

WELCOME TO THE ULI COASTAL FORUM

Toronto | May 17, 2023



SPRING MEETING



Cam Collyer

Principal, People and Place Consulting



Charles Ormsby

Sustainability and Climate Services Leader, Arup Canada



Brandon Palin

Senior Director, Public Sector & International Development, Ecopia



Moderator: Sara Neff

Head of Sustainability, LendLease

Measuring Performance and Incentivizing Resilience in Coastal Communities





CLIMATE-READY SCHOOLS

Site Transformation &
System-Wide Impact



Planning for Multiple Benefits



Project Components



The Design/Build Team

Design Committee

- Superintendent, Facility Services: Ian Gaudet and Maia Puccetti (past)
- Tom Hutchinson, Specialist, Capital Projects
- Suzanne Burwell, Environmental Sustainability Specialist
- Mike Wildfong, Manager, Capital Projects
- Terry Janach, Manager Plant Operations
- Principals: Cheryl Hayles and Brian Slemko (past)
- Heidi Campbell, Senior Program Manager
- Cam Collyer, Senior Advisor, Evergreen

Landscape Architecture & Engineering

- Birgit Teichmann - Teichmann Landscape Architects
- Gina Brouwer - Trophic Design

Engineering review

- Chirag Patel, Flora Designs

Construction

- Hawkins Contracting
- Duncan & Grove (Parkour)

Risk Management

- Peter Kells - Grace Kells

Pre-Construction Images



625 Sauve St

Milton Irma Coulson
YMCA Before and...

