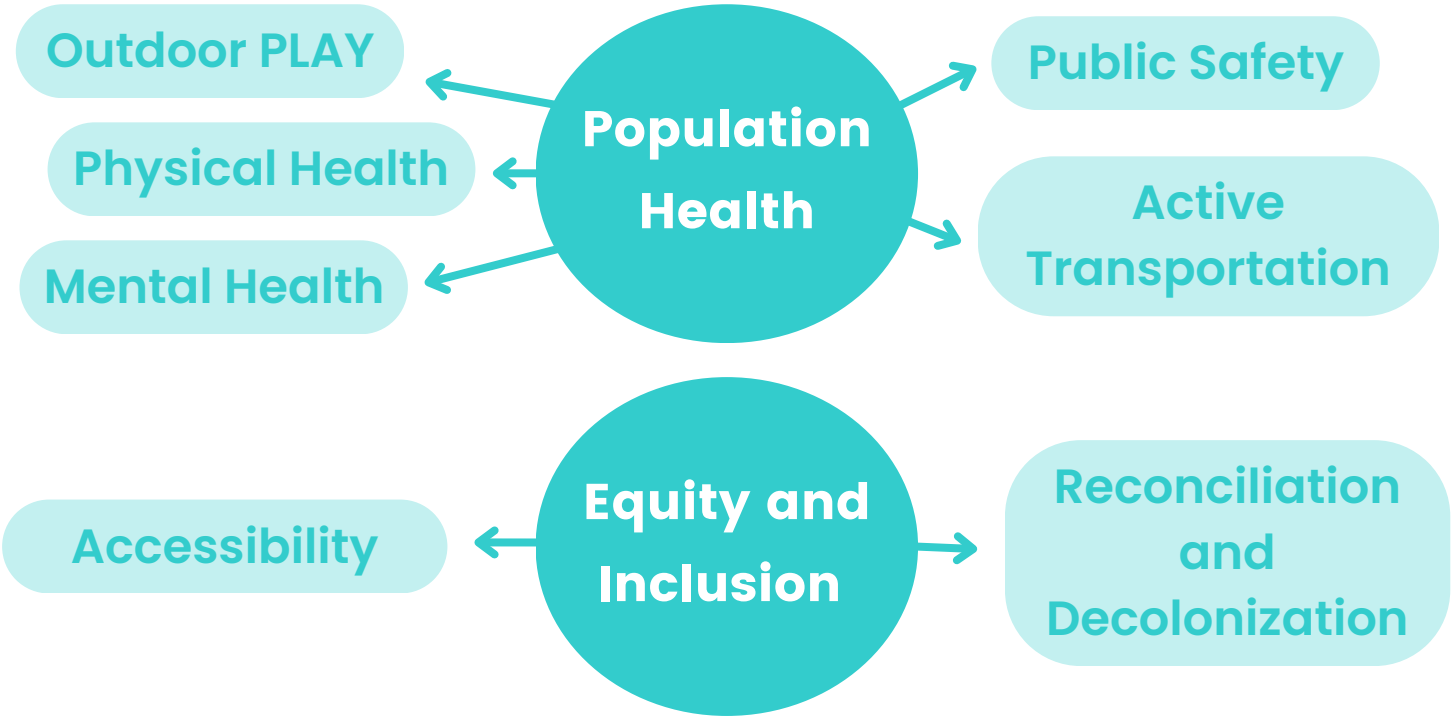
12 Guest Speakers

"My biggest takeaway was working collaboratively with others and making sure our ideas were fairly making it into the end product."

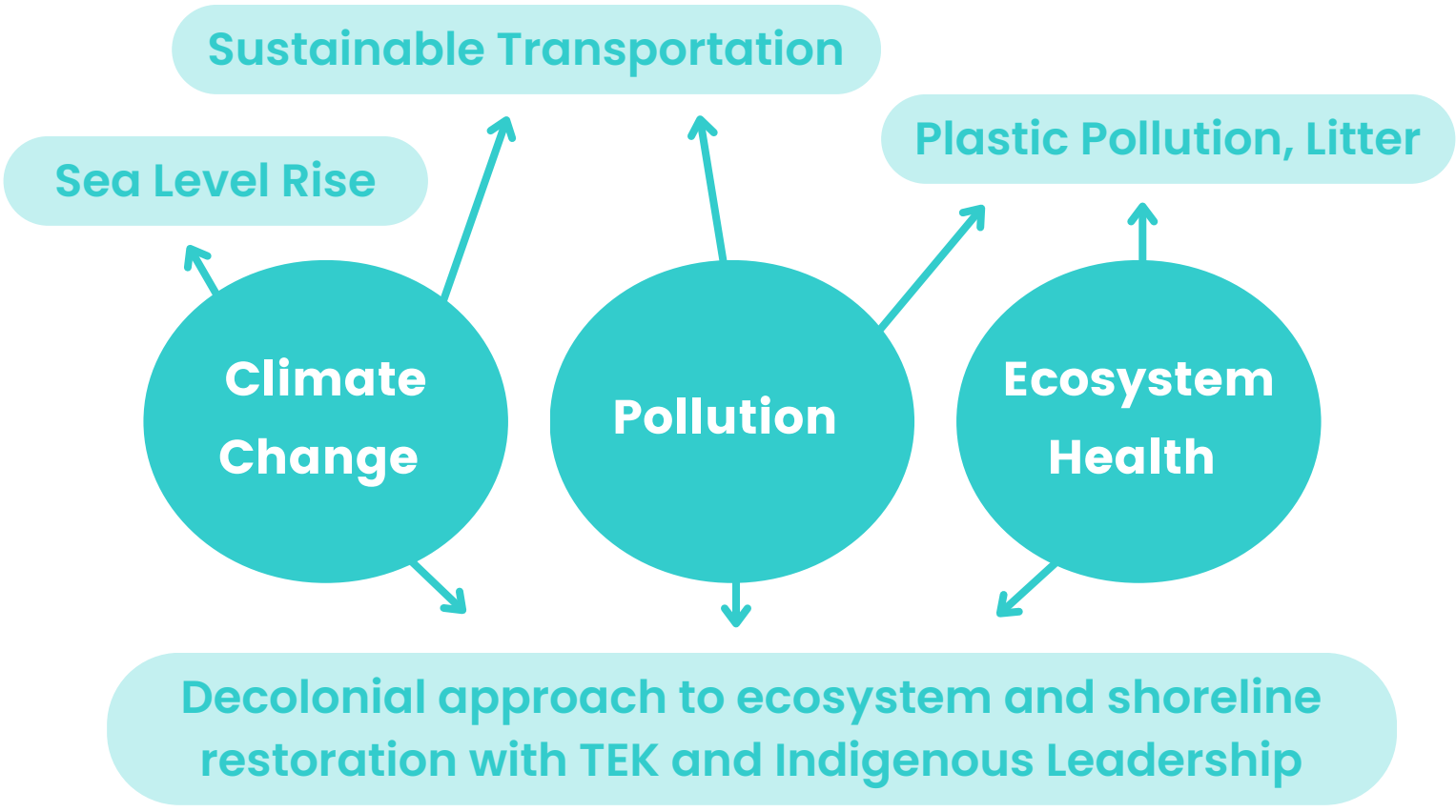
"I like that we got to add our ideas to the plan"

APPENDIX C

Youth-Identified **Social Sustainability** Issues



Youth-Identified **Environmental Sustainability** Issues



Summary of Key Recommendations

1 ADOPT A HOLISTIC SYSTEMS APPROACH MERGING ENVIRONMENTAL RESTORATION AND CULTURAL REDRESS

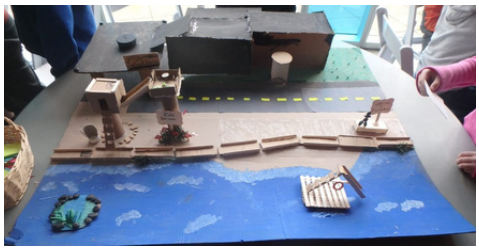
Youth envisioned a West End Waterfront that is stewarded by the local Host Nations and is undergoing Indigenous-led, and Traditional Ecological Knowledge (TEK) informed ecosystem restoration. The vision includes creating spaces for Indigenous Cultural Practices as well as habitat islands and a restored shoreline with a marshy soft barrier to address sea level rise and provide wildlife habitat. Youth identified how this systems approach will address multiple social and environmental sustainability challenges in the area and build long-term social, cultural and environmental resilience.

This model was made using the game engine Minecraft

2 CREATE EXCITING AND UNIQUE PLAY OPPORTUNITIES FOR ALL AGES AND ABILITIES

Younger students focused on traditional and themed play structures, with requests for more exciting and adventurous play that incorporated healthy risk-taking (height-speed elements) as well natural water features. Ziplines, giant slides and structures in or above the ocean water dominated children's requests. Older youth requests were more sport-oriented: a skate park and various sport courts (basketball, volleyball, soccer) were among the recommendations. All students would like the various play areas and food-social gathering spaces to be in proximity to each other in order to meet the needs of all ages and abilities within an extended family.





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EXPAND AND IMPROVE THE SUSTAINABLE TRANSPORTATION NETWORK 3

A major request from all age-groups was to improve and expand the public transportation network, including bus lines, sky trains and sea buses, making the area much more accessible by transit. A significant observation from one youth group was how the lack of an adequate transit and transportation system harms seniors and those with disabilities the most. Older high school youth prioritized public transit over other modes of sustainable transportation, while elementary aged youth requested improvements in the active transportation network equally with requests for improved public transportation.

IMPROVE ACCESSIBILITY 4

Students identified various barriers to accessing the site and its facilities or amenities. Most students focused on mobility challenges and envisioned various ways to reduce physical barriers on site at the West End Waterfront. Some students also identified economic factors and the lack of a good transportation network as barriers to equitable access. Redesigning with accessibility in mind and removing financial barriers (e.g. to food or transportation) were some major recommendations.

