FLOWERING RECIPROCITY

EARLY LEARNING CENTRE

Brittany Sandre

Human well being relies on both individual and social experiences that interrelate through a "reciprocal spiraling relationship"[1] resulting in the growth of an individual or group. This concept is observed through the history of the community of Copper Cliff in their individual and congregational efforts to beautify their home surroundings (INCO Gardening Competition, INCO Greenhouse). The common connection between the building's programmatic elements are the indoor and outdoor green spaces. The function of the building offers the separate introverted spaces for children and adults, connected by the social, extroverted spaces creating a "spiraling dynamic of reciprocal influences".[1]

[1]Solomon, Gavriel and David N. Perkins. "Individual and Social Aspects of Learning". *Review of Research in Education*. 1998. Vol 23. p 1-24. American Educational Association. https://www.jstor.org/stable/1167286

COMMUNITY GREENHOUSE DISPLAYING MANY PLANTS THAT WERE PLANTED IN NICKEL PARK IN 1953
SUBMITTED TO ARCH 3006 - DECEMBER 2020

TYPES OF FLOWERS PLANTED IN NICKEL PARK AND AROUND COPPER CLIFF IN 1953
SUBMITTED TO ARCH 3006 - DECEMBER 2020

CONNECTING MULTIPLE GENERATIONS THROUGH MANY ACTIVITIES
SUBMITTED TO ARCH 3006 -DECEMBER 2020

CONGREGATIONAL

1 INCO GREENHOUSE

The Copper Cliff (INCO) Greenhouse opened in 1945 behind the C.D. Ferguson home on School Street. Since then it has acted as the starting point for many plants that helped to regreen the Greater Sudbury Area. Many events held at the greenhouse have attracted people from all ethnic groups in Copper Cliff. Specifically, the greenhouse Christmas display attracted many visitors, during the 1970s and 1980s, who shared a common interest to beautify the town of Copper Cliff.

2 COLEMAN MINE

In 1976 a greenhouse was introduced at the Coleman mine. The hoistroom of the mine provided plants with plenty of sunshine to grow well.

3 INCO OPERATIONS

Plants from the Copper Cliff greenhouse were transferred to all INCO operations in the Greater Sudbury Area to improve the quality of the working environments.

4 NICKEL PARK

A former roast yard was rehabilitated into Nickel Park for the war effort during WWI. Potatoes and many trees and shrubs were planted in the community park that now acts as a gathering area for many sports and recreation for the community.

5 COPPER CLIFF PUBLIC SCHOOL

The students at the Copper Cliff Public School took part in the regreening of Sudbury with the support of INCO. INCO provided the school with many seedlings and held annual plantings for the students to participate in.

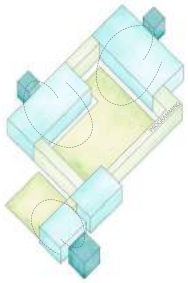
INDIVIDUAL

INCO GARDEN COMPETITION

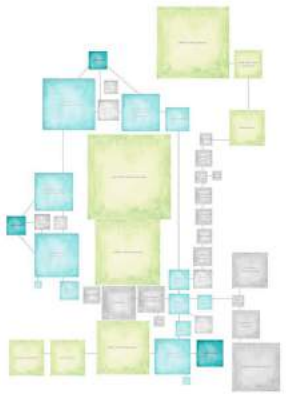
The INCO Garden Competition began on April 28, 1915. The Canadian Copper Company offered prizes for the best annual garden displays. The competition was only open to amateur gardeners and included different classes such as lawn, kitchen garden and improvement. As the GHG emissions grew within Copper Cliff, the need for vegetation also grew which is seen in the number of winners from 1916-1972.