Irma Coulson
Public School

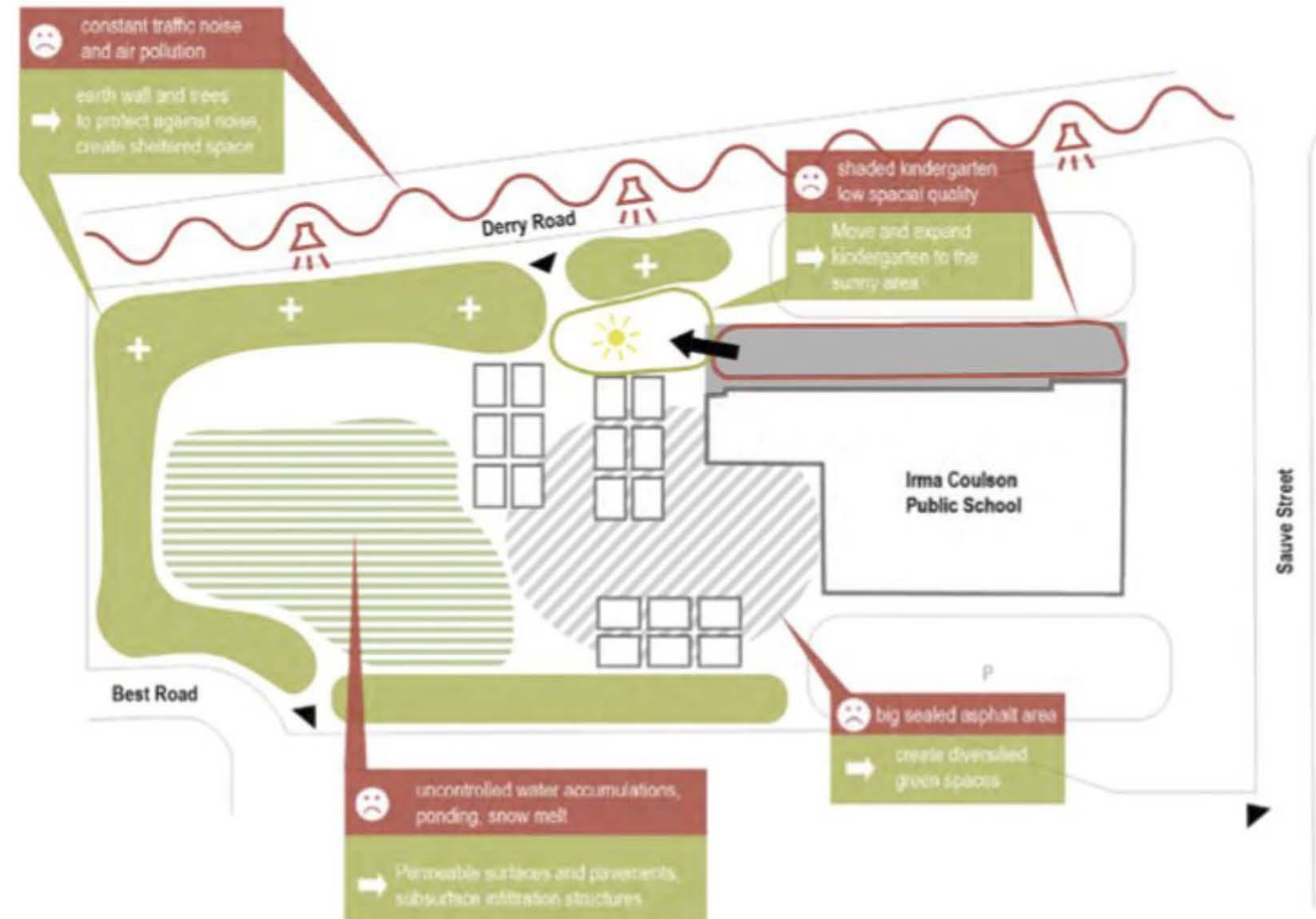


Key Design Challenges

- A flat, barren expanse that afforded limited play opportunities
- Considerable ponding of water due to soil compaction
- Significant traffic noise from Derry Road
- Low nutrient soils
- Very few trees, restricted to the perimeter that were in poor health
- A heavily shaded and windy existing outdoor kindergarten area
- No seating
- Very few features that supported outdoor learning