This model was made using the game engine Minecraft

Introduction

SCY's Child and Youth Friendly Communities Initiative

The Society for Children and Youth of BC (SCY) is a provincial non-governmental organization. Our mission is to improve the well-being of children and youth in BC through the advancement of their civic, political, economic, social, cultural and legal rights. SCY works on building child and youth capacity through direct engagement with young people and by providing consultation for local governments or community organizations.

SCY's Child and Youth Friendly Communities projects support child-friendly city building with young people. Over the past eight years we have worked in collaboration with various Metro Vancouver municipal planning teams to ensure that children and youth have a strong voice in their community's planning initiatives. Our aim is to ensure that public engagement is a deep and meaningful experience for young people.

Urban Explorers

The Urban Explorers program* provides opportunities for child and youth participation in urban planning. The program builds on decades of research and experience from the Child Friendly Cities* and Growing Up in Cities* initiatives taking place internationally. The program was developed by researcher and planner Ildiko G. Kovacs under the Society for Children and Youth of BC's (SCY's) Child and Youth Friendly Communities projects. Urban Explorers delivers the Participatory Planning Pedagogy (PPP)* based sustainability and civics education curriculum, joining a student-led inquiry based learning approach with participatory planning. **Links at the end of Report*

At SCY we understand that it is the basis of socially just democratic governance to ensure that young citizens – like all citizens – have a voice in the development of their city, community and parks and recreation spaces. As a Children's Right to the City initiative, Urban Explorers ensures that children and youth are not only passive recipients of city services and amenities, but can also shape their city's future to meet their community needs.

Following the most up-to date research and work in childhood studies, we know that children and youth have the capacity and competence to meaningfully contribute to democratic debates and community planning processes. Young people are citizens of today with rights and responsibilities to be stewards of their local environments and changemakers of their communities.

Methods - 'What We Did'

Imagine West End Waterfront Urban Explorers

Vancouver's Board of Parks and Recreation and the City of Vancouver began the West End Waterfront planning process and public engagement in 2021. The West End Waterfront Plan will help shape the direction of the area for the next 30 years and beyond. The Park Board and the City – committed to engaging with many diverse publics, including children and youth living in the community – invited SCY to run their Urban Explorers program with local elementary and high school students for child and youth public engagement.

Working in close collaboration with the Park Board and the City of Vancouver Engineering Services' Transportation Planning branch, the Imagine West End Waterfront Urban Explorers program was delivered during the 2022-23 school year (phase 3 – Initial Concepts and Ideas – of the planning process). Two West End neighbourhood schools' (one high school and one elementary) and one South-East Vancouver elementary school's classes were recruited for this engagement. The two elementary groups participated together as buddy classes – an approach that supports peer-to-peer learning and has been shown to improve young people's sense of community connectedness.

Participants

Eighty-five Vancouver School Board students participated in the West End Waterfront Urban Explorers program. Participants' ages ranged from 10-18 (grades 5-7 and 11-12).

- 28 grade 11-12 Urban Studies high school students (Vancouver West End - King George Secondary).
- 30 grade 5 elementary school students (Vancouver West End – Lord Roberts Elementary).
- 27 grade 6/7 elementary school students (East Vancouver – Sir Wilfred Grenfell Elementary).

Urban Explorers Engagement Activities

High School

Summary
10 in-class 60-70 minute sessions, with two fieldtrips, including one site visit and one Final Showcase.

Week 1	• **An introduction to the program and the Imagine West End Waterfront Project (SCY-led).** • **A group knowledge co-construction activity, mapping out student's knowledge of existing local sustainability challenges (SCY-led).**
Week 2	• **2 City Hive guest sessions introducing cities and local government.** • **1 half-day fieldtrip to the West End Waterfront: walk led by park planner Brittany Morris with guest Mandy Yu (Landscape Architect).**
Week 3 - 4	• **3 deep-dive inquiry sessions with CoV/Park Board expert guest speakers presenting on three main sustainability challenge(s): reconciliation and decolonization, climate change/sea-level rise adaptation and sustainable transportation.**
Week 5 - 7	• **3 project-building sessions (SCY-led)**
Week 8	• **One Final Showcase where students presented their projects with visions and recommendations to Park Board and CoV staff at a half-day event.**

SCY Lessons: Introductory Session + Sustainability Issues Mapping

The first lesson introduced settler colonization, urban development, local governance, and the Imagine West End Waterfront plan. This was followed by the Sustainability Issues mapping exercise, which is a central component of student-led inquiry, as it allows students to work on problems they are most connected to and to build on their existing knowledge of these issues. Students are asked to individually identify all the local and global sustainability issues they are aware of, and then as a group knowledge co-construction activity, we pool all these issues onto a large matrix. Next, the issues are grouped and if necessary we select ones applicable for the current planning project. Finally, youth can begin thinking about relationships between the various issues identified, and select the ones they would like to learn more about and find possible ways to address.

2 City Hive guest lectures: Guest Olivia Shaw, Civic Education and School Program Coordinator held two sessions:

- Cities and Systems 101
- Civic Agency

3 Park Board/City of Vancouver expert speakers:

- Rena Soutar – Manager of Decolonization, Arts and Culture for the Vancouver Board of Parks and Recreation: Rena led a deep discussion with the class on Truth and Reconciliation.
- Angela Danyluk – Senior Environmental Specialist at City of Vancouver, Project Lead Sea2City Design Challenge: Angela presented on ecosystem health and resilience, and climate change and sea-level rise adaptation.
- Sherwood Plant (Transportation Planning Engineer): Sherwood held a presentation and budgeting workshop on transportation planning.

1 in-house showcase:

- Students presented their projects with visions and recommendations to Park Board and City of Vancouver staff at a half-day event.

Urban Explorers Engagement Activities

Elementary School

Summary

A total of 16 in-class 60-70 minute sessions (8 for each class), one in-class workshop help by Park Board staff, and three combined full-day field trips, including one site visit and one Final Showcase.

Week 1 - 8	• **2 x 8 in-class sessions (SCY-led).**
Week 9	• **One in-class 'Design Jam' with Park Board staff**
Week 3 and Week 6	• **Two full day fieldtrips combined for the two elementary classes. The first a site visit to the West End Waterfront, the second a 'Parks and Nature in the City' fieldtrip to Creekside Park, Habitat Island (Hinge Park), and sθəqəlxenəm ts'exwts'áxwi7 in downtown Vancouver.**
Week 10	• **1 Final Showcase where students from both classes presented their projects with visions and recommendations to Park Board, CoV staff, peers and community members.**

SCY Lessons

The eight sessions held by SCY's facilitator included introductory presentations on settler colonization, urban development, local governance, and the Imagine West End Waterfront plan, followed by city asset mapping, then sustainability issues mapping. Students then began their research on chosen sustainability challenges with an Intro to Inquiry lesson, followed by independent teacher-supported research. The SCY facilitator also offered deep-dive presentations on Reconciliation, climate adaptation/sea-level rise, and sustainable transportation, adapted from the expert guest presentations to high school students. Over the final weeks students developed their ideas and recommendations into 3D design models of the West End Waterfront. These projects were presented back to the city planners, peers and the community at a Final Showcase event.

Student Design Jam - Introduction to Park Design

Park Board staff held a design jam for the Lord Roberts elementary class for students to bring their park visions to life. The workshop introduced nature play, the importance of kinship with nature, and park design in a fun and creative environment. Students were asked questions to stimulate their curiosity and imagination, and invited to share their memories and stories of playing in nature and play spaces. Following these brainstorming activities, students collaborated in small groups to create their own imaginative nature park, incorporating play features that interested them and built a physical model using recycled and reusable materials.

Fieldtrip 1

West End Waterfront Site Visit

Park Board planner Brittany Morris led students through the site, addressing the topics of Truth, Healing, & Reconciliation, Environmental Resilience, Equity, Wellbeing, & Pride, and Active & Sustainable Mobility at various points along the way.

Fieldtrip 2

Nature and Play in Public Green Spaces

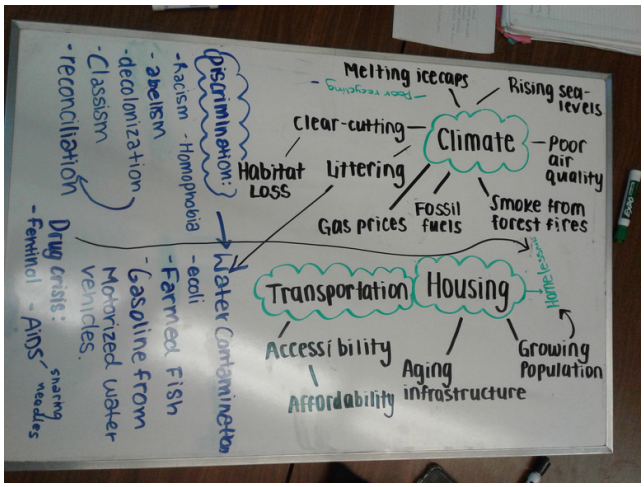
- Creekside Park: focus on nature and play in cities. Students participated in a pollinator workshop with Shannon Mendes, Environmental Stewardship Planning Analyst (Park Board) and Jack Tupper, Landscape Architect (Park Board)
- sθəqəlxenəm ts'exwts'áxwi7 (meaning 'rainbow'): focus on play and Host Nations art and gifting the park its Indigenous name with guests Mandy Yu, Landscape Architect and Jess Carson, Reconciliation Planning Analyst (Park Board)

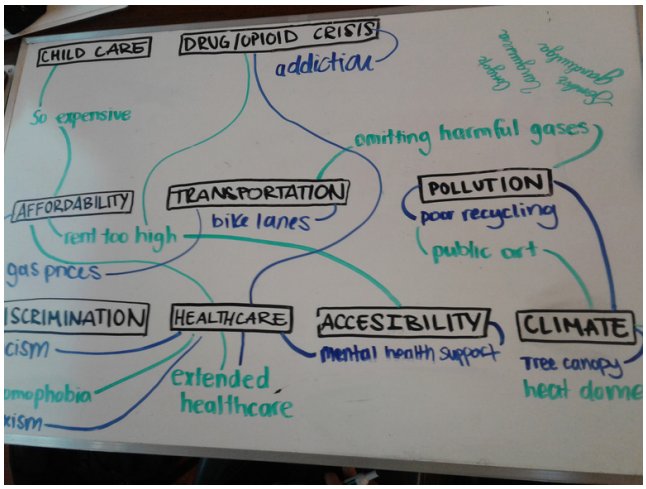
Results - 'What we Heard'

A. Sustainability Challenges

Sustainability issues mapped out by students were grouped into social and environmental sustainability.

