



Design Challenge 2019

Seneca College Project Narrative

Seneca



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Introduction

The twenty first century, so far, can be characterized by outstanding technological developments, and although many aspects of our lives have improved due to technology, there have also been many negative unintended consequences. We now live in an age where we are spending the majority of our day engaged with screens, and children are no exception. Children of all ages are becoming far more captivated by their devices rather than the natural world around them. This shift has resulted in kids spending more sedentary time indoors, which negatively impacts their mental and physical health, as well as their development. Come Alive Outside attempts to combat this trend by engaging elementary, high school, and secondary school students in a design challenge with the goal of bringing nature back into the lives of children. The design objectives are to engage the five senses, include the input of Archbishop O'Sullivan Catholic School students and faculty, create habitats for wildlife, utilize rainwater, and to follow a practical budget. Our Seneca College design team, along with Stamford Collegiate, has developed a proposal that encompasses all five design criteria and reinserts nature back into the lives of the kids at Archbishop O'Sullivan Catholic School.

Design

Objective

While visiting Archbishop O'Sullivan in October, we had the opportunity to engage students, faculty, and industry professionals to gain a better understanding of the school and their desires for the play space. It became clear that the students really wanted more opportunities for imaginative play. Their suggestions were whimsical and exciting; dinosaurs, pirate ships, and alligators were among some of the most popular ideas. The faculty desired a space that facilitated nature play for the students and had educational value. The industry professionals pointed out drainage issues and emphasized practical solutions. With this knowledge in mind, our team attempted to design a play space that would address these concerns.

The design we have developed is centred around taking a negative problem on site, poor drainage, and flipping it into a positive water theme throughout the space. This theme extends through all three play areas, unifying the space, and provides a variety of opportunities for educational, yet, imaginative play. Each feature was carefully selected to maximize the budget and engage the students in new and exciting ways.

Features

Painted River



Upon entering the school yard students will be greeted with a river painted along the ground. This feature sets the tone of the school yard and immediately introduces students to the theme: water. The river extends from the entrance, winding past a new bioswale, through both upper grade play areas, and all the way to the kindergartner area. It directs students through the space but encourages them to stop along the way and engage with other aspects of the design. The river will include paintings of rocks, lily pads, frogs, and alligators to allow students to be creative when imagining new games along the river's path. The river can be painted by a local artist, former student of Archbishop O'Sullivan, current students of the school, or a combination

of all three. The beauty of the river is that since it is paint, it can include fluid movement and be continually evolving over the course of many years, just as real rivers evolve over time.

Canoes

In keeping up with the theme of water, canoes have been positioned in three areas throughout the school yard. There is one in the grade 4-8 play area, three in the grade 1-3 play area, and one in the kindergartner area. The canoes will be surrounded by tall grasses in order to engage multiple senses. Children will be able to sit in the canoe and run their hands through the grass, feeling the soft sensation and listening to the rustling. When the wind blows the grass will mimic the sounds of rushing water and if they close their eyes they can imagine that they are paddling along a river somewhere in the wilderness. The canoe allows for open ended imaginative play and extends the theme of water to the outer reaches of the school yard.



Kindergarten Area



In this space, the first thing we decided to do was extend it to the end of the building in order to give the kids more room. In order to engage the children with nature, we really aimed to create a space for exploration and spark an interest among the young ones. Some ways we felt like we could accomplish this, was by creating multiple innovative play units within the space that would involve the kid's imagination and encourage an open-minded play sanctuary. In the Kindergarten section, we thought it could be

very exciting for the kids to get a sensory train in the middle of their racetrack for tricycles. The sensory train would be made from wooden stumps that would be sideways with a cut out in the centre for the kids to get in and "ride" the train. Directly in front of the kid's seats would be a tray of natural objects like; pinecones, rocks, acorns etc. By including the trays of objects would allow the kids to get a hands-on feel for nature and would stimulate four of the five senses; touch, sight, smell and sound.

Another sensory aspect we included in the Kindergartens play area to spark interest was a music wall. This would be a big board with different elements like metal poles, bells and musical triangles that would allow the kids to be able to make their own sounds and music, our goal with this would be for the children to enjoy a creative outlet that they would be able to share with friends. The music wall would be a fun place to congregate and it would add sounds and create a positive connection with the outdoor play space. We also included a chalkboard for the children that want to express themselves through art or practice writing skills, this also would help engage the kid's senses. By adding an outdoor chalkboard would also add educational value to the space for the warmer months, teachers would be able to utilize the outdoor chalk board for lessons.



Nature Education

In order to incorporate educational value to the space we have included a variety of nature based educational features. Since the school has existing mature trees and other plants located across the site, we have included identification tags on all trees, flowers, and shrubs so the children are able to go up to a tree and read it's common and botanical

names. This will allow the kids to learn the assortment of trees and other plants that they interact with on a daily basis and provides an opportunity for teachers to include the school



yard within curriculum. If students are able to further understand and engage the nature around them, they are likely to develop a new appreciation and connection with it.

Also located in the trees will be bird boxes to attract local birds to the site, bringing sounds from the chirping birds to the kids' ears as they play and have fun. By placing bird boxes within the trees, it will give birds a

home to lay their eggs but also provide a learning opportunity for the kids as they will be able to observe their life cycle. To bring colour to the space the boxes can be hand painted by the kids in art class and then hung around the site. The children will be left with a sense of accomplishment and can show their classmates, teachers, and parents their wonderful artwork.

Additionally, by the suggestion of Stamford Collegiate we have included insect hotels, nesting material stations, toad abodes, and bird feeding stations. All of these elements can be built and installed by students and in the process they can learn about their local wildlife and how to create safe habitats for them.