II. PRELIMINARY CONCEPT DIAGRAMS

Site Challenges



Inspiration from Berlin, Germany

Photos of Neumark-Grundschule, Berlin, Germany

Design: Teichmann Landscape Architects



Neumark-Grundschule, Berlin, Germany
Design: Teichmann Landscape Architects



Neumark-Grundschule, Berlin, Germany
Design: Teichmann Landscape Architects

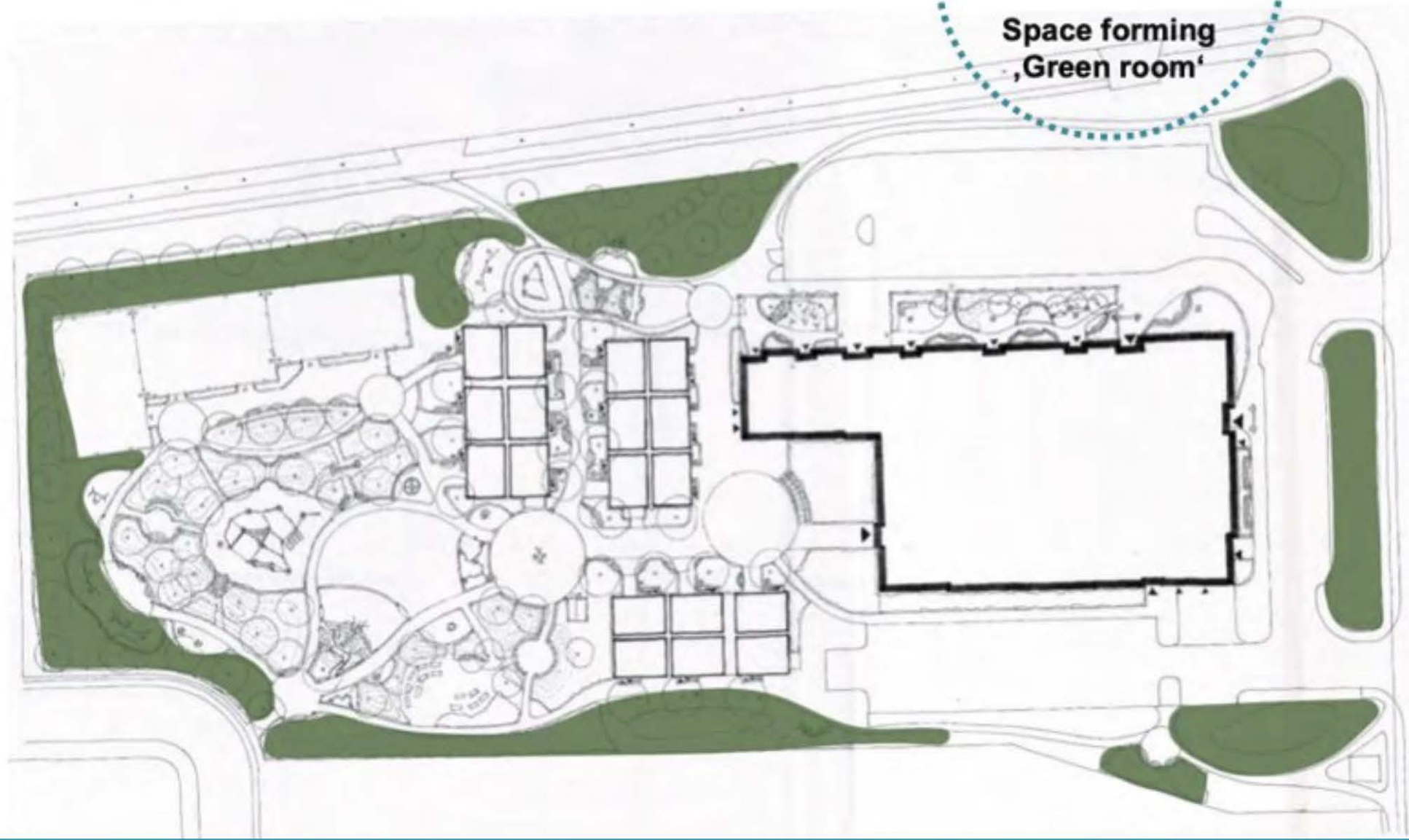


Neumark-Grundschule, Berlin, Germany
Design: Teichmann Landscape Architects

Building the Vision

II. PRELIMINARY CONCEPT DIAGRAMS

Layers_The Green Frame

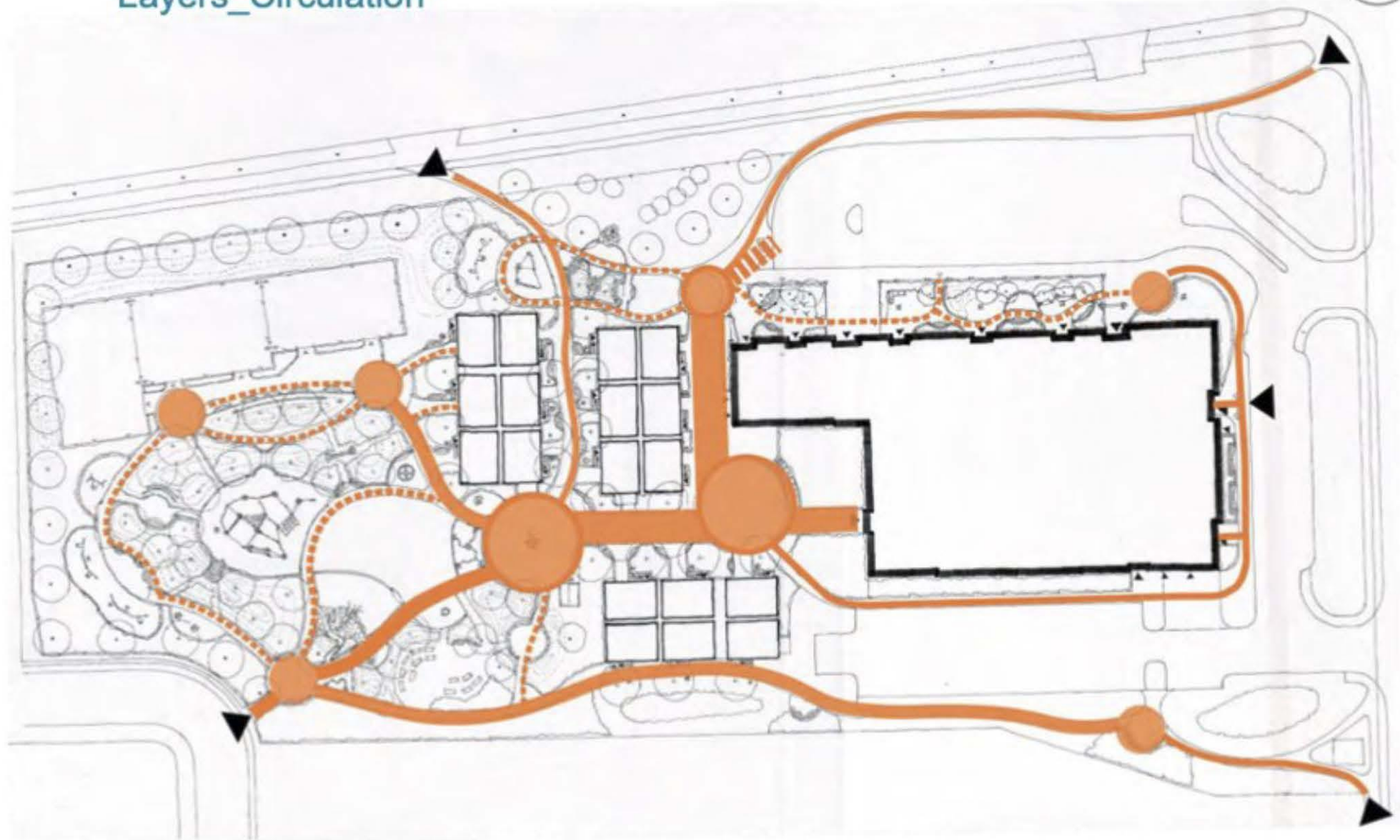


Buffer from road
and for
neighbourhood

Space forming
'Green room'

