



Building the Oriole Nest

SLP Middle School Regenerative Courtyard
Project



Formerly SLP SEEDS



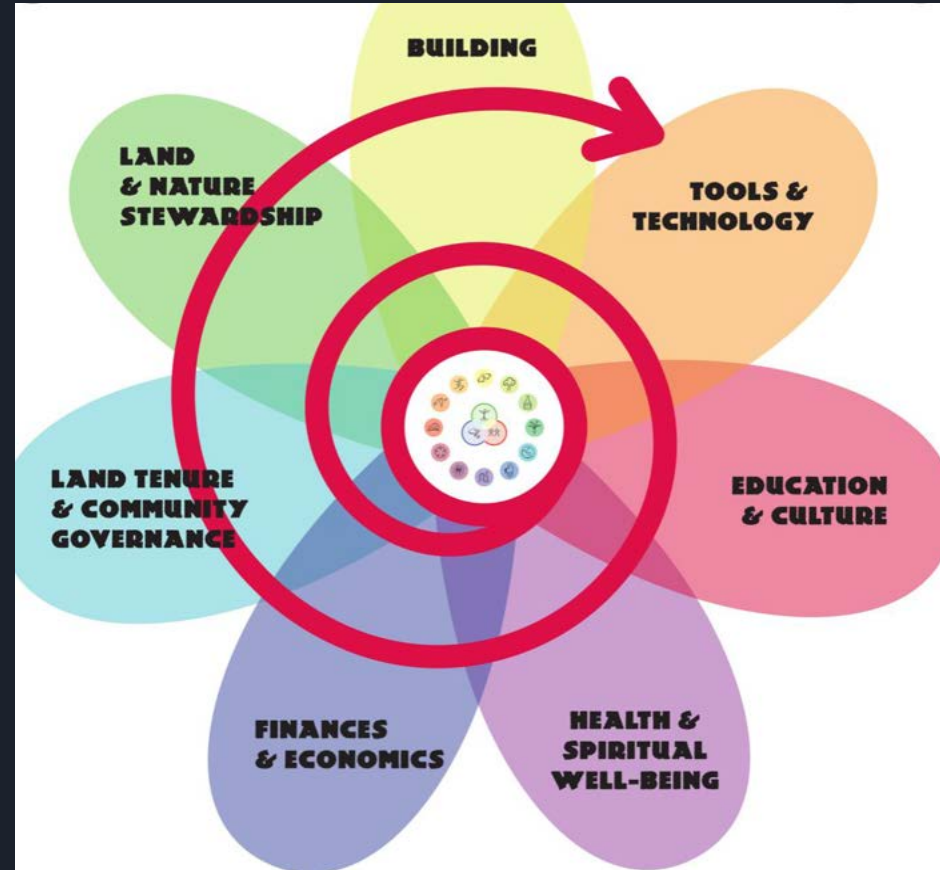
Who We Are



Overview of Permaculture

What is Permaculture?

- *permanent & culture*
- “A modern re-branding of native wisdom and ecological truths.”
- A design approach to sustainable living
- Principles and Ethics
- “Meeting human needs through ecological and regenerative design.”





Permaculture Principles

Earth Care: leave no trace, regenerative actions, small choices make big impacts

People Care: “abundance” mindset, mindfulness & wellbeing, community & education

Fair Share: take what you need, carrying capacity

Future Care = earth care + people care + fair share, thinking generations ahead

Vision/Mission

The courtyard will become a place where students of all ages come together to learn and interact with nature. Students will be able to learn garden management skills, sustainable practices and will have experiential learning opportunities in nature. This space will be a functional property full of elements for the community to utilize, ecstatically appreciate, and that will produce fresh food used towards hunger relief efforts. Visitors will find a space of peace and an area to connect with the natural landscape and community.



Background/History of Middle School

Westwood Jr High open in the fall of 1959 with enrollment of a little less than 800 students made up of 7th, 8th, and 9th graders. The school was built on Westwood hills golf course. Along with your normal core classes such as math, English, social studies and science the school also featured facilities for home economics, band and choir, art and woodshop. The school was built around a big courtyard area. Although the students weren't allowed to use the area, the courtyard became a safe place for nearby ducks to habitat in the spring seasons.



Current state of the Middle School

The school later added one room for special education, a swimming facility, more general education classes and science rooms and was named “St. Louis Park junior high by 1980. The school became “St. Louis Park Middle school” in 2012 and is currently expanding its structure in 2020. The student body now is made up of 6th 7th and 8th graders and offers a lot of different programs, classes and subjects. The schools has advance media center and soon students will have a performing arts center, additional music classrooms and an updated cafeteria. Although courtyard is rarely used by the students it is still very well maintained by school staff, and the ducks still come back every year to make their habitat



Teacher interviews

- Fresh and dried herbs
- Lettuce
- Vegetables
- Native perennials
- Attract Butterflies; bee balm, cone flowers, butterfly bushes
- Native annuals
- Happy flowers; zinnias, delilahs
- A variety of flowers, vegetables, and pollinators



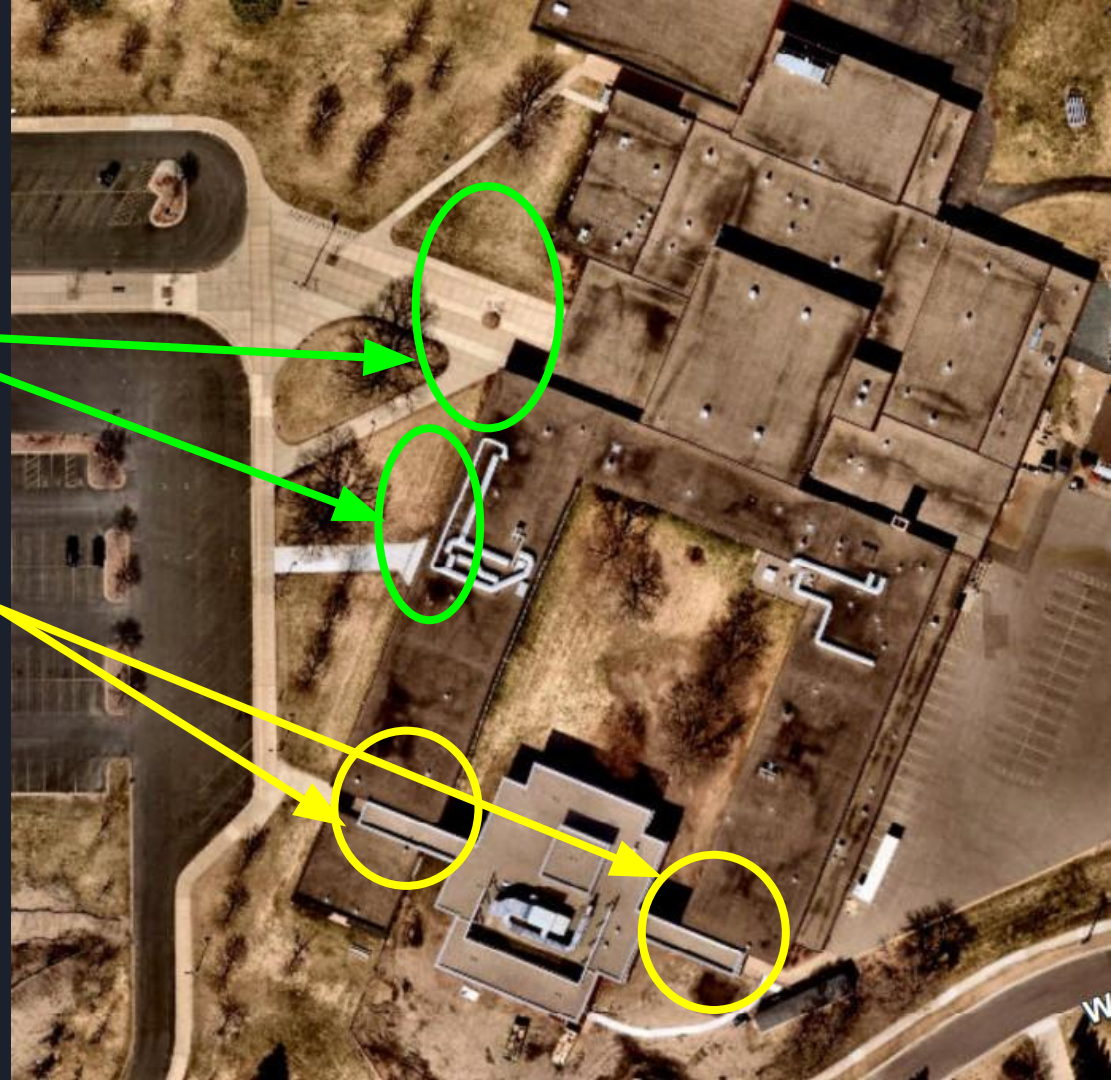
Administration Interviews

- Sustainable space that the district doesn't need to maintain
- Everyone loves seeing the ducks return in the Spring
- Can not attach structures to school (sheds)
- Would like to see hummingbirds and butterflies
- Beekeeping needs to be approved by school board
- YEP supports long term gardening program
- COVID plan for student participation