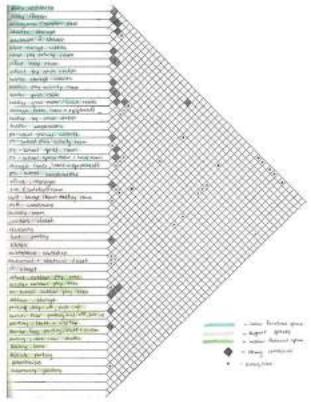
INCO GARDENING COMPETITION AND GREENHOUSES 1916-1995
SUBMITTED TO ARCH 3006 - DECEMBER 2020

PROGRAMMING DIAGRAMS



BUBBLE DIAGRAM





WINTER SOLSTICE SUN

SUMMER SOLSTICE SUN

NICKEL PARK

SUMMER PREVAILING WIND

WINTER PREVAILING WIND

OUTDOOR GREEN SPACE

INTROVERTED INTERIOR SPACES

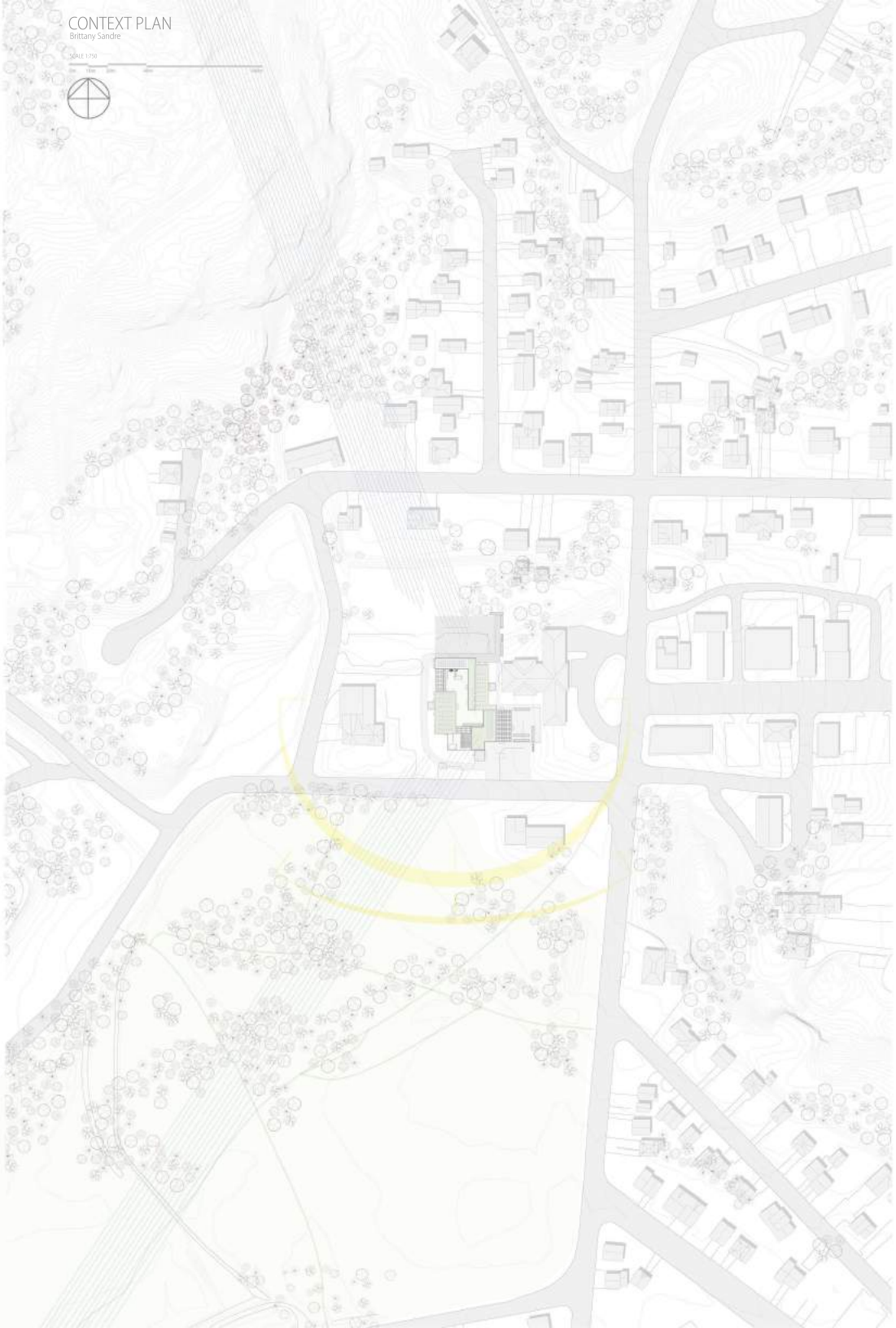
EXROVERTED INTERIOR SPACES

OTHER

CONTEXT PLAN

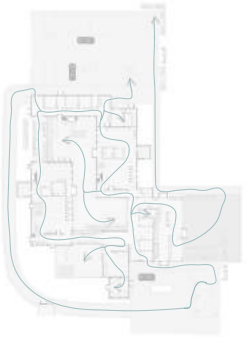
Brittany Sandre

SCALE 1:750