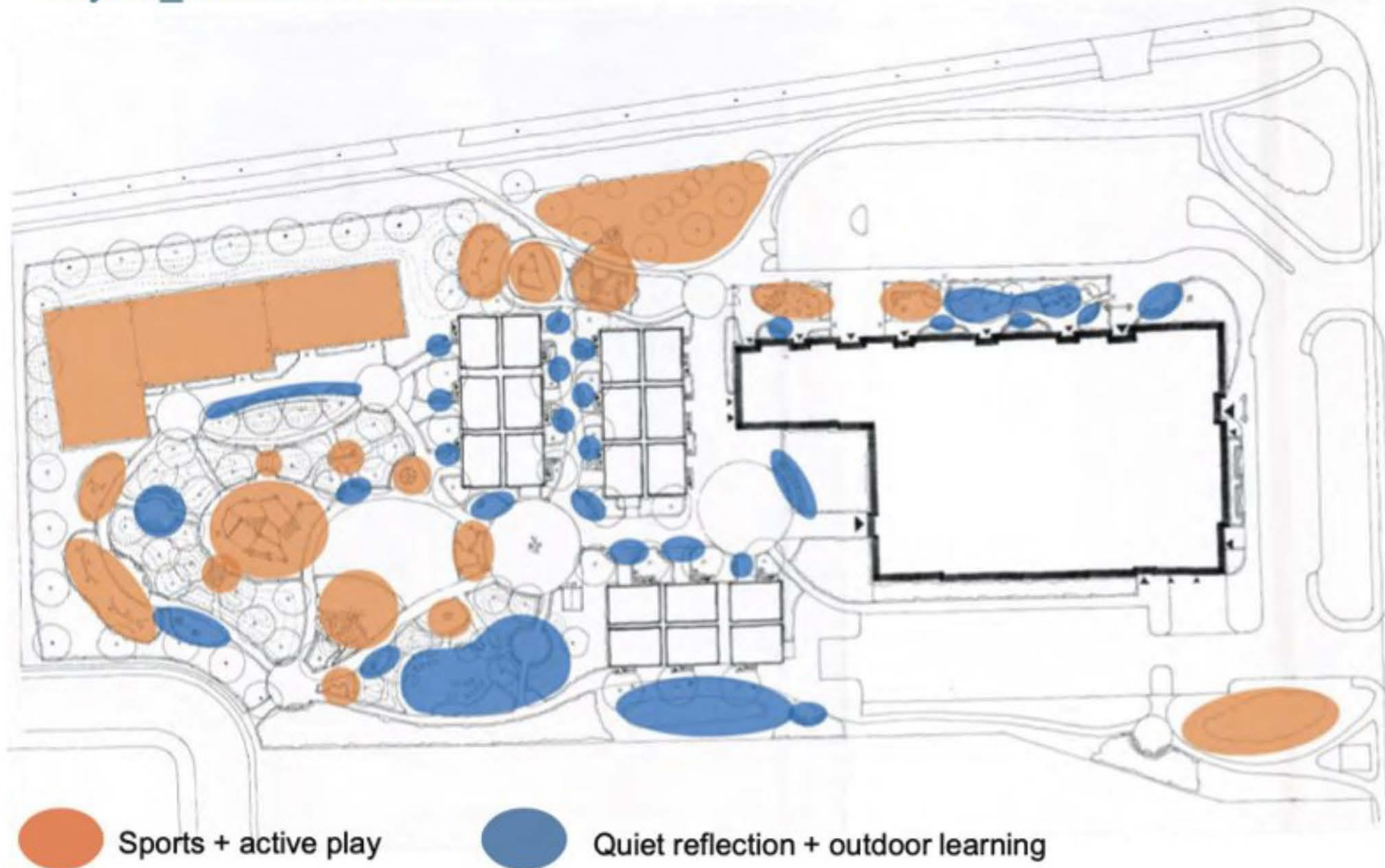
II. PRELIMINARY CONCEPT DIAGRAMS

Layers_Circulation



II. PRELIMINARY CONCEPT DIAGRAMS

Layers_Active and Quiet Zones



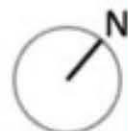
II. PRELIMINARY CONCEPT DIAGRAMS

Layers_Topography



II. PRELIMINARY CONCEPT DIAGRAMS

Layers_Trees



Master Plan



Scale: 1:500

North Arrow

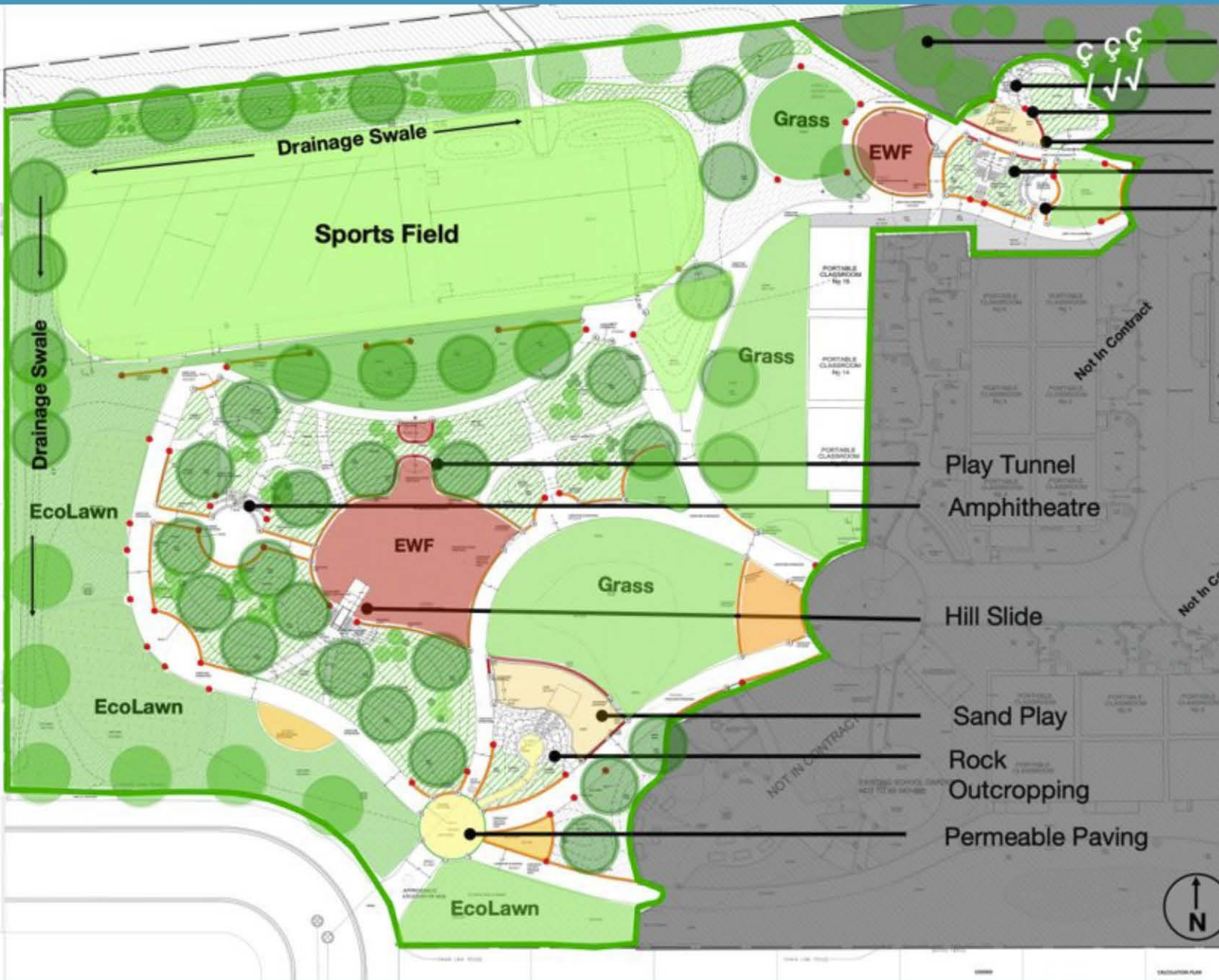
Legend:

- Proposed Buildings
- Existing Buildings
- Proposed Landscaping
- Existing Landscaping
- Proposed Roads
- Existing Roads
- Proposed Parking
- Existing Parking
- Proposed Play Areas
- Existing Play Areas
- Proposed Greenhouse
- Existing Greenhouse
- Proposed Planting
- Existing Planting
- Proposed Asphalt
- Existing Asphalt
- Proposed Construction Boundary
- Existing Construction Boundary

Notes:

1. All proposed buildings are to be constructed in accordance with the Building Regulations 2006 and 2007.
2. All proposed landscaping is to be installed in accordance with the Landscaping Regulations 2006 and 2007.
3. All proposed roads are to be constructed in accordance with the Road Construction Regulations 2006 and 2007.
4. All proposed parking is to be constructed in accordance with the Parking Regulations 2006 and 2007.
5. All proposed play areas are to be constructed in accordance with the Play Areas Regulations 2006 and 2007.
6. All proposed greenhouse is to be constructed in accordance with the Greenhouse Regulations 2006 and 2007.
7. All proposed planting is to be installed in accordance with the Planting Regulations 2006 and 2007.
8. All proposed asphalt is to be constructed in accordance with the Asphalt Regulations 2006 and 2007.
9. All proposed construction boundary is to be constructed in accordance with the Construction Boundary Regulations 2006 and 2007.