Relationship Mapping





High School Students

Social sustainability challenges youth focused on were mental health, public space safety and some outdoor play within the population health theme, and Truth-Reconciliation-Decolonization as well as accessibility within the equity-inclusion theme.

Environmental sustainability challenges identified by youth fit under the main themes of climate change, pollution and ecosystem health. Subthemes that students focused on were sea level rise adaptation and sustainable transportation within the climate change adaptation theme, land and water pollution (i.e. littering and garbage that ends up on the oceans) within the pollution theme, and loss of native vegetation and environmental degradation within the ecosystem health theme.

Overall, all ages of students identified similar areas of focus (climate and specifically sea level rise adaptation, pollution, ecosystem health, Truth-Reconciliation-Decolonization, accessibility, and population health and wellbeing). Notable differences between the elementary and high school groups are:

- A more prominent focus on outdoor play for the younger elementary aged youth, and
- A stronger focus on Truth-Reconciliation-Decolonization, and safety in public spaces for the high school youth.

Elementary School Students

The two main social sustainability challenges that students focused on were *population health* and *equity-inclusion*, while *climate change* and *pollution* (land, air and water) were the two main environmental sustainability challenges of interest.

The most prominent sub-theme that emerged within the population health theme was *play*. Other subthemes were *mental health, physical health* and *active transportation*. The physical and mental health subthemes significantly overlapped with play, as well as with active transportation: with their proposed solutions to the identified social sustainability challenges, many students demonstrated an understanding of a complex systems approach to health and wellbeing – recognizing how both active play and active transportation benefits everyone's physical and mental wellbeing. Within the equity-inclusion theme Truth-Reconciliation-Decolonization and accessibility were the two most dominant subthemes.

Within environmental sustainability climate change and the resultant sea level rise was identified by far as the most significant concern by students. Next, concerns about air, land and water pollution and habitat loss and degradation were also expressed. Yet again, many students were showing a developing understanding of the complexity of these issues – for example how air pollution and habitat loss are interconnected with the main challenge of climate change (e.g., how heat waves lead to wildfires.)

B. West End Waterfront Area Recommendations

Students' visions and recommendations addressed their identified sustainability challenges. These visions and solutions to sustainability challenges were then depicted in final projects. 3D physical models were the most common choice of project for both elementary and high school students. A short written description accompanied each student group's model. For analysis we collectively examined student's 3D designs and their accompanying written and verbal descriptions. A handful of high school students chose to create digital models, and/or PowerPoint presentations, and a few decided on 2D designs (drawings or paintings) to present their ideas. One elementary student created a video and two accompanying images to present their ideas.

High School Students Recommendations

Social Sustainability: Population health

MENTAL (& PHYSICAL HEALTH)

- The most dominant recommendation in this theme was related to the healing effects of nature for mental well-being, which many youth did not know about and suggest this information be made more available. Related to this, youth also requested easier/more equitable access for all people to nature, as well as 'more lively plants,' and more trees in general.
- The second most common recommendation within this theme was related to Truth-Reconciliation-Decolonization and urban Indigenous health. Specifically, recommendations were for more visible Musqueam, Squamish, and Tsleil-Waututh Host Nations' art, culture, and spaces for traditional First Nations' activities.

PUBLIC SAFETY

- The main recommendation from many youths was to add more lighting to park areas, such as Alexandra Park and the waterfront in general to improve safety. This would ensure more people can use the space at night (and afternoon during dark winter days) and higher use will discourage criminal activities such as drug dealing.
- Youth suggest that well maintained/renovated bathrooms will also improve general safety in the area.

PLAY

- Playground and additional gazebo/family picnic areas in Alexandra Park
- Skate Park at current Sunset Beach parking lot area, and added skate-roll elements and improvements on greenways/bikeways, which currently are perceived to only work well for bicycles.
- Add a basketball court on site.
- Keep/maintain the existing beach volleyball courts.

Social Sustainability: Equity-Inclusion

TRUTH-RECONCILIATION-DECOLONIZATION

While not all student groups included Truth-Reconciliation-Decolonization goals in their projects, the youth who did elaborated deeply and insightfully.

- Improve public education about Canada's colonial history and genocide.
- Build Indigenous history into the West End Waterfront design. Follow other Indigenous-led Canadian projects for inspiration, (such as the Promontory and River Valley Park Plan in Toronto, or the Grandview-Woodlands Community Centre Renewal in Vancouver).
- Return stewardship of the area to Musqueam, Squamish, and Tsleil-Waututh (MST) Host Nations and "under the direction of the elders restore Indigenous place names and language presence and include spaces for Indigenous land-based practices." This later request – creating spaces for First Nations' land-based practices – was present in multiple projects and its connection to mental health and wellbeing was also highlighted by many students.
- Strengthen the current Colonial Audit at the Park Board and use this as a blueprint to decolonize the Vancouver Aquatic Centre.
- Use both western expertise and Indigenous Traditional Ecological Knowledge (TEK) in ecological planning and restoration and recruit Indigenous planners, experts, activists, youth for this work.

ACCESSIBILITY

While most students focused on physical access, some mentioned financial barriers to access as well.

- Build/upgrade accessible washrooms. Multiple student projects included a redesign of the current bathhouse into accessible and inclusive washrooms downstairs.
- Improve overall accessibility on site for those with mobility challenges. For example, add sidewalk ramps, handicap washrooms, separated bike lanes, elevators, wider sidewalks and doorways.
- Create city guides for people with disabilities: ""Websites or brochures that indicate easily accessed areas and where some areas may be more challenging."
- Add more beach mats for water access with wheelchairs/strollers and make sure these extend to the water, and also have seating around.
- Seating can be made more effective: modular/movable to "increase accessibility and comfort for all."
- Remover financial barriers (e.g. ensure that there is affordable food at the concession stands.)

INCLUSIVITY

- "Input community voices in [planning decisions] specifically youth voices."
- Make Alexandra Park more family-friendly and inclusive by adding more gazebos, picnic areas, a play structure and lighting.
- More benches, tables, seating around the entire area to make it more welcoming.
- Washrooms should have a gender neutral, a women's and a men's section.

Social-Environmental Issues Overlap: *Transportation*

Notably the youth group's focus within sustainable transportation was not as much on reduced fossil fuel emissions, and more so on making sure that there is an equitable, accessible, and efficient public transit network developed.

- A main request from numerous groups was to improve the existing transit access to the area by adding more frequent and varied service and/or larger buses.
- Singapore's heavily subsidized transit system was used as an example by one group focusing on this specific topic. This group outlined the many benefits of a well-connected transit network ("improved accessibility, safety, connections, economic opportunities, quality of life, emergency response due to reduced congestion and reducing the negative effects of a fossil fuel dependent transportation network, such as air and noise pollution, congestion, habitat loss, accidents"). Their recommendation was for BC to follow the Singapore example by better funding/subsidizing the transit system in order to expand it, and *then* encourage its use with a congestion pricing system.
- Maintain the existing bike lane on Beach Avenue as it is well used. Of note however, is that very few high school aged youth focused on cycling as a sustainable transportation solution – instead the dominant recommendation from this age-group was to focus on improving public transportation.

Environmental Sustainability: *Climate Change Adaptation*

SEA LEVEL RISE ADAPTATION

- A great number of projects showed habitat islands to provide wildlife habitat with zero or minimal human impact.
- A large number of projects incorporated soft barriers such as wetlands and rain gardens to address seal level rise.
- About a third of the youth suggested raising the sea wall in order to address sea level rise on site.

STORMS AND HEAT WAVES

- Use of vegetation for cooling and shade, such as more trees and vertical-garden style sunshades made from native plants.
- Cooling/shade structures and improved building design for passive heating/cooling

Environmental Sustainability: *Ecosystem Health*

The restoration of natural and native ecosystems came as a recommendation within many of the above themes such as Truth-Reconciliation-Decolonization, mental health, and climate change/sea level rise adaptation, but was also identified as a sustainability issue of its own.

ENVIRONMENTAL DEGRADATION + RESTORATION

- Habitat islands were recommended by a number of groups.
- Vertical gardens – "more space = more biodiversity" were suggested as a way to address the need for more green space in growing and densifying cities.
- Planting more trees was a recommendation (for this and many overlapping concerns).
- Creating human-free zones for wildlife were also highly recommended, either though designing a number of habitat islands, or by creating shore areas that use persuasive design techniques and hostile architecture for example, to keep people out.
- 'Beach guides' and signage can also help with public education and lowering the human impact.
- One student focused on the negative environmental impacts of geese in the area and recommended that parks implement an annual geese cull, followed by egg addling. The recommendation included that hunted geese can become a food source for food banks.
- Barriers and regular clean-ups were also recommended to keep animal excrement (be it from dogs or geese) out of the water.