Site Analysis

- Main and secondary Middle School access
 - Signage to let community know about courtyard
- Courtyard access limited from inside of school
 - Two access doors - interior southeast or southwest
 - Create inviting entrance into courtyard



Site Analysis

Topo Map

- Middle School elevation is 892 (highest point in the area)
- Middle School is in a residential neighborhood
- Courtyard is flat
- Temperate climate
- Hardiness Zone: 4b
- Sunny days: 205
- Avg rainfall 32"
- Avg snowfall 52"



Site Analysis

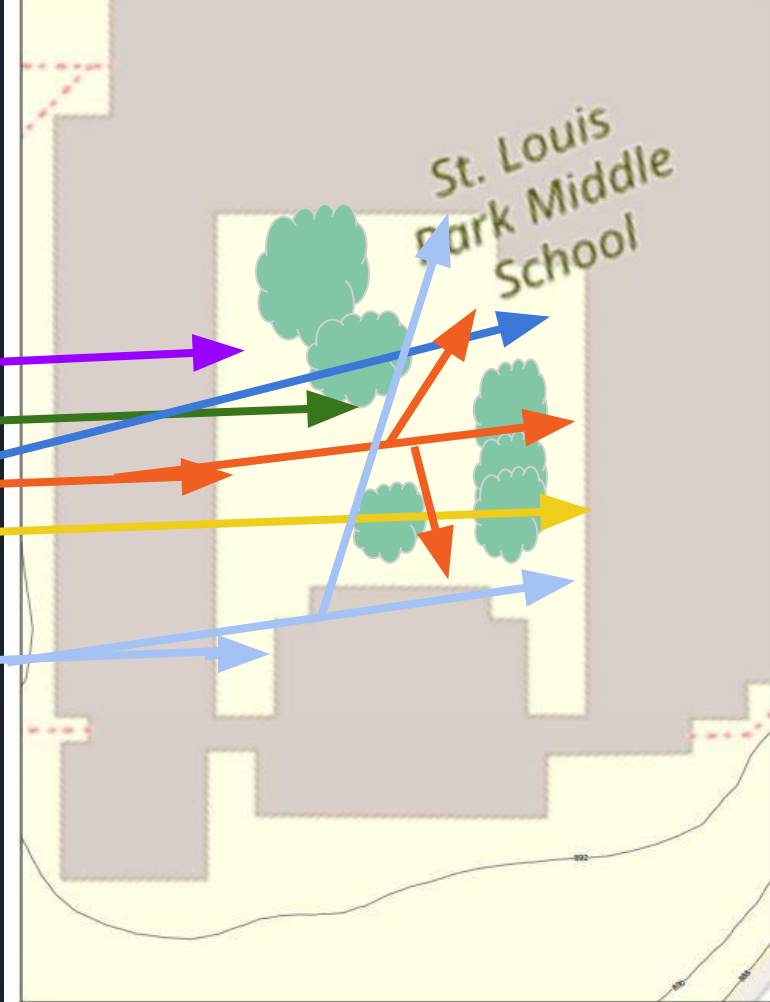


Site Analysis

Base Map

Opportunities:

- Blank slate/flat site
- 6 existing trees
- 4 birdhouses
- Weather station
- Ducks
- Water spouts/spigots
- Windows from school looking out to courtyard
- Opportunities for students, parents, teachers, and community to use space
- YEP class opportunities



Courtyard

0 30 Feet

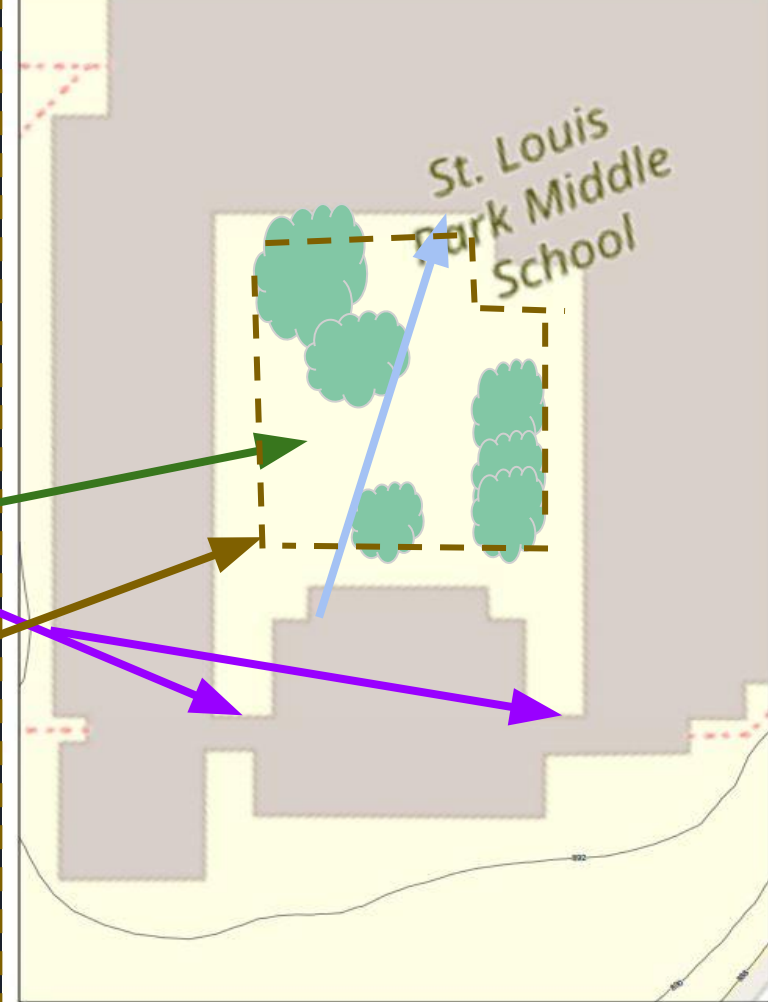


Site Analysis

Base Map

Constraints:

- Limited access
- No successional trees
- Primarily grassy groundcover
- Staffing to maintain gardens
- District approval & protocol
- 25' buffer from bldg to new structures (small gardens ok)
- Getting community to use space
- COVID safety plan
- Getting material into site



