



# The Aesthetic Versatility and Function of Contemporary Parking Structures

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October 7, 2024

# Project Initiation

Capacity Needs: People from across Nova Scotia and the Maritimes

## Design Build Delivery Method

### Market Ready

- Feasibility Studies & Schematic Design
- Procurement



### Design Build Team



# Healthcare & Transportation

*“By 2040, more than half the miles traveled in the US could occur in shared autonomous vehicles, which would rarely need to park... (we) can expect to see demand for parking plummet...”*

## Halifax Active Transportation Program

### Staff & Patient requirements



# QEII Parkade - Why

The QEII Health Sciences Centre Parkade represents Nova Scotia's commitment to improvements in healthcare delivery

- Specific parking demands in a healthcare setting, beyond minimum
  - healthcare services, ensuring accessibility for patients, staff, and visitors.
  - Safe, convenient parking onsite, or close by, designated spaces
- role in urban planning and impact on historic Halifax Commons
- New Entry to facility
- Emergency vehicles



# Vision & Goal

To provide an accessible facility for patients / staff / visitors to park conveniently located to the Summer Street entrance of the Halifax Infirmary.

500 – 1000 cars

Expected to complete before the demolition of the existing Robie Street Garage when expansion project.

Provide parking for the staff of the Museum of Natural History existing service/staff. Minimize the impact to the programs and services delivered at the MNH.

Minimize underground parking levels – Bedrock / Air

An architectural façade that blends into the surrounding parks, museum and green spaces.

Multiple sites reviewed



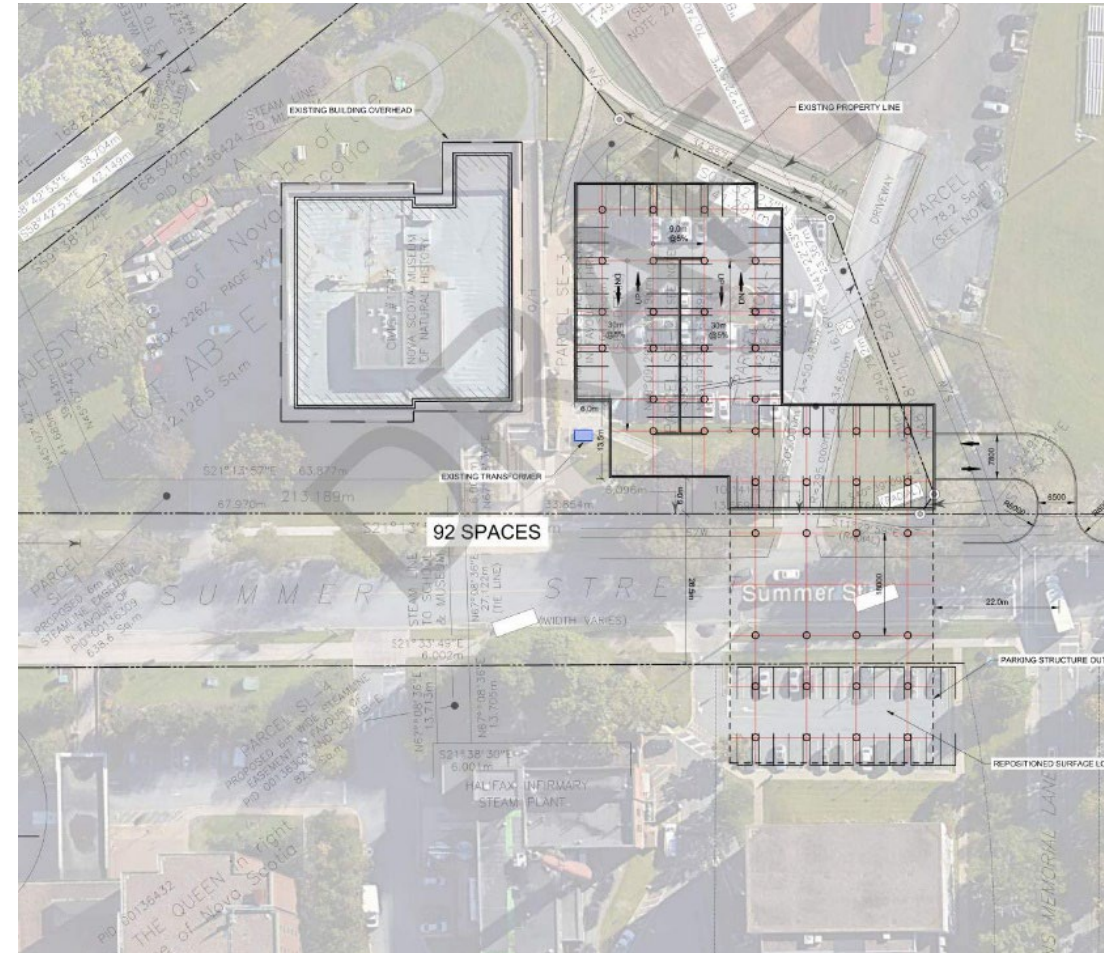
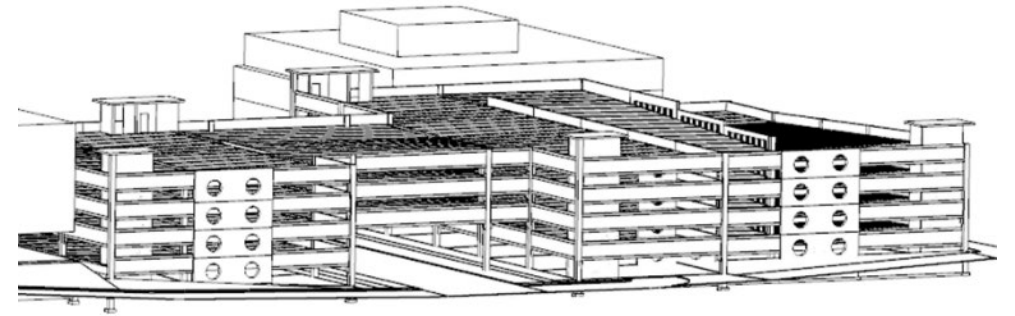
# Project Parameters