ACCESSIBILITY THROUGHOUT THE BUILDING AND SITE

The building is accessible for all people by maintaining a minimum unobstructed width of 1.6m throughout the building's paths of travel.



BOTTOM FLOOR DIAGRAM

TOP FLOOR DIAGRAM

FIRE EXITS PATH OF TRAVEL

The building provides for a safe path of travel to the exterior of the building in the case of a fire.

BOTTOM FLOOR DIAGRAM

TOP FLOOR DIAGRAM

GROUND FLOOR PLAN

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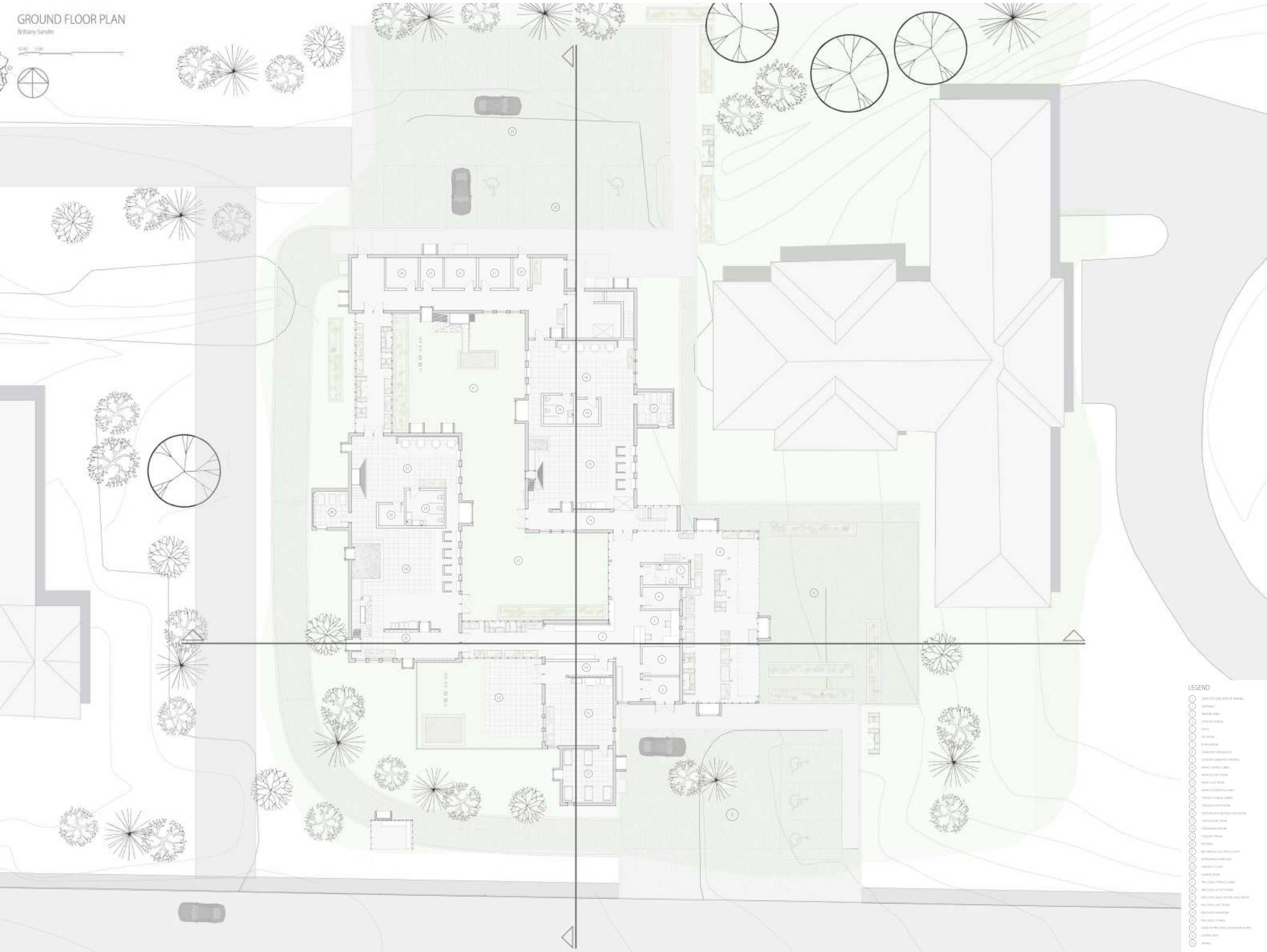