NATIVE SPECIES

- Restoring the site with native species was a priority for most student groups for a variety of reasons (as per above note, for Truth-Reconciliation-Decolonization approaches and cultural restoration as well as improving environmental and population health).

Environmental Sustainability: *Pollution*

LAND

- The majority of land pollution focused on the issue of littering and garbage disposal on site. Recommendations included more garbage and recycling bins, making these animal secure, and maintaining/emptying them more often. One group explained how "nobody wants to touch the lid of the current bins, so [people] leave the garbage on top" and suggested that better design can address this issue.
- Education on the 3Rs and enforcement of litter laws was also suggested.
- Proactive suggestions included 'bring your own mug cafes,' and beach cleanups.

WATER

The main pollutants students were concerned about were garbage/litter from land ending up in oceans (and most specifically, plastic waste), and e-coli contamination.

- For the prior the land-based measures (outlined above) were suggested
- In order to decrease e-coli levels students suggested restoring coastal marshes and encouraging more plankton and sea life to thrive in the area. To achieve this many students suggested having shore areas specifically for wildlife, and not accessible for humans.
- Another suggestion was to ""Implement strict restrictions on dog and goose waste and possibly create a team of 'beach janitors to prevent E. coli contamination."

Elementary School Students Recommendations

Social Sustainability: *Population Health*

PLAY

- Every student model incorporated a play area into their 3D design of the West End Waterfront.
- Traditional play features: slides, swings and monkey bars were common design features, and some students created themed playgrounds ('Fruit Park' with cherry swings, pineapple tower and grape slide.)
- Risky play elements: providing opportunity for thrill and excitement through speed and height included zip-lines/zip-park, giant slides, trampolines, treehouses and waterslides.
- Water play: overlaps with risky play. Students designed docks and/or water-rafts with slides into the water. One raft also had a treehouse. A public pool was also recommended by some groups.
- Sports courts: older youth often designed basketball or volleyball courts near the play area.
- All-ages inclusive: Students created play spaces for different aged youth, from toddler-specific play areas to 'teen corners with WiFi.' They also created social and/or 'eating areas' for families and seniors to relax while watching their children/grandchildren play.

MENTAL HEALTH

- Nature/respite for mental wellbeing: students suggested that flower-beds and gardens (e.g. "Zen garden") surround the social/eating area, that more trees be planted on site and by designing fishing docks and providing 'beach areas to relax on' – all of which signify the importance of interacting with water features and natural flora for mental health and wellbeing.

PHYSICAL HEALTH

- Design for healthy active lifestyles: the majority of students' recommendations relating to physical activity focused on improved access to active outdoor play areas (i.e. green spaces) as well as improved active and independent mobility options (i.e. walk-bike-roll and public transit.)
- Water fountains (for drinking) and public washrooms: were part of many student models.
- Food retail: many of the models included various food stands, (e.g. a "Snack Shack") offering affordable food for park users.

ACTIVE TRANSPORTATION

- Walk-bike-roll and transit options were promoted by some student groups in response to the climate crisis.
- One group recommended advancing a shift to electric vehicles.
- The importance of improving the public transportation system was highlighted by many groups, with one group noting that the lack of a good transportation system harms seniors and those with disabilities. This group's solutions to the challenge were to improve all modes of public transportation – SkyTrain, bus lines, seabus – in order to reduce parking issues.

Social Sustainability: *Equity-Inclusion*

TRUTH-RECONCILIATION-DECOLONIZATION

- Student recommendations to advance Truth-Reconciliation-Decolonization included incorporating more Indigenous (First Nations, Inuit, and Métis) and Host Nations' artwork into public space design, as well as providing space for an Indigenous art and craft store on site.

ACCESSIBILITY

- Creating play areas that work for all ages and abilities was a strong priority for some groups. One specific suggestion for this was including more 'quiet areas' for children (e.g. next to a pond) where youngsters – whether neurotypical or neurodivergent – can "wind down" when feeling overstimulated.
- Wheelchair access paths in the sand leading down to the waterfront.

Environmental Sustainability: *Habitat Loss and Degradation*

- Habitat islands were proposed as a major recommendation for creating more habitat for wildlife by a number of student groups.
- Planting more trees, shrubs, and other vegetation was recommended by most groups (and as a solution to various other sustainability issues as well as environmental degradation).
- Properly disposing of toxic chemicals can help reduce soil contamination.

Environmental Sustainability: *Climate Change*

SEA LEVEL RISE ADAPTATION

- Ecological adaptation approaches:
- Planting more vegetation in the area “because plants absorb water.”
- Fully restoring the coastal marshes or wetland
- Design-based approaches:
- Seawall: permanently raising the sea wall higher, or a “sea wall that rises when it senses the water is too high.” Some groups combined the design and ecological approaches suggesting that adding vegetation to the seawall or building a seawall “made of plants if possible” will help.
- Building an underwater barrier
- Making buildings and playground structures taller/higher

GENERAL CLIMATE ADAPTATION

- Increasing the tree canopy for “shade and sun protection” and to reduce temperatures during heat waves.
- Transitioning away from fossil-fuel consumption to renewable energy sources (e.g. solar panels, electric cars) and active modes of transportation.

Environmental Sustainability: *Pollution*

AIR

- This category had a significant overlap with general climate adaptation, as the majority of air pollution students were concerned about were greenhouse gases.
- Reducing carbon emissions, for example with the following strategies: “Don’t burn garbage, drive less, take public transit, walk more or ride a bike, burn less coal, plant more trees, reduce the number of airplane travel trips, reduce the use of fireplaces and wood burning stoves.”
- Many groups recommended increasing/improving the area’s bike-walk-roll and transit options to reduce inner city vehicle emissions.
- Carbon sequestration through “liquid trees (trees made out of microalgae and water) and bio solar leaf.”

LAND & WATER

- Many groups were concerned about how plastic, oil and other pollutants end up in the water even if they were disposed of on land. Some recommended solutions were to support the public in disposing garbage and toxic chemicals properly.
- Other recommendations included cleaning up the waters by removing garbage, limiting the use of plastic bags, plastic containers, cleaning up land-based litter before it ends up in the oceans (e.g. “The city and citizens can pick up the trash from the shoreline when they go to the ocean.")

C. Student Feedback on the Urban Explorers Program

A post-program survey was administered to all participating students, asking the following four questions:

01 — What was the highlight (best part) of the Urban Explorers - Imagine West End Waterfront engagement program?

02 — What was the most challenging part (hardest) of Urban Explorers?
- Why?
- How would you change this to make it better?

03 — What was your biggest learning or take away from the Urban Explorers - Imagine West End Waterfront engagement?

04 — Any questions you have or is there anything we forgot to ask?

High School Students Recommendations

The grade 11-12 students reported three main highlights of the West End Waterfront Urban Explorers engagement program:

1. The Final Showcase providing an opportunity to present ideas back to Park Board staff,
2. The model building process; and,
3. Working collaboratively with friends.

Main challenges interestingly were the same as major highlights:

1. Model building in general and depicting ideas in a physical model: Students reported that the challenge here were the need to compromise on ideas and work efficiently in groups; the need to "connect the Park Board ideas with ours;" and the challenge of wanting to add something unique "but knowing the reasoning why it can't be done."
2. Presenting to Park Board and "a big crowd" caused great anxiety for many.

Biggest learning or takeaway:

1. For over half of high school students their biggest takeaway was related to the experience of civic engagement a) How important civic engagement is and how easy it is to get involved –"that anyone can contribute to changing our city" and that there are organizations out there to support youth in having a voice, and b) the basics of Park Planning, including the importance of including diverse views and needs: "a fully conceptualized plan requires input from many sources to best fit the needs of a community."
2. Other major takeaways reported were related to students' various inquiry topics, such as Sea Level rise adaptation, plastic pollution, ableism and accessibility.
3. The experience of collaborative work was also reported as a major learning by many: "Working collaboratively with others and making sure our ideas were fairly making it into our end product."

Elementary School Students Recommendations

This younger age-group reported three main highlights, two of which were also reported as main challenges, and somewhat aligned with high school student feedback:

1. Model building: developing applied design skills and working together with friends. *"The highlight for me was building our model because I loved using critical thinking to solve sustainability challenges. Also, there were lots of challenges we faced and that is fun"*
2. Inquiry-based research.
3. Pizza!

Main challenges reported:

1. Model building: Collaboration, group work, communication, deciding on which ideas to incorporate and making sure the researched sustainability solutions are part of the model.
2. The research: For many students this was their very first time researching about a school topic on the internet and the process was slow and required continuous guidance *"I had to spend so much time at home looking on the internet. […] But the biggest learning was the research."*

What students would change about the program:

1. Have more time: more time to research, more time to build, and more time to present. *"At the showcase I would have liked if we had more time to speak about our project. Two minutes is not enough."*
2. More fieldtrips. *"Maybe explore more parks?" "My biggest learning was the physical learning, like the field trips." "Explore more nature and parks and see more of the other class"*
3. More opportunities to exchange ideas with other schools' participants.

Biggest learning or takeaway:

1. For the majority of students in this age-group the facts and various solutions they learned about their chosen sustainability issue(s) - especially climate change, sea level rise, transportation and pollution – were reported as the biggest part of their learning.

"What I learnt from this project is about all of the research I did on transportation and air pollution before I started building my model." And "My biggest learning was how much transportation, pollution and other things humans do can affect the Earth."

"I learned that sea level rising is a global issue."

2. To a somewhat lesser degree, students also reported they learned applied design skills with model building.

"The biggest takeaway was the scale and innovative ideas. It was difficult to find creative and innovative ideas that are a solution to our topic, and because of scale we had to redo lots of our buildings."

3. Other takeaways included learning from others when exchanging ideas and learning about the local site, the city's various parks and their sustainability challenges.

"The highlight was learning with my friends and making new friends"

Finally, students greatly appreciated being listened to by city staff!