Courtyard

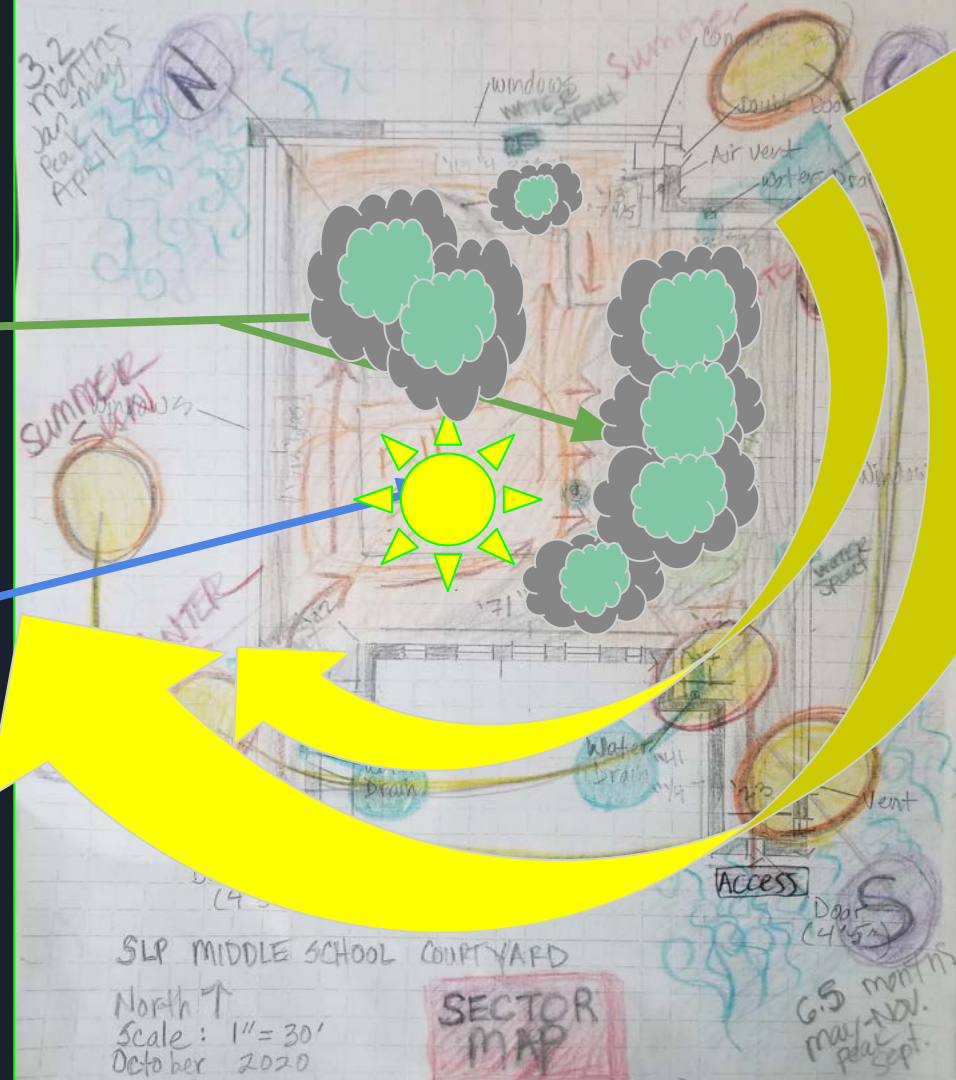


Sector Analysis

Elemental Energy Flows

Solar

- Understanding where shade falls, year-round, tells us where we can harvest sunlight without interference of shadows, as well as, where microclimates exist
- The area of full sun, or an open sun path, creates ideal places for growing vegetables, placing the hoop house or green house, and possibly placing solar panels in the future

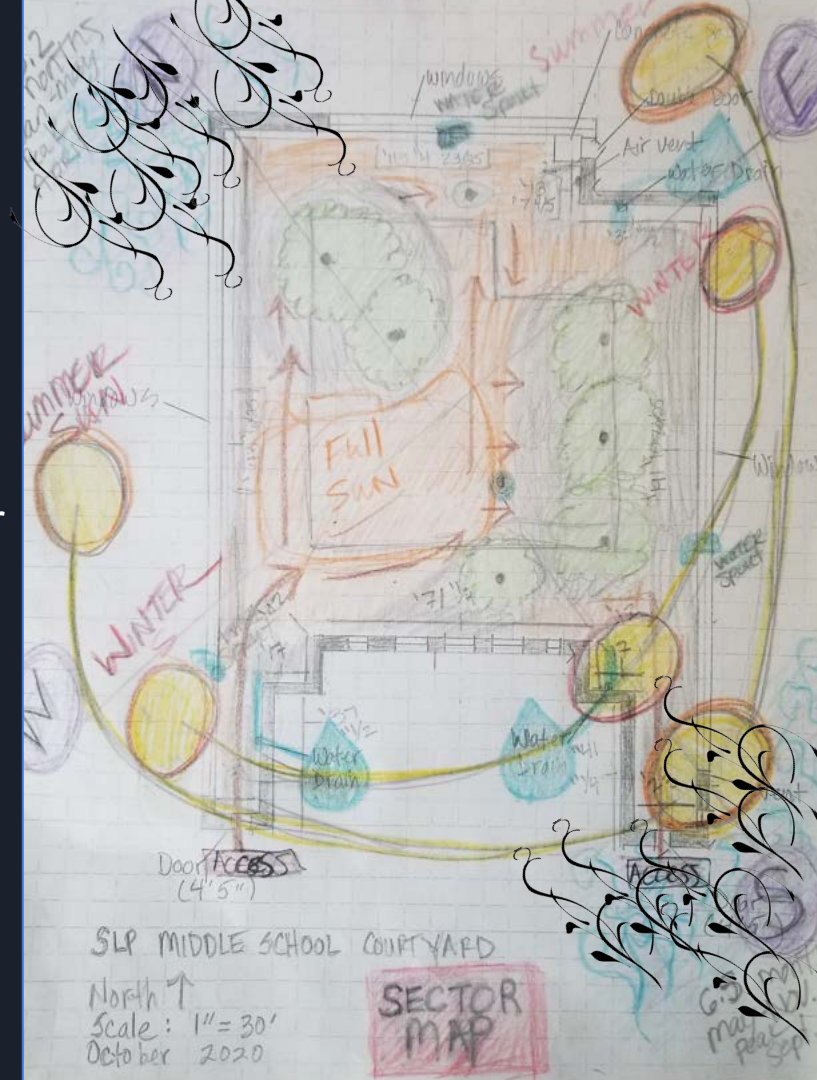


Sector Analysis

Elemental Energy Flows

Wind

- SLP has daily shifts in wind direction. Winds prevail in the north during winter and spring and from south during summer and fall.
- The Courtyard is located in the center of the school, the surrounding building walls provide natural insulation and windbreak from prevailing winds.



Sector Analysis

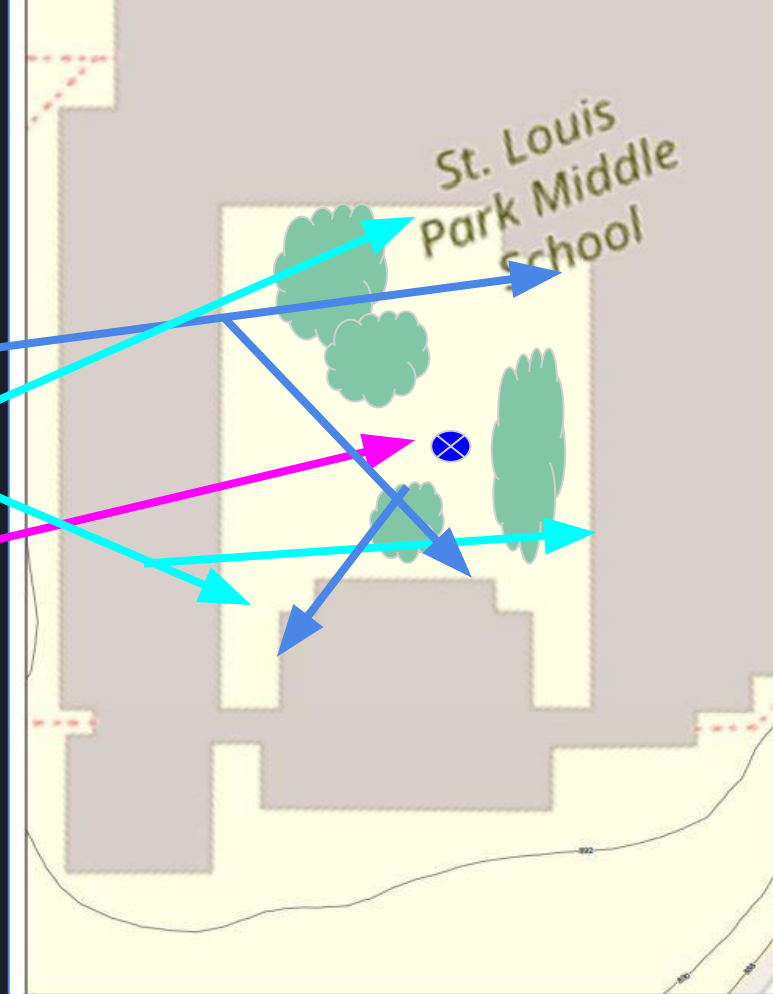
Elemental Energy Flows

Water

There are 3 water spigots and
3 stormwater downspouts

- Courtyard is mostly flat, the water in the courtyard moves toward the water drain located at the lowest point of the property in the south.
- Based on rainfall, the roof of SLP Middle School has the potential to capture over 900,000 gallons water/year from downspouts