Outdoor Classroom

The outdoor classroom consists of multiple rows of natural stone seating arranged in a curve. This classroom has been included to provide a suitable space for teachers to conduct outdoor classes. It has been placed near the bioswale so the students can learn about the water cycle, native plants, and how to effectively use rainwater. The classroom will be constructed from natural materials in order to maintain the most natural appearance possible within the space.



Shade Sails



Shade sails have been placed at the entrance of the school and adjacent to the basketball court. This is to provide students with a place to cool down and escape the hot sun. They will be made out of retired boat sails, that are colourful and very cost effective. While they are cooling off they can imagine themselves on a boat as pirates or whatever their imagination takes them. This further extends the theme of water.

Boardwalk

The boardwalk will be raised slightly off the ground and will be made out of pressure treated wood framing and cedar cladding. This is both cost effective and the cedar wood smells nice. To ensure proper accessibility the boardwalk will be 1.5m wide. To make this portion of the project cost effective it will be implemented in stages and before it can be fully installed, sections of the path will be designated with crushed granite stone to maintain the benefits of a boardwalk without a huge initial investment. The boardwalk is beneficial to the tree's roots and their growth, helping to lessen the compaction of the soil. The boardwalk will wind through the trees and part of it will go over the dry river bed swale creating a bridge so the kids can watch water flow beneath them. The winding nature of this path mimics the natural flow of the painted river and attempts to extend the theme of water to the far reaches of the school yard. Additionally, it will connect students to the canoes situated across the yard.



Bioswale

The choice of drainage we incorporated into our design for Archbishop O'Sullivan was a Bioswale routing into a dry riverbed. In our design, the bioswale is built up at the east end of the tarmac behind the current standing basketball courts. This observed area seemed to be the most affected by water damage and is in need of serious attention to control and direct the water properly. The bioswale will be the standard width of 6ft, 6ft deep and run

the total length of the tarmac. The bio-swale will include a wide variety of native plant species such as grasses and shrubs to help stabilize the swale, along with contribute to the overall aesthetic of the drainage system. From the direct center of the bioswale, the water will be routed and controlled by following a dry riverbed system made up of boulders and river rock, embedded in a swale-like trench at a depth of about 1 – 2ft. The dry riverbed will follow a 45 degree path from the bioswale, under the current path using culverts, to the far east end of the property



meeting the current sitting retaining wall mound. From the mound, the water will then trickle down, passing the canoe planter to add to a realistic boat-in-water scenario; lastly will follow down to existing catch basin in the south-east corner of the property. Another point to add is that the painted riverbed we incorporated into our design starts at the west end of the tarmac, and makes its way to end into the bioswale, this route continues the “water” theme of the playground from a painted riverbed, to real water in the bioswale leading into a dry creek bed. We believe

that this overall design will be the most efficient way to control the water in the school yard, prevent future erosion problems, and will have an overall positive contribution to the aesthetic of the design as plants and natural materials will be incorporated into the drainage design.

Leaf Pool

The leaf pool will be surrounded by stumps in order to designate the area and allow for leaves to be piled high. This area is to encourage children to play amongst the leaves and throw them into the air. When we visited the school in October we noticed how many kids loved playing in the leaves. Having a specific area for them will keep the school yard clean and encourage sensory play in the leaf pool.



Plant List

Bioswale Plants:

- Little Blue Stem (*Schizachyrium scoparium*)
- Purple Cone Flower (*Echinacea purpurea*)
- Black Eyed Susans (*Rudbeckia hirta*)
- Bush Honeysuckle (*Diervilla lonicera*)
- Pussy Willow (*Salix discolor*)
- Red Osier Dogwood (*Cornus stolonifera*)

Canoe Plants:

- Indian grass (*Sorghastrum nutans*)
- Switchgrass (*Panicum virgatum*)
- Big Bluestem (*Andropogon gerardii*)

Kindergarten Area:

- Eastern White Cedars (*Thuja occidentalis*)

** Unfortunately, Stamford Collegiate was unable to contribute on time of submission**

Budget

| Phase 1 | Price |
|---------------------------|--------------|
| kindergarten Bike Pathway | \$4,420 |
| SandBox in 1-3 area | \$7,150 |
| Painted River Bed | \$669 |
| Riverstone Dry River bed | \$2,900 |
| Ornamental Grasses | \$1,550 |
| Sensory Train | \$881 |
| 6% of phase 1 budget | \$1,800 |
| | |
| Wooden Canoe x3 | \$5,200 |
| Sensory Train | \$881 |
| Total for Phase 1 | \$25,605 |

Phase 2

| | |
|--------------------|----------|
| Boardwalk | \$19,000 |
| Sand Box in Kinder | \$10,500 |
| Total for Phase 2 | \$29,500 |

Conclusion

We listened to the feedback from students, faculty, and industry professionals and attempted to create a design with the theme of water that would stimulate all five senses, utilize rainwater, create natural habitats for animals, address drainage issues, while following a practical budget. We had a fantastic time putting this design together and our entire team would like to thank the students and staff at Archbishop O'Sullivan Catholic school for their creative ideas and for hosting us in October. We would also like to thank all the industry professionals at Wentworth Landscapes, Brydges Landscape Architecture, Unilock, Landscape Ontario, and Gelderman for all their fantastic guidance and support through this process. Finally, we would like to thank the entire team at Come Alive Outside for making this possible. We fundamentally believe that bringing nature back to kids is extremely important and we are grateful to have been a part of the 2019 design challenge.

We thank you for this opportunity!

Kira Pottage

Toni Lovell

Jason Grenier

Alex Albani

Trinity Decoste

Kit Byrne