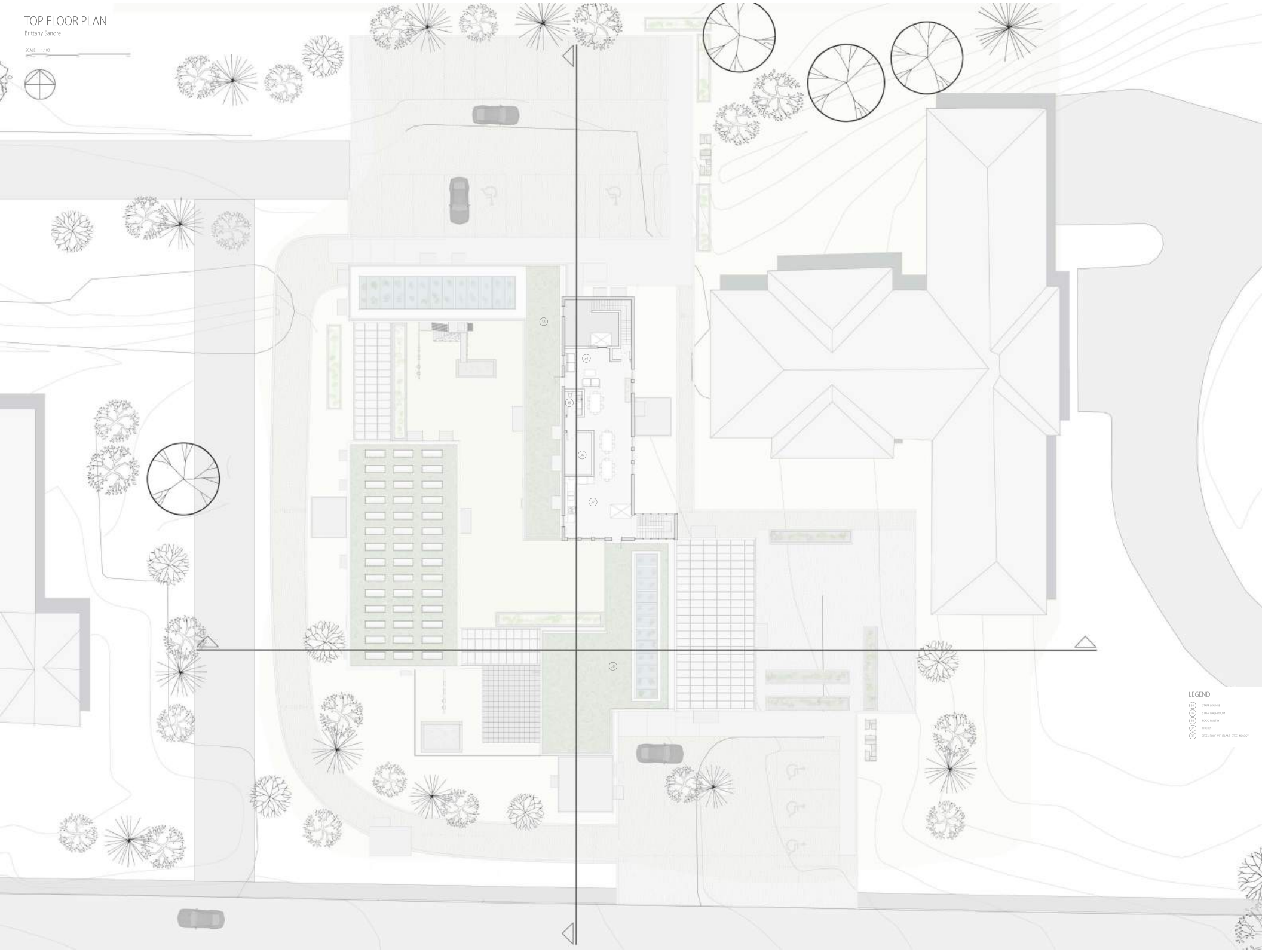
LEGEND

1. DROP OFF ZONE WITH 8' PARKING
2. ENTRANCE
3. WAITING AREA
4. STROLLER STORAGE
5. OFFICE
6. SEA ROOM
7. 18' MEETING ROOM
8. COMMUNITY GREENHOUSE
9. OUTDOOR COMMUNITY GARDENS
10. INFANT STORAGE CUBBIES
11. INFANT ACTIVITY ROOM
12. INFANT SLEEP ROOM
13. INFANT OUTDOOR PLAY AREA
14. TODDLER STORAGE CUBBIES
15. TODDLER ACTIVITY ROOM
16. TODDLER GROSS MOTOR/ LUNCH ROOM
17. TODDLER QUIET ROOM
18. TODDLER WASHROOM
19. TODDLER STORAGE
20. RECEIVING
21. MECHANICAL/ ELECTRICAL CLOSET
22. MAINTENANCE WORKSHOP
23. JANITOR'S CLOSET
24. LAUNDRY ROOM
25. PRESCHOOL STORAGE CUBBIES
26. PRESCHOOL ACTIVITY ROOM
27. PRESCHOOL GROSS MOTOR/ LUNCH ROOM
28. PRESCHOOL QUIET ROOM
29. PRESCHOOL WASHROOM
30. PRESCHOOL STORAGE
31. TODDLER/ PRESCHOOL OUTDOOR PLAY AREA
32. LOADING DOCK
33. PARKING