Animals - squirrels and birds and ducks (in Spring)



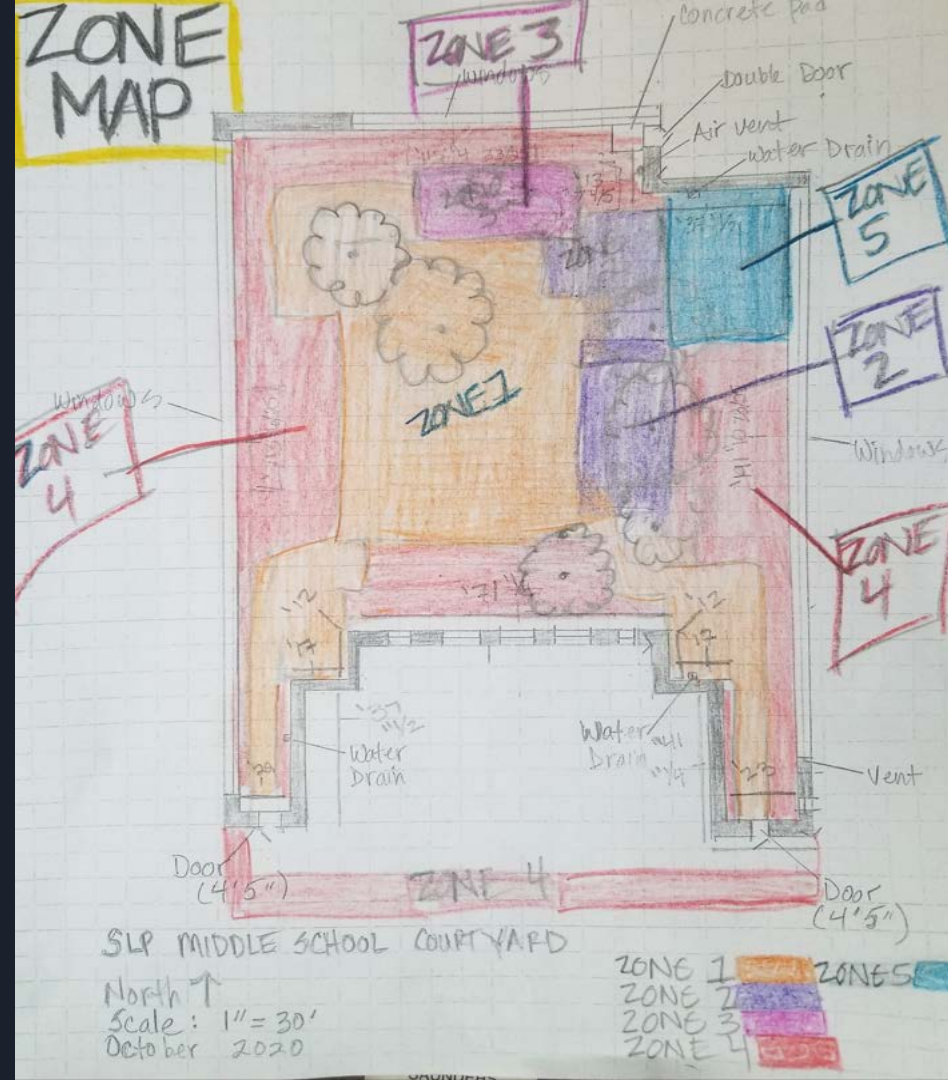
Courtyard



Zones

Permaculture typically identifies 5 zones (other zones are 00, 0 & 6)

Zones are based on frequency of interaction, infrastructure, plantings, and animals. Ex: Zone 1 is vegetable garden and zone 5 is wilderness, usually for observation



Zones

SLP Middle School Zones:

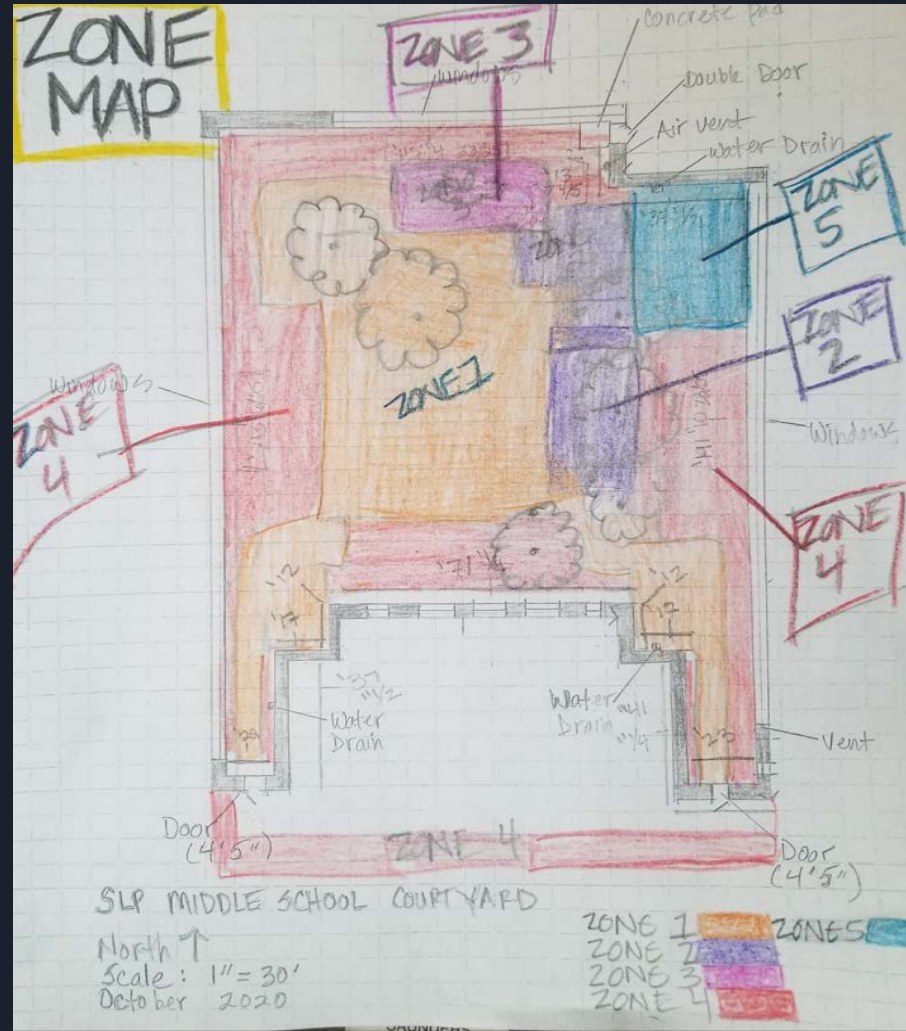
Zone 1: Sunniest area - raised vegetable beds, hoop house, community engagement area, flower plantings, perennials, art display area, entrance, and pathways

Zone 2: Outdoor class space and kitchen

Zone 3: Compost area, shed, rain gardens, pollinator habitat, and reading/reflective area

Zone 4: Outside school building, main entrance and secondary entrances and signage