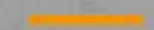





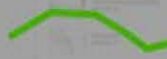



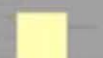
Implementation Plan



- “The Mountain”
- Rock Outcropping
- Water Play Pump
- Sand Play
- Hill Slide
- Mini Amphitheatre

- Play Tunnel
- Amphitheatre
- Hill Slide
- Sand Play
- Rock Outcropping
- Permeable Paving

Legend

- Play walls 
- Log Edging 
- Trees - 46 
- Shrubs - 1164 
- Boulders 
- Vegetated Berms 
- Pathways 
- Boundary 
- EWF 
- Mulch 
- Sand 
- Unit Pavers 

Site Works

- Site preparation
- Demo & Removals
- Grading

- Drainage Swales
- Site Servicing - below grade storm systems
- Tree Protection



Post-Construction Images



Before



After

Key Features

Log Edging





Amphitheatre



Accessibility Features



Vegetated Berms



Topography



Sand & Water Play





Seating





Edge
Walls





Play
Decks



Kindergarten Area





Multi-purpose field



Vegetated Berm

Drainage Swale

Parkour





In-ground slides

Evaluation



Increased Canopy Cover

- The canopy will immediately increase from 42m^2 to 123m^2 for the school with the addition of 46 trees
- In 10-years these trees are anticipated to collectively increase in canopy diameter to cover 490m^2
- In 40-years the anticipated canopy diameter can increase the area to $1,979\text{m}^2$ ~ 6% of the total school ground property



Stormwater Management

- Reduced heavily compacted turf areas from 9,404m² to 2,580m²
- Replaced by more permeable surfaces:
 - Shrub areas - 1,991m²
 - Eco-lawn - 814m²
 - Engineered wood fibre - 731m²
 - Sand areas - 138m²
 - Mulch areas - 134m²

Triple Bottom Line Analysis by Autocase

| Irma Coulson School Ground Improvement TBL-NPV | | |
|--|--|----------------|
| Net Present Value over a 50-year project lifespan (3% discount rate) | | |
| Category | Factors Considered | Amount |
| Financial NPV | Avoided Operations and Maintenance - Base Case | \$ (1,686,000) |
| | Design Capital Expenditure | |
| | Design Operations and Maintenance | |
| Social NPV | Flood Risk Avoided | \$ 4,980,300 |
| | Student Education | |
| | Community Health - Increased Activity | |
| | Community Health - Green Space Exposure | |
| | Community Health - Public Health | |
| | Community Recreation | |
| | Property Value | |
| | Urban Heat Island | |
| Environmental NPV | Carbon Sequestration | \$ 278,000 |
| | Air Pollutant Filtration | |
| | Water Quality | |
| | Pollination & Habitat Creation | |
| Net Benefit (TBL-NPV*) | | \$ 3,572,300 |
| Benefit for Every Dollar Invested (TBL-BCR**) | | 2.19 |

*TBL-NPV is the present value of benefits net of costs over the project's study period of 50 years, which are discounted into current dollars at the real rate of 3%. TBL-NPV is the principal measure of an investment's economic worth.

** TBL-BCR is estimated as the present value of benefits divided by the present value of costs. TBL-BCR is intended to illustrate the benefits achieved for every dollar invested.



Thank you!

Contact us to discuss Climate Ready Schools.

Cam Collyer
Evergreen

ccollyer@evergreen.ca