TOP FLOOR PLAN

Brittany Sandre

SCALE 1:100



AXONOMETRIC MODEL ON SITE

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SCALE 1:750

EXPLODED AXONOMETRIC STRUCTURE

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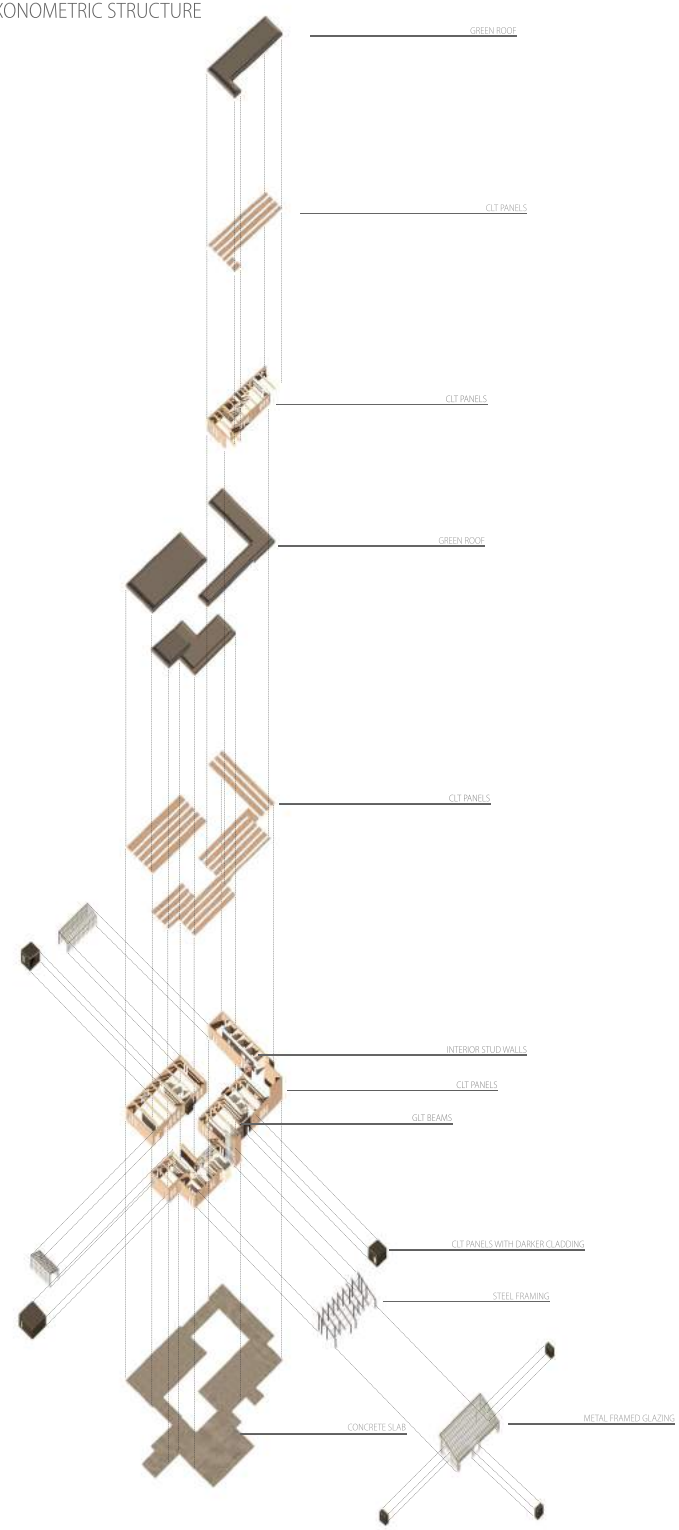
SCALE 1:500