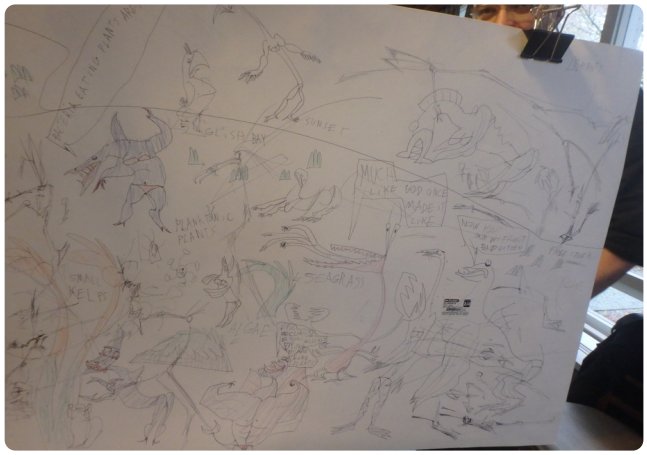
"I like that we got to add our ideas to the plan."

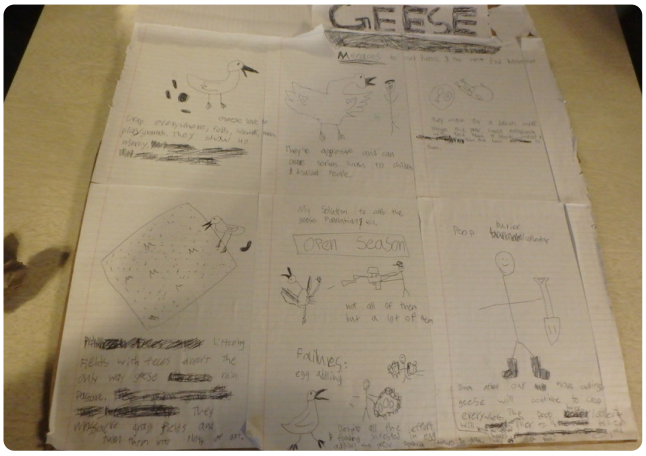
Links

PAGE 07
Urban Explorers
https://scyofbc.org/urban-explorers/
Child Friendly Cities
https://www.childfriendlycities.org/
Growing up in Cities
https://www.tandfonline.com/doi/abs/10.1300/J125v14n01_11?journalCode=wcom20
Participatory Planning Pedagogy
https://ojs.library.carleton.ca/index.php/cjcr/article/view/2576

Appendix

High School Projects



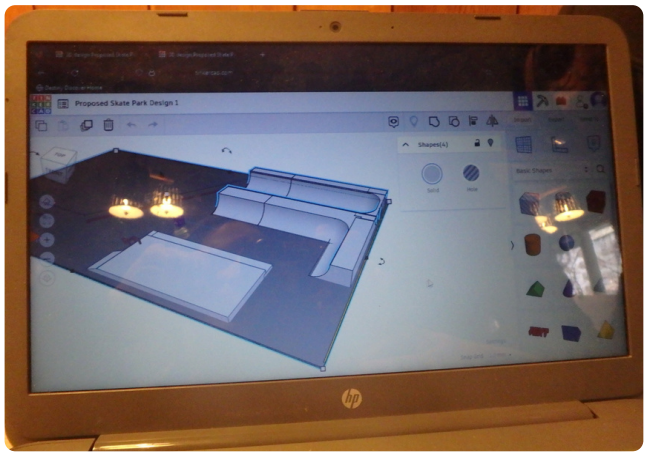


APPENDIX C

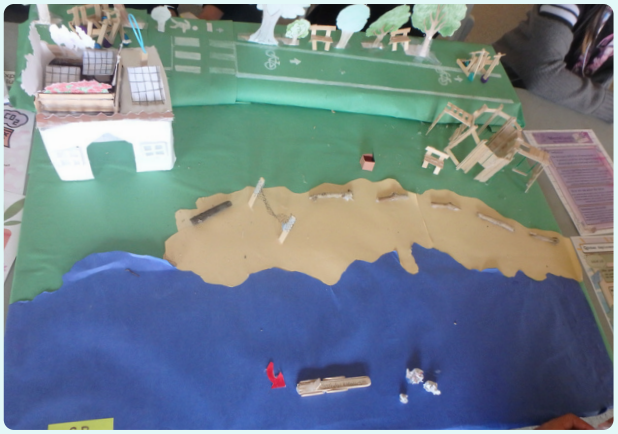


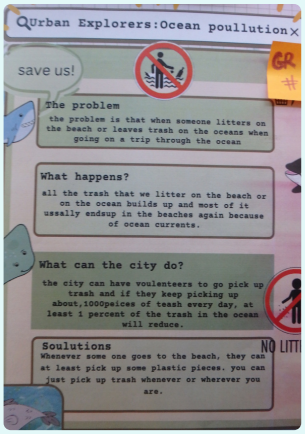


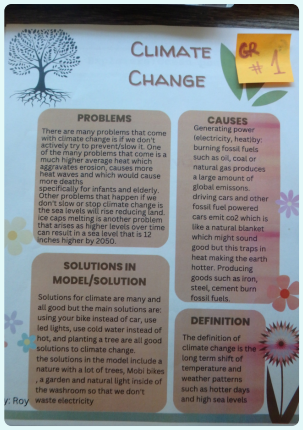


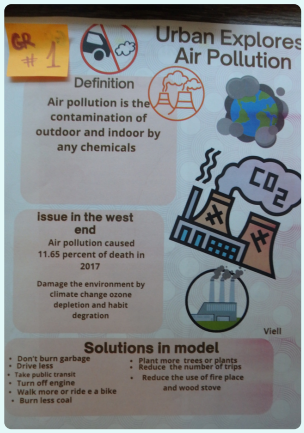



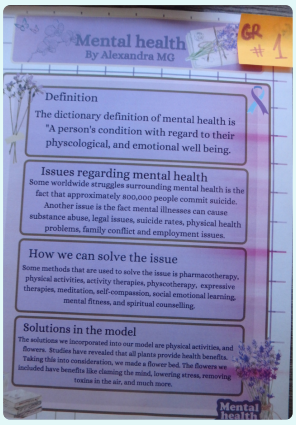
Elementary School Projects



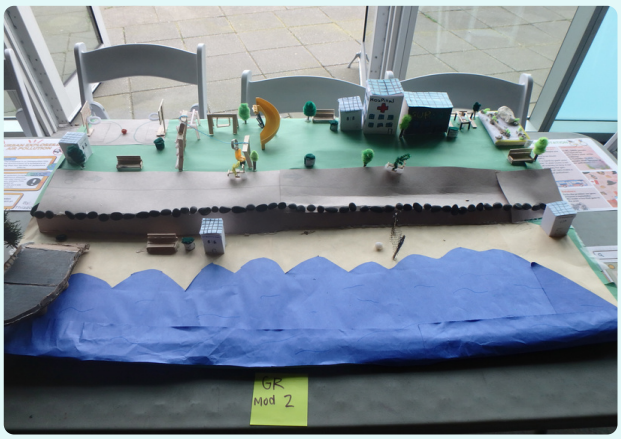


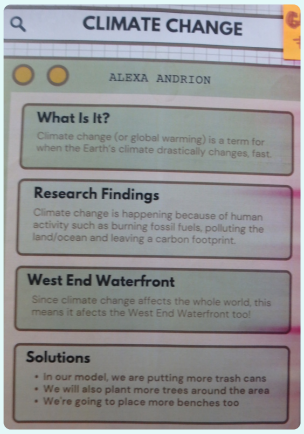


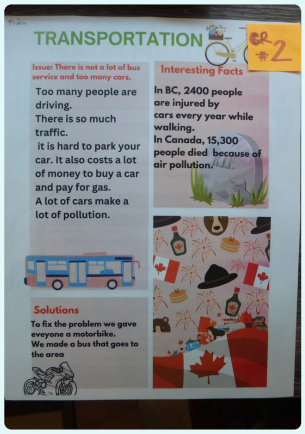


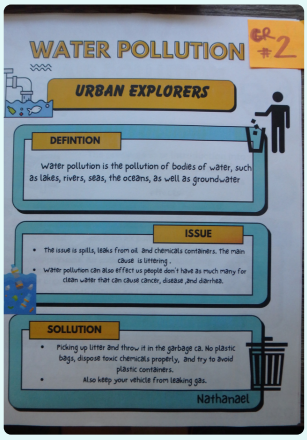


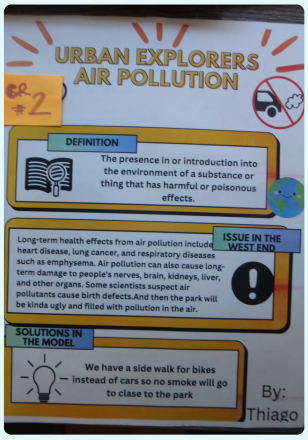
APPENDIX C

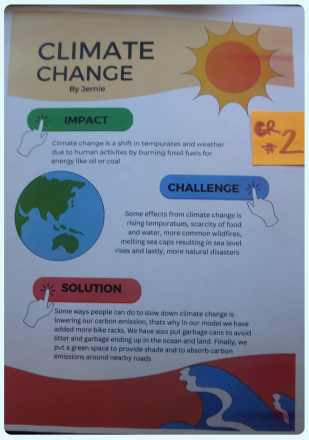

GR
Mod 2


CLIMATE CHANGE
ALEXA ANDRION
What Is It?
Climate change (or global warming) is a term for when the Earth's climate drastically changes, fast.
Research Findings
Climate change is happening because of human activity such as burning fossil fuels, polluting the land/ocean and leaving a carbon footprint.
West End Waterfront
Since climate change affects the whole world, this means it afects the West End Waterfront too!
Solutions
• In our model, we are putting more trash cans
• We will also plant more trees around the area
• We're going to place more benches too