- The building should relate to the surroundings and be a source of pride on the hospital campus.
- The massing should be light and minimize its overall height relative to other buildings on campus, and the surrounding neighborhood.
- A building type (design) should be considered that minimizes the impact of construction on campus and shortens the duration of the construction.
- Minimize impact to adjacent HRM properties.



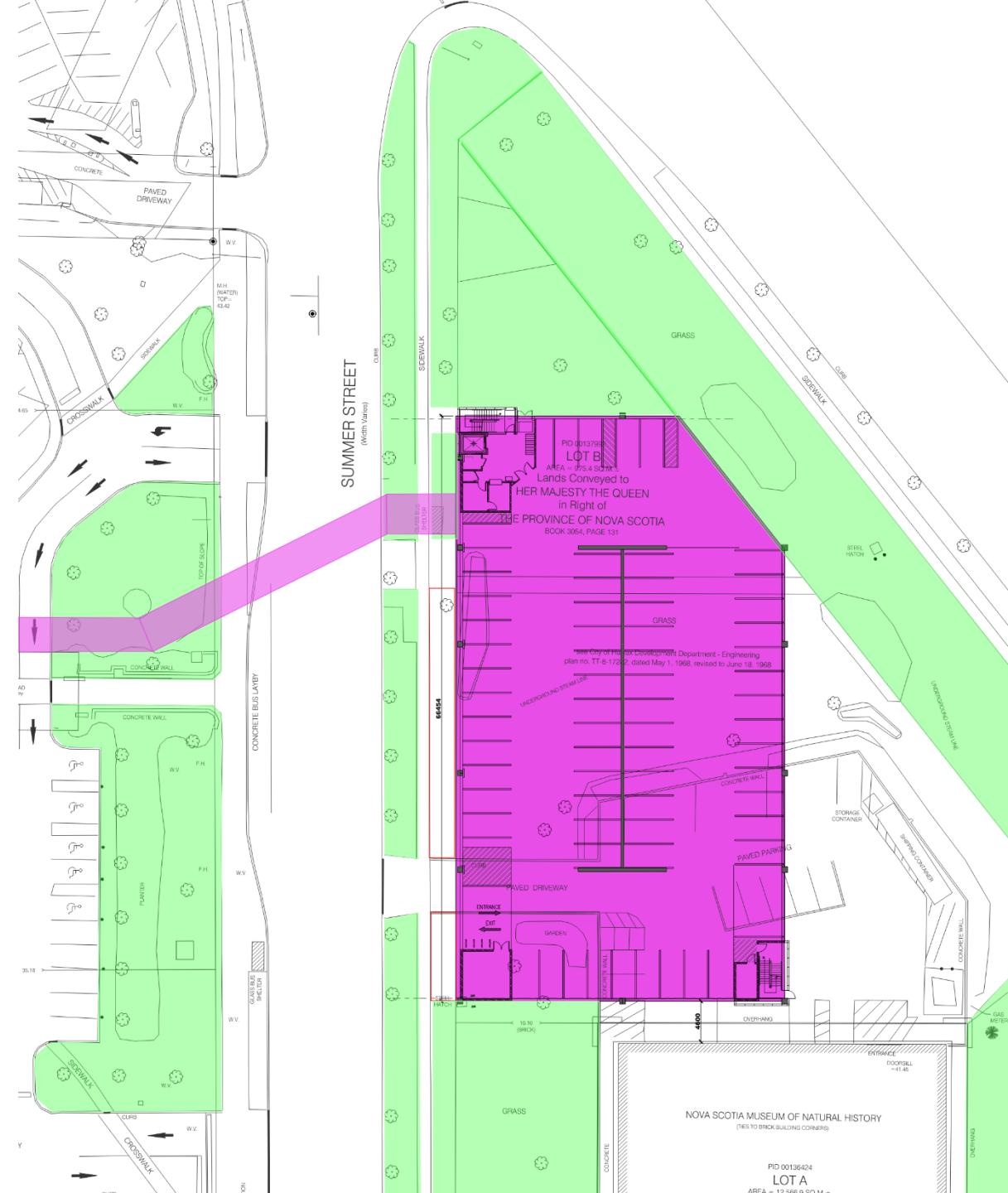
# Project Parameters

- Flexibility, viable re-adaption function/tenancy.
- Maximum number of cars to fit on site
- Height & Massing
- Site parameters
  - Trees, property lines, ROWs
- Fully accessible – CSA B365.1
- Multiple vehicle entrances and exits
  - Entrances and exits to Summer Street
  - Bell Road
  - Museum Service Yard
  - Circulation requirements
  - Queuing requirements



# Program

- Multiple Vehicle Types
- Parking Payment System
- Elevators
- Operational staff office spaces
- Secure bike storage
- Easy access to public washrooms
- Mechanical & Electrical
- IT and Security
- EV Parking





# Structure



## Precast

- Demountable
- Easy to erect
- Minimal maintenance
- Longevity
- Easy for ramping
- Integrated Guards



# Cladding

## Mesh

- Passive ventilation
- Relief for large mass
- Use mesh for aesthetic

## Roof

- Snow
- Weather protection
- Possible sustainable features



Antalya Aquarium, Turkey



South African Embassy, Ethiopia



Lansdowne Parkade, Kamloops, BC

# Accessibility

- Pedway priority
- Physically connected to lobby
- Staxi
- Resting seat
- Elevator redundancy
- Accessible parking spots
- B651
  - Wayfinding
  - Tactile Indicators



# Crime Prevention Through Environmental Design (CPTED)

- Natural light
- Glazed stairs
- Visibility to / from lobbies
- Cameras
- Emergency phones
- Emergency lighting
- Maintenance & Territorial Reinforcement



# Public Consultations

key stakeholders - meets both the healthcare facility's needs and those of the surrounding neighborhood.

- **Halifax Regional Municipality**
  - Halifax Commons Master Plan
  - Driveway Easement @ Active Transportation Route
  - Urban Forester - Urban Street Tree Protections
  - Bike Route, Bus Stops & Cross Walk
  - Canopy Encroachment into Setbacks
  - Construction Site Management
- **Friends of the Commons - advocates**
- **Partners for Care / Indigo**
- **Museum of Natural History & Bees**
- **Bengal Lancers / Wanderers / Works**



Figure 4-6

# Site Integration & Community Impacts

Insights into feedback gathered during consultations, such as noise, traffic impact, and integration with the local environment, and how these concerns were addressed in the final design.