FRONT ENTRANCE VIEW FROM DROP OFF ZONE

CROSS SECTION

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SCALE 1:100

SOUTH ELEVATION

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SCALE 1:100

PRESCHOOL STORAGE CUBBIES

PRESCHOOL ACTIVITY ROOM

INDIVIDUAL PAINTING BOOTHS

TODDLER/ PRESCHOOL OUTDOOR PLAY AREA

LONGITUDINAL SECTION

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SCALE 1:100

PLANT E TECHNOLOGY ON GREEN ROOF
SUBMITTED TO ARCH 3306 - DECEMBER, 2020

OUTDOOR COMMUNITY GARDENS
SUBMITTED TO 3306- DECEMBER, 2020

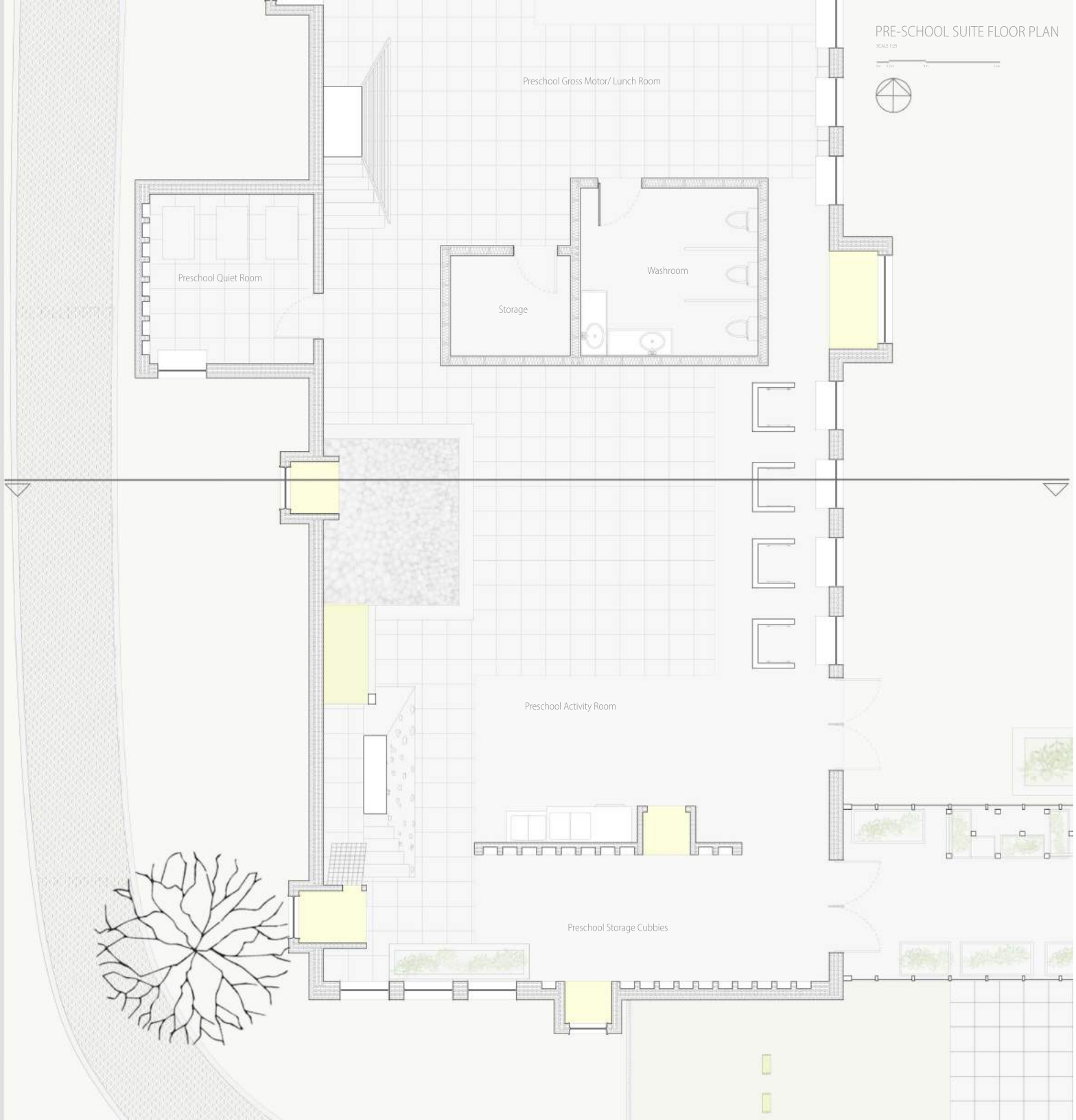
INFANT OUTDOOR PLAY AREA

INFANT SLEEP ROOM

TODDLER GROSS MOTOR/ LUNCH ROOM

PRE-SCHOOL ACTIVITY ROOM
SECTION PERSPECTIVE

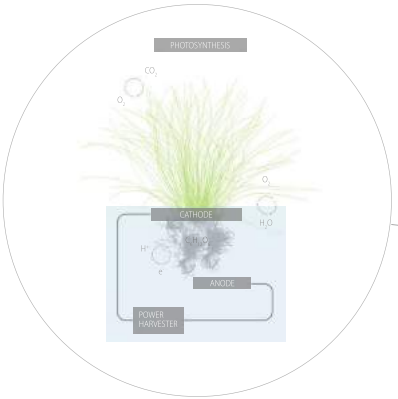