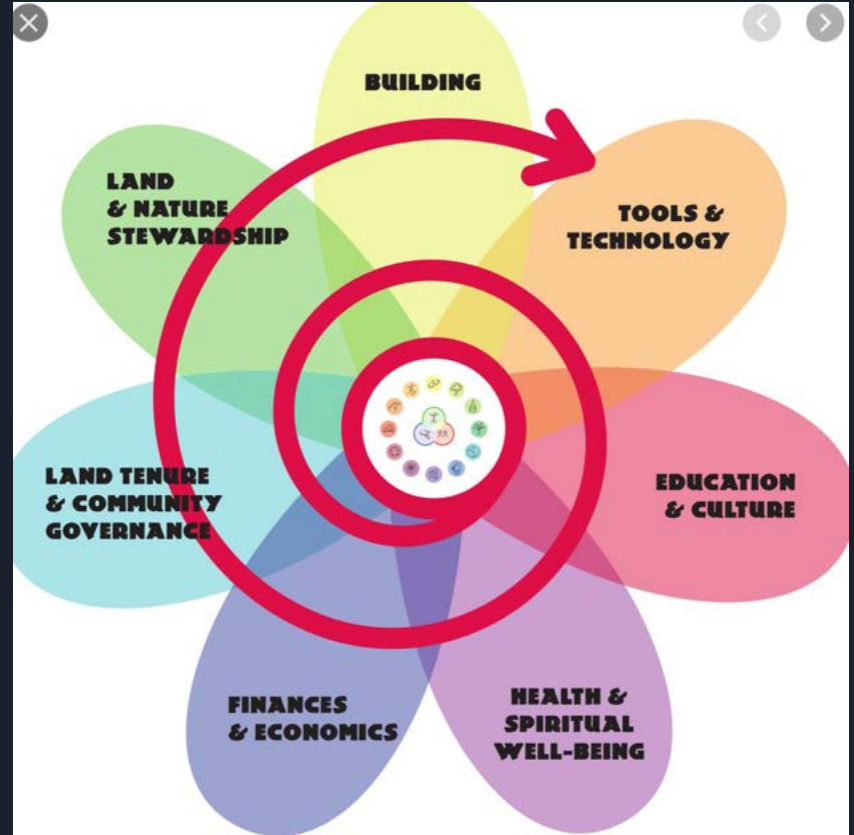
Zone 5: Duck habitat



The Social Design

The four principles of Permaculture are:

- Earth Care: Leaving the earth better than we found it
- People Care: Taking care of each other
- Fair Share: Using only the resources we need, sourcing in ethical manner
- Future Care: Making choices that will benefit future generations



The Social Design

- We are looking to create a courtyard and programming that invites, includes, and reflects the many cultures and individuals that are part of the SLP Middle School Community.
- Social permaculture asks that we call people in and work together, using the four permaculture ethics to create a better, more sustainable world.
- As we work toward creating a garden space, we also need to consider how to build a multi-racial community that works toward food security in St. Louis Park.



The Social Design

Programs Seeds Feeds plans to run through SLP Youth Enrichment Programs:

- Mid-Jan through April: Zoom cooking class for Middle Schoolers and their adults (or older sibling, cousin, or friend)
- Spring: Building/planting of the garden (pending Covid restrictions) or at home growing kits
- Summer: Farm Camp (pending Covid restrictions)



The Social Design

Building connection and community through food:

- Invite guest chefs to our Zoom cooking class, to include ethnically diverse recipes.
- Grow a culturally diverse variety of vegetables.
- Share favorite recipes.



The Social Design

Building community through art:

- Have students create art for the courtyard. This could be done through SLP Youth Enrichment Programs, clubs, or in school classes.
- Display interactive art, which students help design.
- Invite guest authors and/or poets.
- Provide educational signage in multiple languages.



The Social Design

Building community by addressing invisible structures:

- Engage in meaningful conversations about food insecurity, access, and barriers to eating healthy food.
- Engage in meaningful conversations about the intersection of food and racial justice.
- Empower students to grow and cook their own healthy food.
- Empower our community to make changes so all our neighbors have access to healthy food.
- Provide a space to connect with nature.

Food Access and Insecurity in St. Louis Park

Results from a Local Food Access Assessment

Author: Wilder Research



The Social Design

Utilizing partners within the community:

- Work with SLP Youth Enrichment Programs to provide programming.
- Engage families, school faculty, past, present and future students, and community volunteers in projects and programs.
- Engage HDR and other local businesses to provide financial and hands on support.
- Connect with multicultural liaisons, equity coaches, grade level coordinators and other district staff to ensure we are engaging a diverse cross-section of the student population.



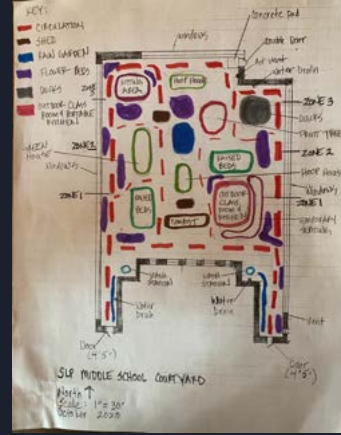
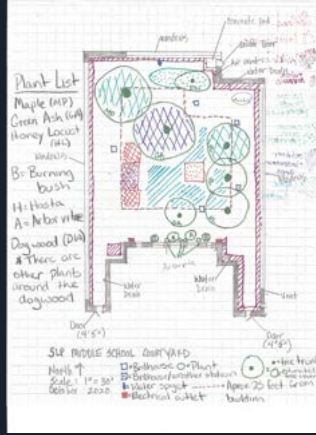
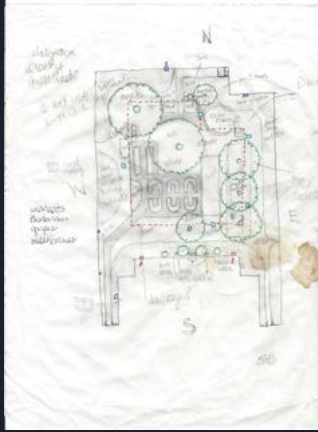
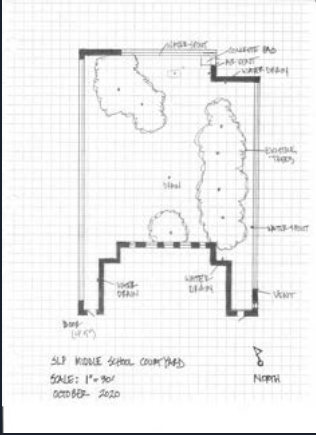
The Social Design

Engaging the Middle School Students through surveys about the courtyard:

- We have designed a duck habitat area, as part of a rain and pollinator garden. Ask students which plants they like best from a list of possible plants.
- Ask students about their favorite vegetables and plant as many as possible.
- Ask students about favorite meals or new meals they would want to try.

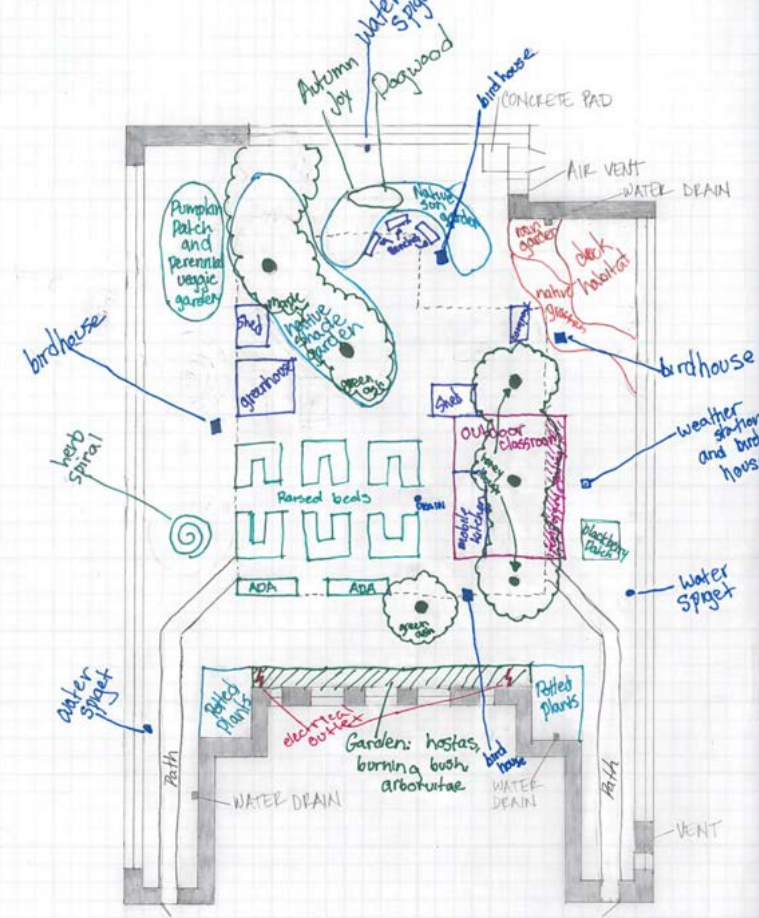


The Design Elements



Proposed Physical Design

We are interested in your feedback to improve it and meet the needs of the community.