- Siting of parkade
- Tree Protection
- Underground stream
- Pedway
- Façade Graphics
- Safety & Security



# Safety & Security

## Pedestrian Safety – 24 hours

- Wayfinding
- Light and occupancy sensors
- Video Surveillance System
- License Detection System (Rough In)
- Access Control
- Emergency Call Stations
- Alarm Systems
- Future RTLS



# Mesh Façade as Opportunity

- A public art competition culminated in choosing an artist who skillfully replicated textiles from Nova Scotia's rich multi-cultural history
- **Andrea Tsang-Jackson. *In Conversation***
- The public art strategy involves representing fabric from culturally significant groups in Nova Scotia's History.
- Her process included public art consultations to achieve support from the ancestors of the cultural inspirations.
- More on the project can be found at:  
<https://parkade.3rdstoryworkshop.com/in-conversation>

*“to conceal the utilitarian form of the garage and respectfully respond to the surrounding recreational and open space, while creating a unique identifier that expresses Healthier Together, the NSHA strategic plan. “ - Design Build Tender Documents*



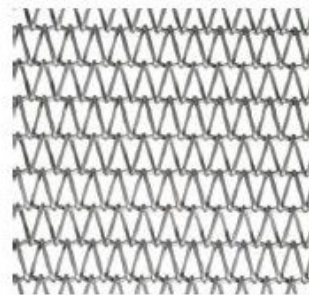


Printed in very large scale on woven mesh the sides of the parkade

The mesh printing is durable and visible from great distance, making it more interesting from Citadel Hill and in our skyline.

A second mesh is installed to support vines. The parkade will become more lush every year, as the vines mature.

Creating an undulating design where bands of artwork and the greenery weaves along each other



Mid-Balance  
1,460 m<sup>2</sup> / 15,715 sqft

Flexible Mesh  
Open Area: 50%

Used for panels with art.



Cubist  
1,060 m<sup>2</sup> / 11,410 sqft

Flexible Mesh  
Open Area: 80%

Used for the vines and panels without art.



# The Mesh

- **Cambridge Architectural Mid-Balance** flexible mesh has been powder coated with images reflective of local cultural stories and our coastline
- **Cambridge Architectural Cubist** mesh supports virginial creeper vines that will grow up the parkade façade, providing seasonal color.



# Parksmart

## Key Credits in Management

**Regional Labour** - We're all about keeping it local!

**Regional Materials** - We source our materials from nearby suppliers to reduce our carbon footprint and boost the local economy.