SCALE 1:25


PRE-SCHOOL SUITE FLOOR PLAN
SCALE 1:25
Preschool Gross Motor/ Lunch Room
Preschool Quiet Room
Storage
Washroom
Preschool Activity Room
Preschool Storage Cubbies

PARTIAL BUILDING SECTIONS AND DIAGRAMS

SUBMITTED TO ARCH 3306- DECEMBER 2020

Brittany Sandre

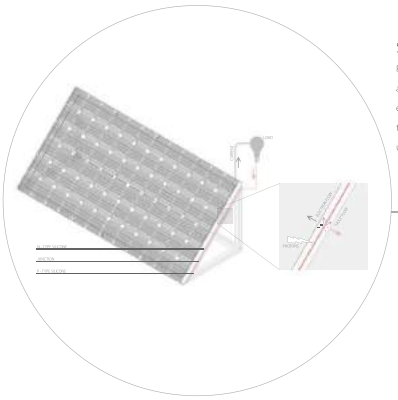


PLANT- E

The living plants located on the roof produce organic matter that is transported through its roots into the soil where bacteria break down the organic matter. During this process, electrons and protons are produced and the electrons flow through a power harvester to the cathode, where oxygen, protons and electrons meet. By placing two electrodes into the soil, green electricity is produced and used within the building.[1]