SLP MIDDLE SCHOOL COURTYARD

SCALE: 1" = 20'
OCTOBER 2020

NORTH ↑

Physical Design

Potted plants/Art

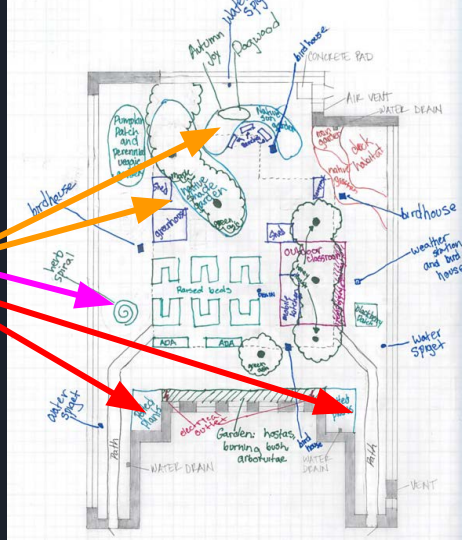
- Welcomes and engages students and visitors
- Allows students to express themselves
- Students can use the pots to learn to grow annuals

Herb Spiral:

- Teachers wanted herbs to be grown and possibly used in school lunches
- Allows for creation of microclimates so each herb can have its proper placement
- Aesthetically interesting and pleasing
- Uses of herbs

Native gardens:

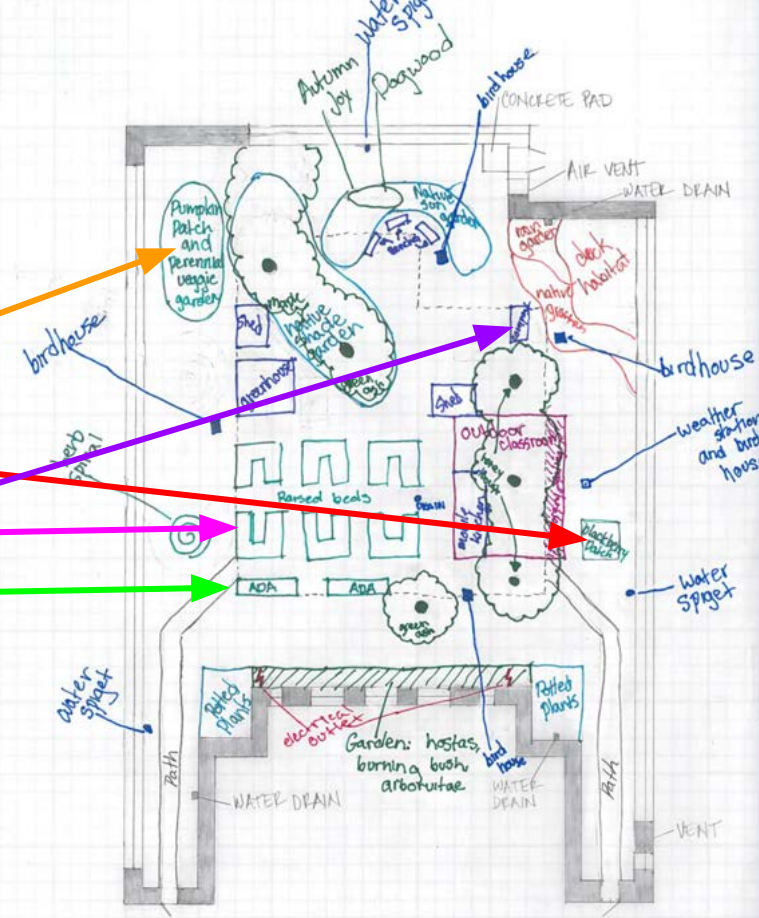
- Soaks up water and helps to build healthy soil
- Supports birds
- Supports the pollinators we need for our vegetables to fruit
- Space for students to read/enjoy nature



SLP MIDDLE SCHOOL COURTYARD
SCALE: 1" = 20"
OCTOBER 2020
NORTH

Physical Design

- Blackberry patch
- Pumpkin patch
- Raised Beds
 - ADA beds
- Compost



SLP MIDDLE SCHOOL COURTYARD

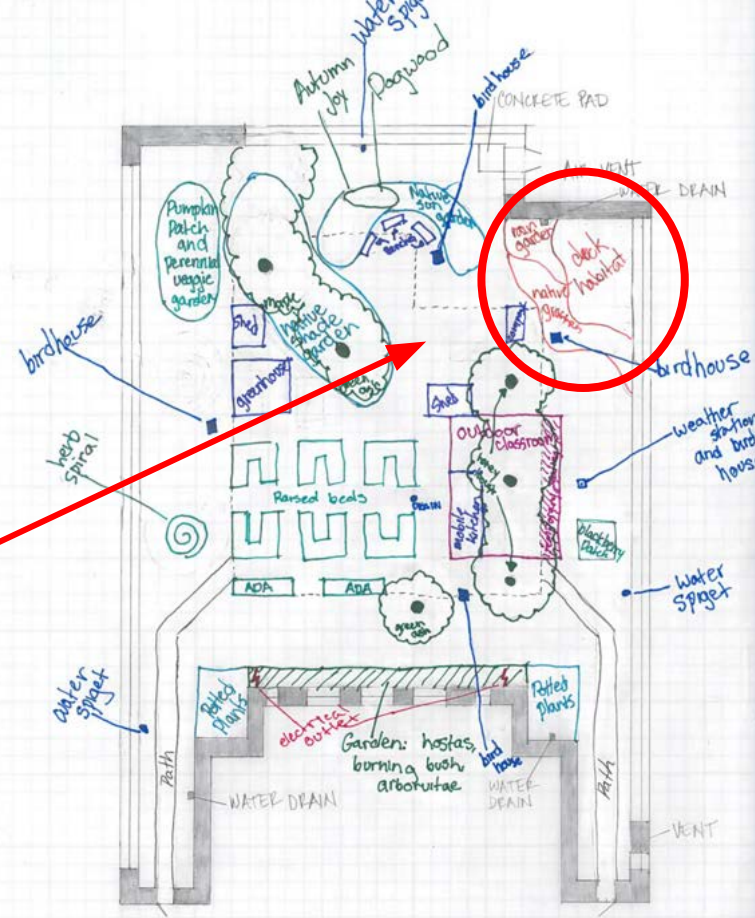
SCALE: 1" = 20'
OCTOBER 2020

NORTH

Duck Habitat and Native Rain Garden

We heard about the ducks from many people when we mentioned the courtyard, so we chose to make this our detailed design.

The Duck Habitat/Native rain garden is located here.