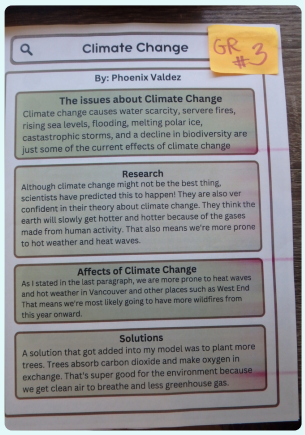

TRANSPORTATION
GR #2
Issue: There is not a lot of bus service and too many cars.
Too many people are driving.
There is so much traffic.
it is hard to park your car. It also costs a lot of money to buy a car and pay for gas.
A lot of cars make a lot of pollution.
Interesting Facts
In BC, 2400 people are injured by cars every year while walking.
In Canada, 15,300 people died because of air pollution.
Solutions
To fix the problem we gave eveyone a motorbike.
We made a bus that goes to the area

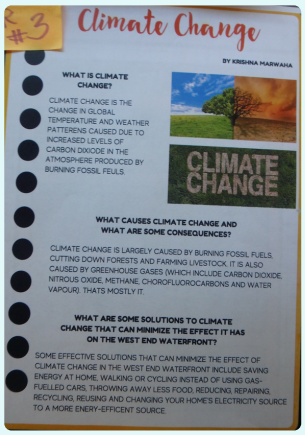

WATER POLLUTION
GR #2
URBAN EXPLORERS
DEFINTION
Water pollution is the pollution of bodies of water, such as lakes, rivers, seas, the oceans, as well as groundwater
ISSUE
• The issue is spills, leaks from oil and chemicals containers. The main cause is littering.
• Water pollution can also effect us people don't have as much many for clean water that can cause cancer, disease and diarrhea.
SOLLUTION
• Picking up litter and throw it in the garbage ca. No plastic bags, dispose toxic chemicals proprity, and try to avoid plastic containers.
• Also keep your vehicle from leaking gas.
Nathanael


URBAN EXPLORERS
AIR POLLUTION
GR #2
DEFINITION
The presence in or introduction into the environment of a substance or thing that has harmful or poisonous effects.
ISSUE IN THE WEST END
Long-term health effects from air pollution include heart disease, lung cancer, and respiratory diseases such as emphysema. Air pollution can also cause long-term damage to people's nerves, brain, kidneys, liver, and other organs. Some scientists suspect air pollutants cause birth defects. And then the park will be kinda ugly and filled with pollution in the air.
SOLUTIONS IN THE MODEL
We have a side walk for bikes instead of cars so no smoke will go to clase to the park
By: Thiago


CLIMATE CHANGE
By Jennie
GR #2
IMPACT
Climate change is a shift in tempurates and weather due to human activites by burning fossil fuels for energy like oil or coal
CHALLENGE
Some effects from climate change is rising tempuratues, scarcity of food and water, more common wildfires, melting sea caps resulting in sea level rises and lastly, more natural disasters
SOLUTION
Some ways people can do to slow down climate change is lowering our carbon emission, thats why in our model we have added more bike racks. We have also put garbage cans to avoid litter and garbage ending up in the ocean and land. Finally, we put a green space to provide shade and to absorb carbon emissions around nearby roads

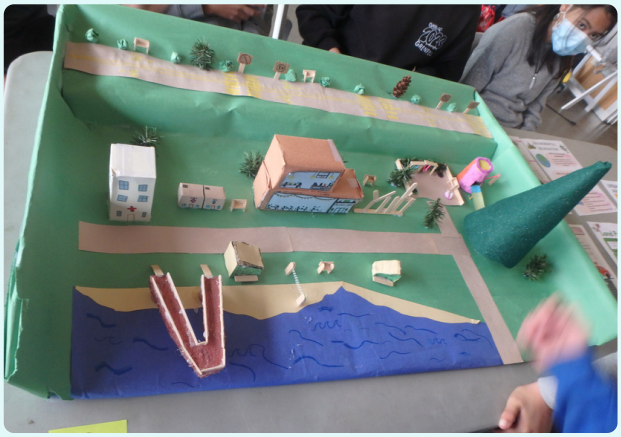

GR
Mod 3

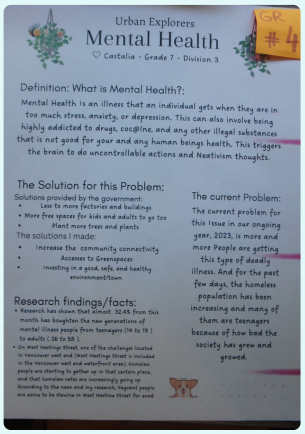

Climate Change
GR #3
By: Phoenix Valdez
The issues about Climate Change
Climate change causes water scarcity, servere fires, rising sea levels, flooding, melting polar ice, castastrophic storms, and a decline in biodiversity are just some of the current effects of climate change
Research
Although climate change might not be the best thing, scientists have predicted this to happen! They are also ver confident in their theory about climate change. They think the earth will slowly get hotter and hotter because of the gases made from human activity. That also means we're more prone to hot weather and heat waves.
Affects of Climate Change
As I stated in the last paragraph, we are more prone to heat waves and hot weather in Vancouver and other places such as West End That means we're most likely going to have more wildfires from this year onward.
Solutions
A solution that got added into my model was to plant more trees. Trees absorb carbon dioxide and make oxygen in exchange. That's super good for the environment because we get clean air to breathe and less greenhouse gas.

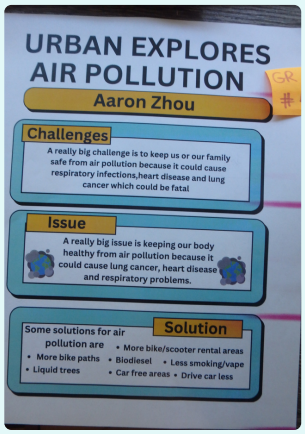

#3
Climate Change
BY KRISHNA MARWAHA
WHAT IS CLIMATE CHANGE?
CLIMATE CHANGE IS THE CHANGE IN GLOBAL TEMPERATURE AND WEATHER PATTERNS CAUSED DUE TO INCREASED LEVELS OF CARBON DIOXIDE IN THE ATMOSPHERE PRODUCED BY BURNING FOSSIL FEULS.
CLIMATE CHANGE
WHAT CAUSES CLIMATE CHANGE AND WHAT ARE SOME CONSEQUENCES?
CLIMATE CHANGE IS LARGELY CAUSED BY BURNING FOSSIL FUELS, CUTTING DOWN FORESTS AND FARMING LIVESTOCK. IT IS ALSO CAUSED BY GREENHOUSE GASES (WHICH INCLUDE CARBON DIOXIDE, NITROUS OXIDE, METHANE, CHOROFLUOROCARBONS AND WATER VAPOUR). THATS MOSTLY IT.
WHAT ARE SOME SOLUTIONS TO CLIMATE CHANGE THAT CAN MINIMIZE THE EFFECT IT HAS ON THE WEST END WATERFRONT?
SOME EFFECTIVE SOLUTIONS THAT CAN MINIMIZE THE EFFECT OF CLIMATE CHANGE IN THE WEST END WATERFRONT INCLUDE SAVING ENERGY AT HOME, WALKING OR CYCLING INSTEAD OF USING GAS-FUELLED CARS, THROWING AWAY LESS FOOD, REDUCING, REPAIRING, RECYCLING, REUSING AND CHANGING YOUR HOME'S ELECTRICITY SOURCE TO A MORE ENERY-EFFICENT SOURCE

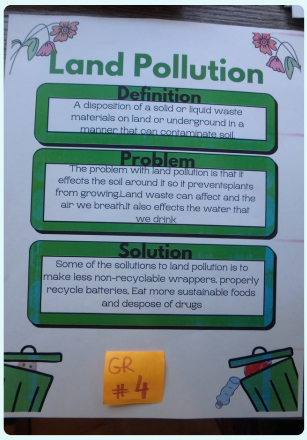

GR #3
Air Pollution
Definition
Air pollution is made out of gas or harmful air particles. It's harmful to the air and not good to inhale.
Why Does It Impact Us
Air Pollution impact us by damaging our health. Bad air quality can cause lung cancer.
Issue In West End
If we don't stop air pollution, then the west end and other places would be cloudy. Nobody would like to walk around the walking path.
Solution
Our creative solution is a thing called liquid tree, which is made out microalgae and water. Another solution is bio solar leaf which is also made out of millions of microalgae.
Victor Huang