## Recycling Program

**Sustainable Purchasing Program** - recycled paper to eco-friendly cleaning products

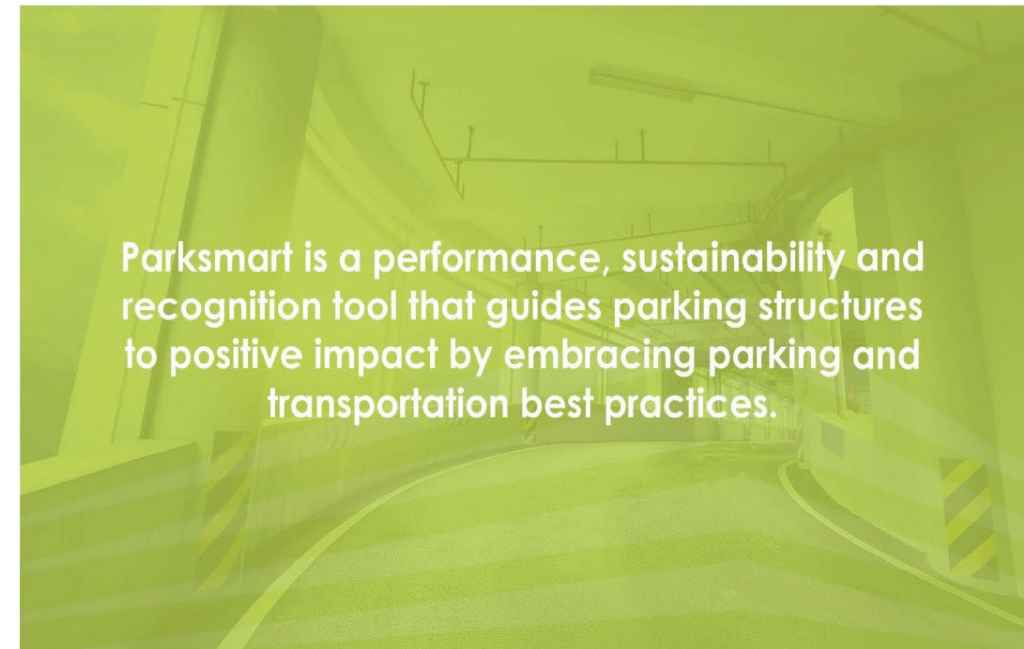
Bronze = 100-134

Silver = 135-159 points

Gold = 160+ points

T	F	N			
49	15	26	<b>SECTION A: MANAGEMENT</b>		<b>90</b>
6			A1	Parking Pricing	6
2	4		A2	Shared Parking	6
4			A3	Transportation Mgt. Association (TMA) / Organization (TMO)	4
2	1	1	A6	Recycling Program	4
	1	1	A5	Sustainable Purchasing Program	2
6			A6	Proactive Operational Maintenance	6
2			A7	Cleaning Procedures - Occupied Spaces	2
1	2	3	A8	Cleaning Procedures - Parking Decks	6
6		2	A9	Building Systems Commissioning	8
4	2		A10	Construction Waste Management	6
3	3		A11	Regional Materials	6
3		1	A12	Regional Labor	4
2	2	2	A13	Reused/Repurposed/Recycled Materials	6
		12	A14	Third Party Sustainability Certification	12
		4	A15	Credentialed Management	4
8			A16	Life Cycle Assessment	8
32	9	23	<b>SECTION B: PROGRAMS</b>		<b>64</b>
6			B1	Placemaking	6
4			B2	Access to Mass Transit	4
2		2	B3	Wayfinding Systems - External	4
1		3	B4	Wayfinding Systems - Internal	4
4			B5	Traffic Flow Plan	4
	5	1	B6	Carshare Program	6
	4	2	B7	Rideshare Program	6
2		2	B8	Low-emitting and Fuel-efficient Vehicles	4
3		3	B9	Alternative Fuel Vehicles	6
		4	B10	Alternative Fuel Fleet Vehicles	4
6			B11	Bicycle Parking	6
		6	B12	Bicycle Sharing/Rental	6
4			B13	Marketing/Educational Program	4
54	10	24	<b>SECTION C: TECHNOLOGY AND STRUCTURE DESIGN</b>		<b>88</b>
4			C1	Idle Reduction Payment Systems	4
2			C2	Fire Suppression Systems	2
2			C3	No/Low VOC Coatings, Paints, Sealants	2
	2		C4	Tire Inflation Stations	2
5	1	1	C5	EV Charging Stations	7
5	1	1	C6	HVAC Systems - Occupied Spaces	7
6			C7	Ventilation Systems - Parking Decks	6