SLP MIDDLE SCHOOL COURTYARD

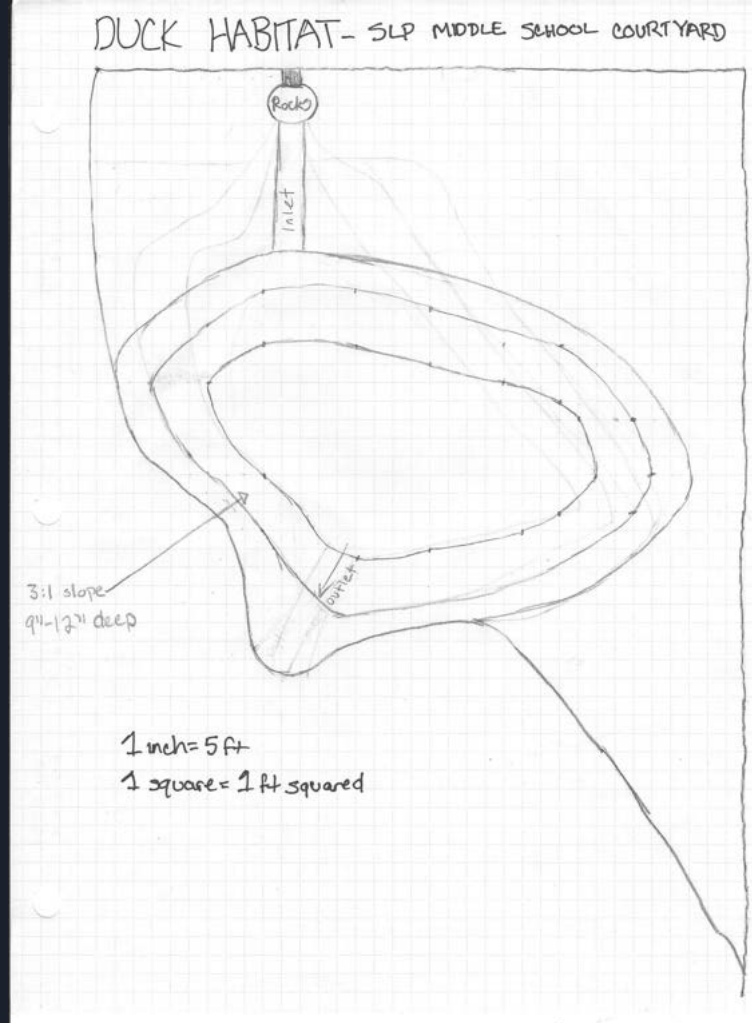
SCALE: 1" = 20'
OCTOBER 2020

NORTH

Rain Garden Physical Design

Raingarden

- 10 feet from the Northeast wall (this was revised from our original mapping)
- Water is carried from the drain spout via pipe or swale
- The area of the garden in total is 380 feet²
- The area of the basin is 170 feet², (capturing water from 510 feet² off of the roof) with a 3:1 slope represented in the next level as 1 foot shallower over a 3 foot wide area
- The outer layer of the rain garden is at grade level
- The outlet goes to the trees for more water absorption

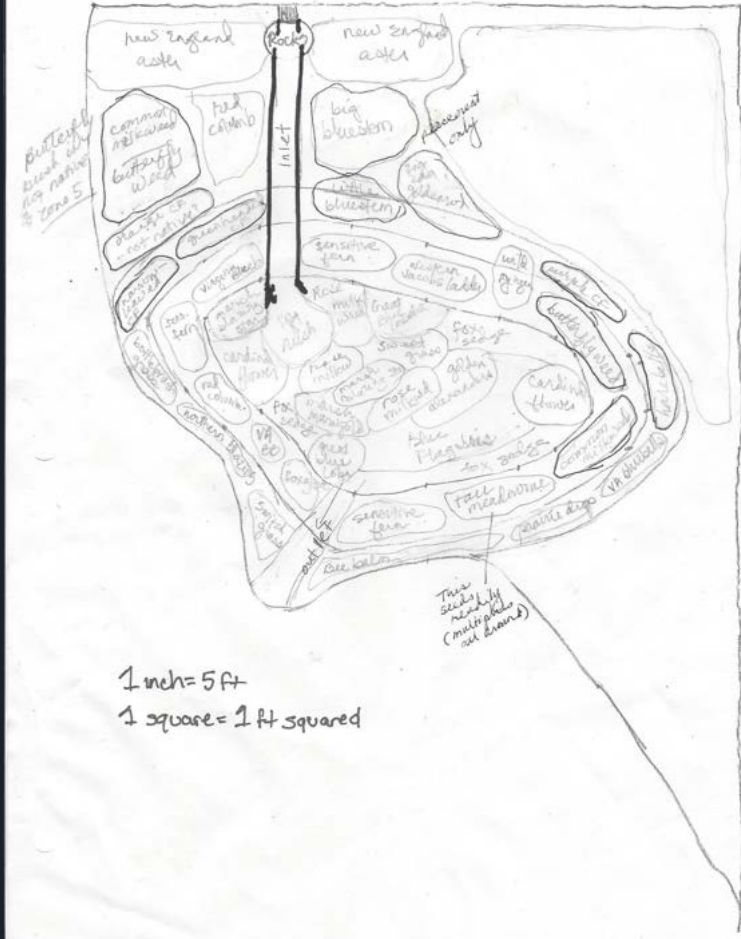


Physical Design

Raingarden

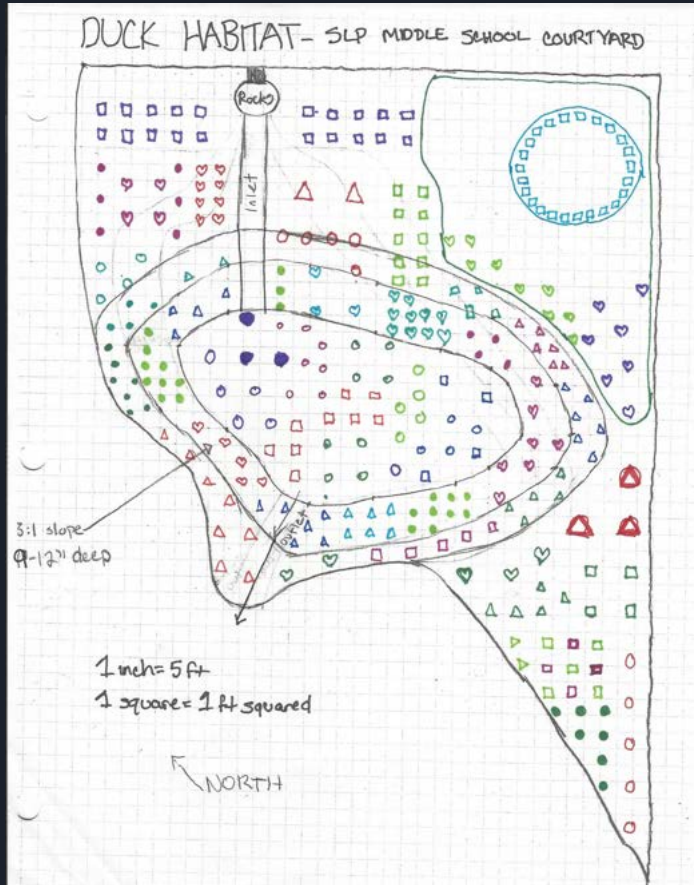
- Upper level is for dry-soil
- Sloped area is for moist- to dry-tolerant soils
- The basin of the soil is moist soil