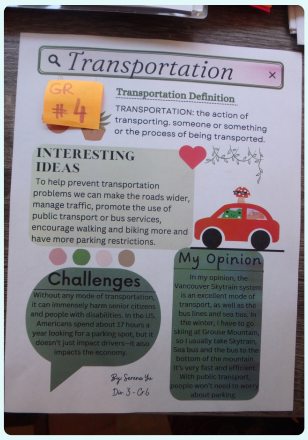
APPENDIX C

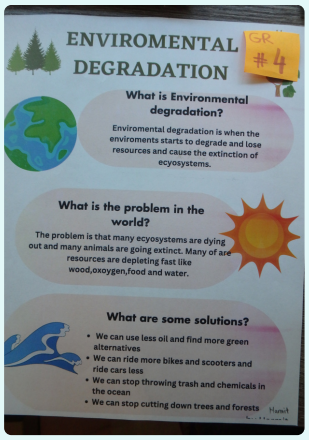


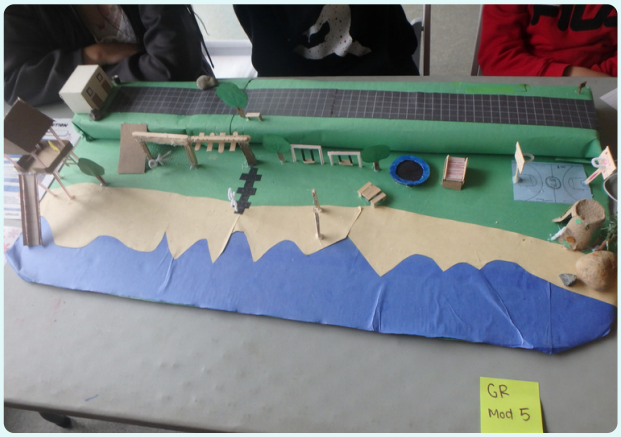

Urban Explorers
Mental Health
Castalia - Grade 7 - Division 3
GR #4
Definition: What is Mental Health?:
Mental Health is an illness that an individual gets when they are in too much stress, anxiety, or depression. This can also involve being highly addicted to drugs, cocaine, and any other illegal substances that is not good for your and any human beings health. This triggers the brain to do uncontrollable actions and Neativism thoughts.
The Solution for this Problem:
Solutions provided by the government:
Less to more factories and buildings
More free spaces for kids and adults to go too
Plant more trees and plants
The solutions I made:
Increase the community connectivity
Accesses to Greenspaces
Investing in a good, safe, and healthy environment/town
The current Problem:
The current problem for this issue in our ongoing year, 2023, is more and more People are getting this type of deadly illness. And for the past few days, the homeless population has been increasing and many of them are teenagers because of how bad the society has grew and growed.
Research findings/facts:

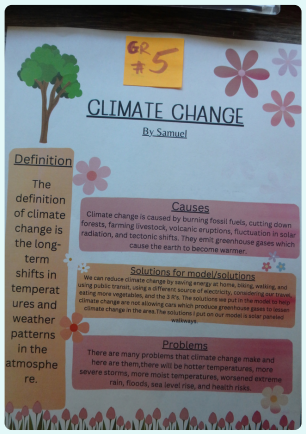

URBAN EXPLORES
AIR POLLUTION
Aaron Zhou
GR #
Challenges
A really big challenge is to keep us or our family safe from air pollution because it could cause respiratory infections,heart disease and lung cancer which could be fatal
Issue
A really big issue is keeping our body healthy from air pollution because it could cause lung cancer, heart disease and respiratory problems.
Some solutions for air pollution are
Solution
More bike paths
Liquid trees
Biodiesel
Car free areas
More bike/scooter rental areas
Less smoking/vape
Drive car less


Land Pollution
Definition
A disposition of a solid or liquid waste materials on land or underground in a manner that can contaminate soil
Problem
The problem with land pollution is that it effects the soil around it so it prevents plants from growing.Land waste can affect and the air we breathit also effects the water that we drink
Solution
Some of the sollutions to land pollution is to make less non-recyclable wrappers, properly recycle batteries. Eat more sustainable foods and despose of drugs
GR #4

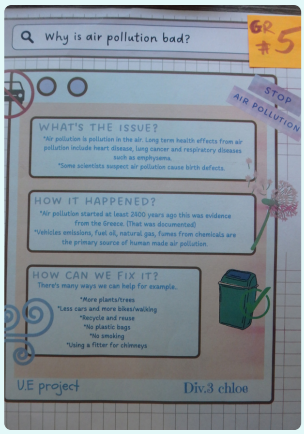

Transportation
GR #4
Transportation Definition
TRANSPORTATION: the action of transporting. someone or something or the process of being transported.
INTERESTING IDEAS
To help prevent transportation problems we can make the roads wider, manage traffic, promote the use of public transport or bus services, encourage walking and biking more and have more parking restrictions.
Challenges
My Opinion

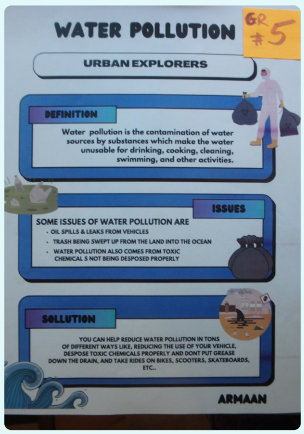

ENVIROMENTAL DEGRADATION
GR #4
What is Environmental degradation?
Enviromental degradation is when the enviroments starts to degrade and lose resources and cause the extinction of ecyosystems.
What is the problem in the world?
The problem is that many ecyosystems are dying out and many animals are going extinct. Many of are resources are depleting fast like wood,oxoygen,food and water.
What are some solutions?
We can use less oil and find more green alternatives
We can ride more bikes and scooters and ride cars less
We can stop throwing trash and chemicals in the ocean
We can stop cutting down trees and forests


GR Mod 5

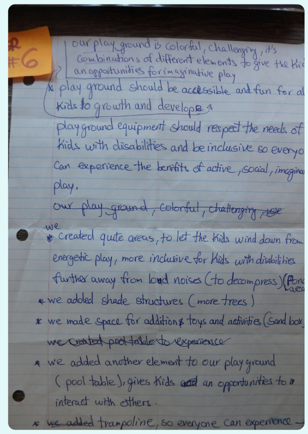

GR #5
CLIMATE CHANGE
By Samuel
Definition
The definition of climate change is the long-term shifts in temperatures and weather patterns in the atmosphere.
Causes
Solutions for model/solutions
Problems

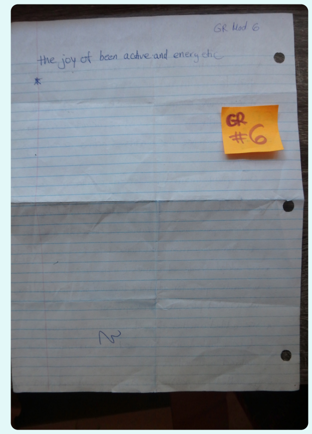

Urban Explorers
Skyla Division 3
TRANSPORTATION
AIR POLLUTION
GR #5
Non-electric vehicles release pollutants that contribute to air pollution. Significant ones are carbon dioxide (CO2), nitrogen oxides (NOx), and volatile organic compounds (VOCs).
Solutions
Using public transportation like TRANSLINK's SkyTrains, buses, and their SeaBus ferries are a great alternative as they are ecologically friendly. Even if you don't like public transit, biking, walking, or any other similar activities are even better ways of helping improve air quality.
TRANSLINK

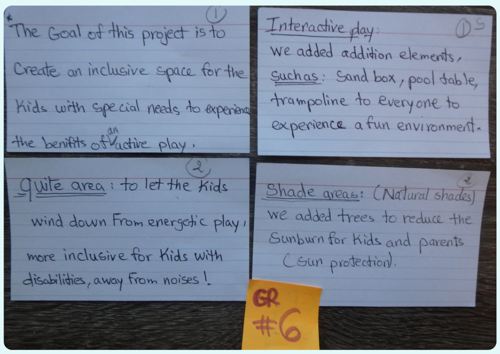

Why is air pollution bad?
GR #5
STOP AIR POLLUTION
WHAT'S THE ISSUE?
HOW IT HAPPENED?
HOW CAN WE FIX IT?
U.E project
Div.3 chloe

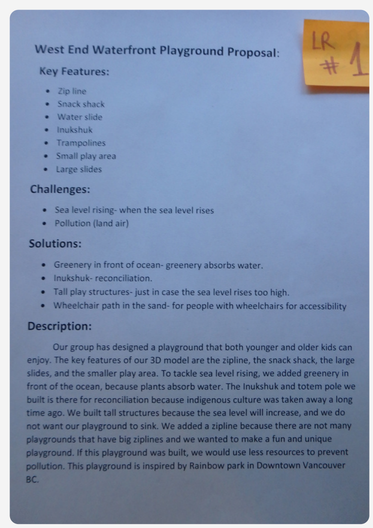

WATER POLLUTION
GR #5
URBAN EXPLORERS
DEFINITION
Water pollution is the contamination of water sources by substances which make the water unuseable for drinking, cooking, cleaning, swimming, and other activities.
ISSUES
SOME ISSUES OF WATER POLLUTION ARE
OIL SPILLS & LEAKS FROM VEHICLES
TRASH BEING SWEPT UP FROM THE LAND INTO THE OCEAN
WATER POLLUTION ALSO COMES FROM TOXIC CHEMICAL S NOT BEING DESPOSED PROPERLY
SOLLUTION
YOU CAN HELP REDUCE WATER POLLUTION IN TONS OF DIFFERENT WAYS LIKE, REDUCING THE USE OF YOUR VEHICLE, DESPOSE TOXIC CHEMICALS PROPERLY AND DONT PUT GREASE DOWN THE DRAIN, AND TAKE RIDES ON BIKES, SCOOTERS, SKATEBOARDS, ETC..
ARMAAN

APPENDIX C









West End Waterfront Playground Proposal:

Key Features:

- Zip line
- Snack shack
- Water slide
- Inukshuk
- Trampolines
- Small play area
- Large slides

Challenges:

- Sea level rising- when the sea level rises
- Pollution (land air)

Solutions:

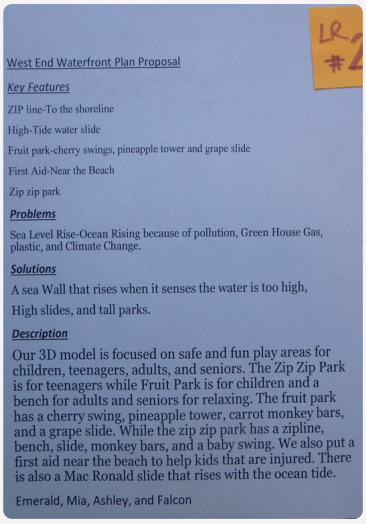
- Greenery in front of ocean- greenery absorbs water.
- Inukshuk- reconciliation.
- Tall play structures- just in case the sea level rises too high.
- Wheelchair path in the sand- for people with wheelchairs for accessibility