PLANT- E AND WATER COLLECTION SECTION

Scale 1:50

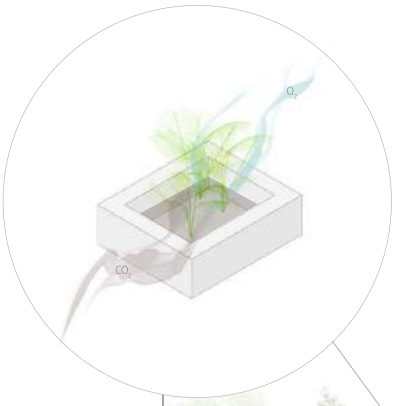


SOLAR ENERGY

Photovoltaic panels are applied to the green roof areas that are not serving as public spaces. The energy resulting in this system allows for the building to use renewable energy and extra energy can be used within the surrounding homes in Copper Cliff.[2]

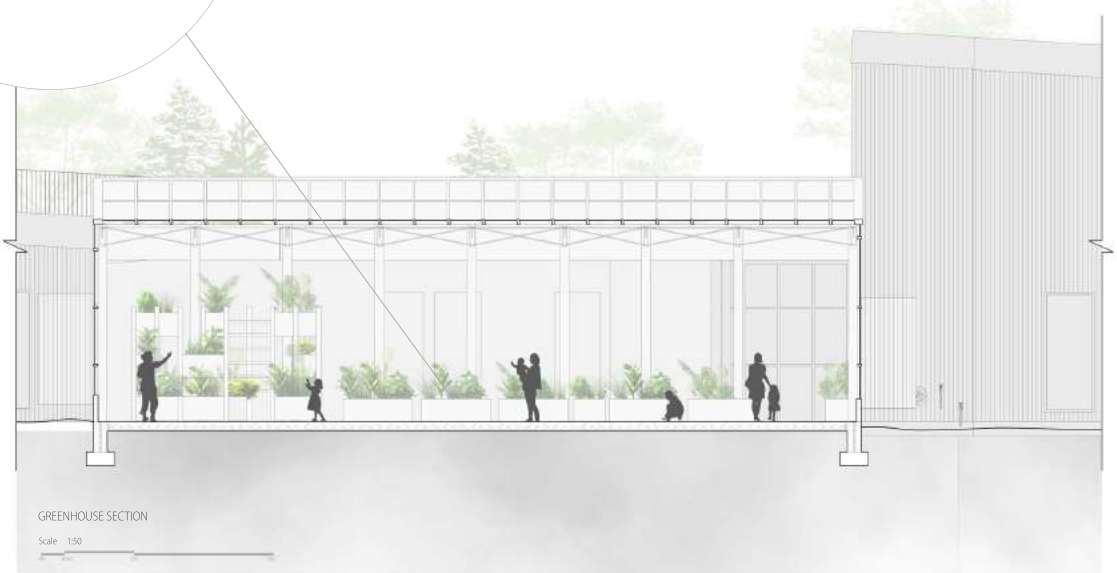
SOLAR ENERGY AND WATER COLLECTION SECTION

Scale 1:50



AIR FILTRATION

Many plants are placed around the interior of the building, providing the interior spaces with clean air after it is filtered by the plants through the process of photosynthesis.



GREENHOUSE SECTION

Scale 1:50

[1] Plant-e BV. "Plant-e: living plants generate electricity". Youtube Video, 4:37. Accessed https://www.youtube.com/watch?v=Ku1-_MO2kTE. November 24, 2020.
"Plant-e Spark of Nature". Plant-e.com. https://www.plant-e.com/en/. (Accessed November 24, 2020)

[2] Wilson, Ted. "Lecture 10 Renewables To Connect or Not Connect." Lecture 10, Laurentian University, Sudbury, ON, December 3, 2020.