DUCK HABITAT - SLP MIDDLE SCHOOL COURTYARD



Detailed Mapping of Duck Habitat and Native Rain Garden

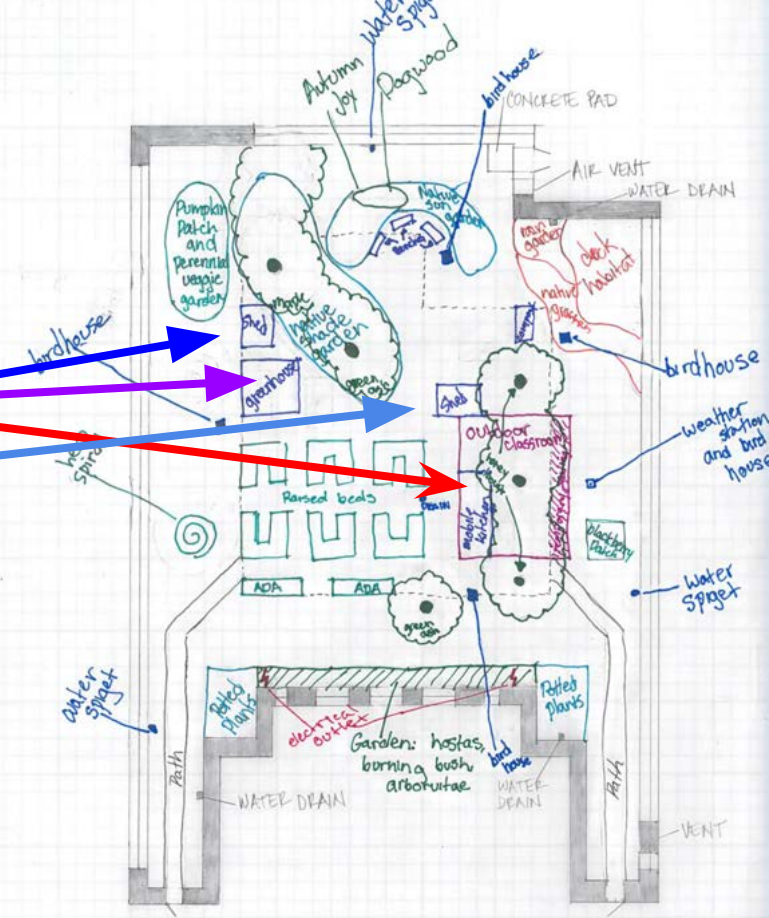
Plants are appropriately spaced with a key on the right.



Icon	Common Name	Scientific Name	Height	Spacing	Color of bloom	Bloom time
□	Bee Balm/ Wild Bergamot	Monarda fistulosa	2'-5'	12" - 18"	Purple	June-August
△	Big Bluestem	Andropogon gerardii	2'-7'	2'		
●	Bottlebrush grass	Elymus hystrix	2'-5'	12" - 18"		
●	Butterfly weed	Asclepias tuberosa	1'-2'	18"	Orange	June-September
♥	Common Milkweed	Asclepias syriaca	2'-5'	18"	Pink	June-August
△	Early Sunflower	Helianthus scaberrimus	3'-4'	18"-36"	Yellow	July-October
△	Foxglove	Penstemon digitalis	2'-5'	12" - 18"	White	May-June
△	Bear-tongue	Carex vulpinoidea	1'-3'	3'-4'	Green	May-June
○	Golden Alexanders	Zizia aurea	1'-3'	1'-2'	Yellow	May-July
△	Green Headed Coneflower	Rudbeckia laciniata	2'-10'	3'	Yellow	July-September
○	Great Blue Lobelia	Lobelia siphilitica	1'-4'	18"-24"	Blue/Lavender/ Purple	July-September
○	Harebell	Campanula rotundifolia	6"-20"	6" - 8"	Purple/Blue	June-October
△	Harlequin Blueflag Iris	Iris versicolor	1'-3'	18"-24"	Purple/Blue	May-June
□	Indian Grass	Sorghastrum nutans	3'-7'	2' - 3'		
○	Little Bluestem	Schizachyrium scoparium	1'-3'	12" - 18"		
○	Marsh Blazing Star	Liatris spicata	3'-6'	18"	Purple	July-September
○	Marsh Marigold	Caltha palustris	8"-24"	12" - 18"	Yellow	April-May
○	Narrow-leaf coneflower	Echinacea angustifolia	1'-3'	1'-3'	Purple	June-October
□	New England Aster	Symphoricarpos novae-angliae	3'-7'	12" - 18"	Pink/Purple	August-September
△	Northern Blazing Star	Liatris scariosa var	1'-4'	1'-2'		
○	Orange Coneflower	Rudbeckia fulgida	2'-4'	1'-3'	Orange/Yellow	July-September
○	Pennsylvania Sedge	Carex pensylvanica	6"-12"	6"-12"	Purple	May
△	Prairie Droopseed	Sporobolus heterolepis	1'-3'	12" - 18"		
□	Purple Coneflower	Echinacea purpurea	2'-4'	1'-3'	Purple	June-October
□	Red Cardinal Flower	Lobelia cardinalis	2'-4'	8"-12"	Red	July-October
♥	Red Columbine	Aquilegia canadensis	1'-3'	12" - 18"	Red/Yellow	May-July
○	Rose Milkweed	Asclepias incarnata	3'-4'	18"	Pink/Purple	July-September
○	Sea Green Juniper	Juniperus x pfitzeriana	4'-6'	8'		
●	Sensitive fern	Onoclea sensibilis	1'-3'	8"-12"		
●	Slender Wheatgrass	Elymus trachycaulis	1'-5'	2'		
♥	Soft Rush	Juncus effusus	1'-4'	2'	Brown	June-August
○	Sweetgrass	Anthoxanthum tritum	1'-3'	1' - 2'		
♥	Switchgrass	Panicum virgatum	3'-6'	2'		
△	Tall Meadow Rue	Thalictrum dasycarpum	2'-6'	18"	White	June-July
△	Virginia Bluebells	Mertensia virginica	1'-3'	12" - 24"	Blue/Purple	April-June
♥	Western Jacob's Ladder	Polemonium occidentale	40"	2'	Purple/Blue	June-July
♥	Wild Ginger	Asarum canadense	4"-12"	6" - 12"	Red/Pink	April-May
□	Wood Anemone	Anemone quinquefolia	4"-8"	3" - 5"	White	April-June
♥	Wood Millet	Milium effusum	2'-4'	1'		
□	Zigzag Goldenrod	Solidago flexicaulis	1'-4'	1' - 2'	Yellow	August-October

Structures

- Outdoor Kitchen Area
- Greenhouse
- Shed 1
- Shed 2



SLP MIDDLE SCHOOL COURTYARD
SCALE: 1" = 20'
OCTOBER 2020



Mobile Kitchen Education Area

- Covered area
- Tables and chairs or picnic tables
- Reclaimed, natural, and local material
- Easily transportable/ packable option



Wash station and kitchen area

Wash station

- Wash station area complete with sink and hose area and screen
- Ideally wash station will also have a means of capturing and storing the water for future usage

Kitchen area

- Basic kitchenware
- Shelves and storage
- Foldable kitchen workspace
- Some source of heat (outdoor stove, fire, woodfired oven)



Greenhouse and Sheds

Greenhouse

- Small (6'X8' - 10'X14')
- Hoop house
- Raised bed cover
- Geodesic dome
- Hard-sided

Sheds

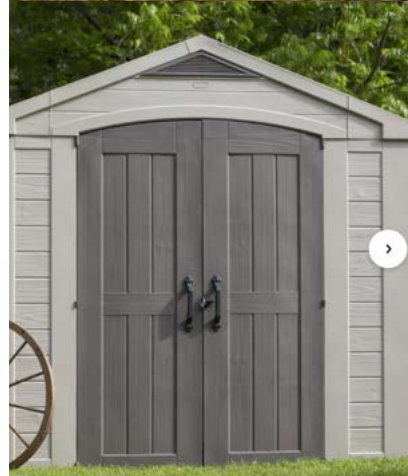
- Two small sheds for tool and equipment storage



Budget

Phase 1 Funding: Grant from HDR Foundation

- \$30,000
- Raised beds and soil
- Irrigation
- Sheds
- Wash stations
- Garden Equipment
- Garden Tools for Students
- Plants and Seeds



Budget



Future Phases to Fund:

- Native gardens
- Benches for a reading nook
- Outdoor kitchen/classroom
- Herb Spiral
- Art supplies

Future Grants

- Applied for SLP Community and Youth Development Fund Grant
- Will be applying to Family Service Collaborative and SLP Schools foundation grants
- Minnesota Department of Education has funding if we get CTE (Career and Technical Education) certified
- Others grants are available educational, nature conservation, and food security purposes



Maintenance

Vegetable Beds:

- Planted and maintained by students and Seeds Feeds through SLP Youth Enrichment Programs
- End of season clean up day with community volunteers or school clubs/sports teams headed by Kristy Burgeson

Native Beds:

- 3 - 4 scheduled volunteer weeding/mulching days from May - September headed by Kristy Burgeson



Thank you!