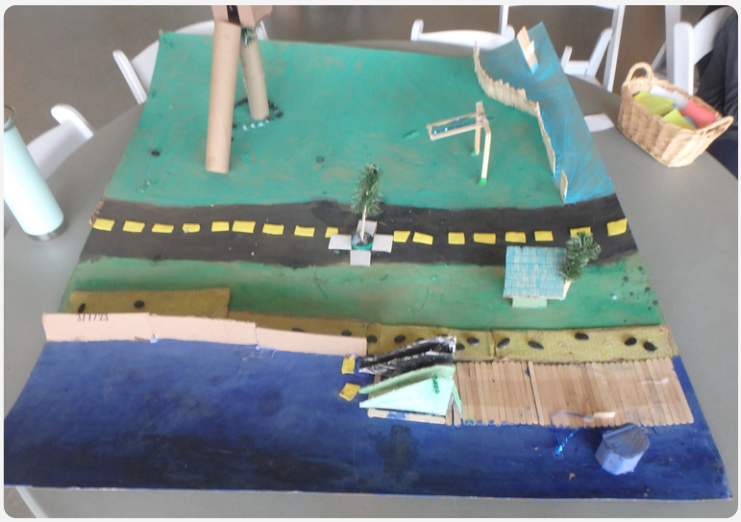
Description:

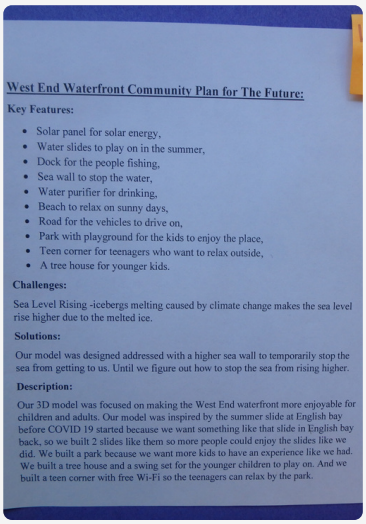
Our group has designed a playground that both younger and older kids can enjoy. The key features of our 3D model are the zipline, the snack shack, the large slides, and the smaller play area. To tackle sea level rising, we added greenery in front of the ocean, because plants absorb water. The Inukshuk and totem pole we built is there for reconciliation because indigenous culture was taken away a long time ago. We built tall structures because the sea level will increase, and we do not want our playground to sink. We added a zipline because there are not many playgrounds that have big ziplines and we wanted to make a fun and unique playground. If this playground was built, we would use less resources to prevent pollution. This playground is inspired by Rainbow park in Downtown Vancouver BC.

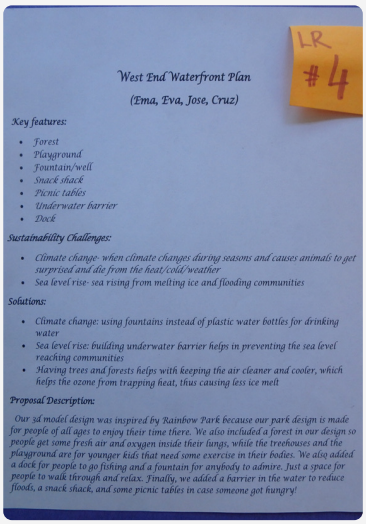
APPENDIX C

Elementary School Projects

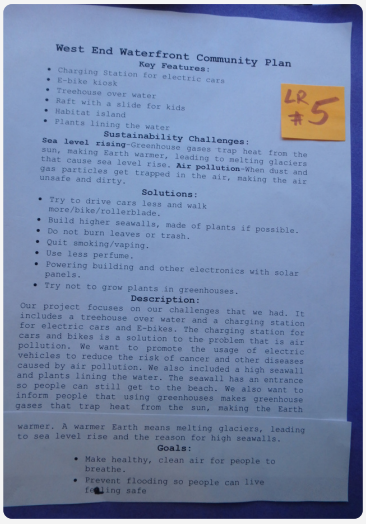








Elementary School Projects



West End Waterfront Community Plan

Key Features:

- Charging Station for electric cars
- E-bike Kiosk
- Treehouse over water
- Raft with a slide for kids
- Habitat island
- Plants lining the water

LR #5

Sustainability Challenges:

Sea level rising-Greenhouse gases trap heat from the sun, making Earth warmer, leading to melting glaciers that cause sea level rise. **Air pollution**-When dust and gas particles get trapped in the air, making the air unsafe and dirty.

Solutions:

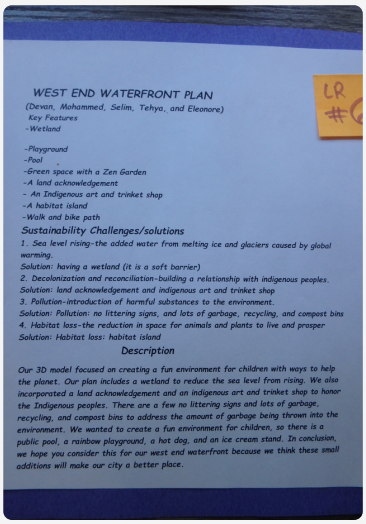
- Try to drive cars less and walk more/bike/rollerblade.
- Build higher seawalls, made of plants if possible.
- Do not burn leaves or trash.
- Quit smoking/vaping.
- Use less perfume.
- Powering building and other electronics with solar panels.
- Try not to grow plants in greenhouses.

Description:

Our project focuses on our challenges that we had. It includes a treehouse over water and a charging station for electric cars and E-bikes. The charging station for cars and bikes is a solution to the problem that is air pollution. We want to promote the usage of electric vehicles to reduce the risk of cancer and other diseases caused by air pollution. We also included a high seawall and plants lining the water. The seawall has an entrance so people can still get to the beach. We also want to inform people that using greenhouses makes greenhouse gases that trap heat from the sun, making the Earth warmer. A warmer Earth means melting glaciers, leading to sea level rise and the reason for high seawalls.

Goals:

- Make healthy, clean air for people to breathe.
- Prevent flooding so people can live feeling safe



WEST END WATERFRONT PLAN

(Devan, Mohammed, Selim, Tehya, and Eleonore)

Key Features

-Wetland

-Playground

-Pool

-Green space with a Zen Garden

-A land acknowledgement

- An Indigenous art and trinket shop

-A habitat island

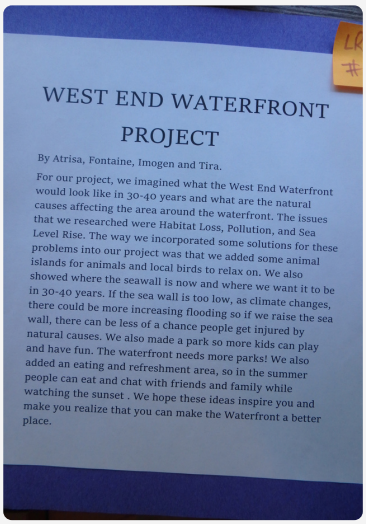
-Walk and bike path

Sustainability Challenges/solutions

1. Sea level rising-the added water from melting ice and glaciers caused by global warming.
Solution: having a wetland (it is a soft barrier)
2. Decolonization and reconciliation-building a relationship with indigenous peoples.
Solution: land acknowledgement and indigenous art and trinket shop
3. Pollution-introduction of harmful substances to the environment.
Solution: Pollution: no littering signs, and lots of garbage, recycling, and compost bins
4. Habitat loss-the reduction in space for animals and plants to live and prosper
Solution: Habitat loss: habitat island

Description

Our 3D model focused on creating a fun environment for children with ways to help the planet. Our plan includes a wetland to reduce the sea level from rising. We also incorporated a land acknowledgement and an indigenous art and trinket shop to honor the Indigenous peoples. There are a few no littering signs and lots of garbage, recycling, and compost bins to address the amount of garbage being thrown into the environment. We wanted to create a fun environment for children, so there is a public pool, a rainbow playground, a hot dog, and an ice cream stand. In conclusion, we hope you consider this for our west end waterfront because we think these small additions will make our city a better place.



WEST END WATERFRONT PROJECT

By Atrisa, Fontaine, Imogen and Tira.

For our project, we imagined what the West End Waterfront would look like in 30-40 years and what are the natural causes affecting the area around the waterfront. The issues that we researched were Habitat Loss, Pollution, and Sea Level Rise. The way we incorporated some solutions for these problems into our project was that we added some animal islands for animals and local birds to relax on. We also showed where the seawall is now and where we want it to be in 30-40 years. If the sea wall is too low, as climate changes, there could be more increasing flooding so if we raise the sea wall, there can be less of a chance people get injured by natural causes. We also made a park so more kids can play and have fun. The waterfront needs more parks! We also added an eating and refreshment area, so in the summer people can eat and chat with friends and family while watching the sunset . We hope these ideas inspire you and make you realize that you can make the Waterfront a better place.

Planning Process & Engagement Summary

Listen and Learn

Winter 2021

Round 1 Engagement

- 800 postcards and posters distributed
- 7 Community pop-ups
- 9 community conversations with over 150 participants
- Over 1,900 survey responses

Vision, Principles, Goals and Design Approaches

Carve Weave Seed

Spring 2023

Round 2 Engagement

- Over 34,000 postcards and posters distributed
- 7 stakeholder workshops
- 4 community pop-ups
- Over 1,400 survey responses

Draft Final Vision

Fall 2023

Round 3 Engagement

- Over 13,000 postcards and posters distributed
- 2 open houses with over 90 attendees
- 1 drop-in session at the Gathering Place with over 30 attendees
- Over 1,500 survey responses

WE ARE HERE

Final Vision

Implementation of future sub-projects over the next 30 years