8			C8	Lighting Controls	8
8			C9	Energy-efficient Lighting System	8
2		4	C10	Stormwater Management	6
		4	C11	Rainwater Harvesting	4
		2	C12	Greywater Reuse	2
2			C13	Indoor Water-efficiency	2
2			C14	Water-efficient Landscaping	2
2		4	C15	Roofing Systems	4
	4	8	C16	Renewable Energy Generation	12
6			C17	Design for Durability	6
		4	C18	Energy Resiliency - Storage	4
3	3		<b>SECTION D: INNOVATION</b>		<b>6</b>
1			D1	Innovative Approach	1
	1		D2	Innovative Approach	1
	1		D3	Innovative Approach	1
1			D4	Exemplary Performance	1
1			D5	Innovative Approach	1
	1		D6	Exemplary Performance	1
7	7	36	<b>TOTAL</b>		<b>248</b>
138	37	73	<b>TOTAL</b>		<b>248</b>

\* 20 pts. minimum required in Management, Programs and Technology & Structure Design categories.



# Parksmart

- **Placemaking**

We've added public art, cozy seating areas, and lush landscaping to make our parkade a more pleasant place to be. more than just a place to park your car.

- **Low-emitting and Fuel-efficient Vehicles**

Prime parking spots for greener cars!

- **Alternative Fuel Vehicles**

- 6 currently installed
- Level 2 (22) & 3 (2)

- **Bicycle Parking – secure and convenient**



# Parksmart

## Key Credits in Technology & Design

- **Tire Inflation Stations**  
the perfect pressure, improving your fuel efficiency and reducing emissions
- **Lighting Controls**  
adjust light based on occupancy
- **Credit - Innovative Approach**  
Valet Parking



Our commitment to achieving Parksmart certification reflects our dedication to creating a friendly, and eco-friendly parking experience.

Join us in supporting these green initiatives and enjoy the benefits of a smarter, greener parkade



**Build**   
NOVA SCOTIA

**Thank You**

Thank  
You

