

ASCI\*3000 Future Land Uses

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## Introduction

This report will include all our ideas for the proposed 70-acre parcel. As the ‘Future Land Use’ group, we have combined the wants and needs of Yorklands Green Hub (YGH) with our knowledge of sustainability and conservation to create a guide as to some possible ways to use this parcel of land. We have ensured that this proposal aligns with YGH's “four pillars of sustainability”: energy & transportation, water & resource conservation, local food production & security, and cultural/natural heritage preservation. This report contains suggestions for future land use that can be used in conjunction with any previous plans.

## Initial Hesitations and Limitations

This project is very large, almost too large if one isn't careful. One obvious limitation to this project is budget. Some options for the land are very expensive, such as keeping livestock or renovating the Superintendent's house to be self-sustaining. We are not experts in this area, therefore we do not want to project a certain budget, and have it been far off the mark. We also do not know the extent of the budget available to YGH, therefore we planned the project with the idea that YGH can take the ideas they like and that they find feasible.

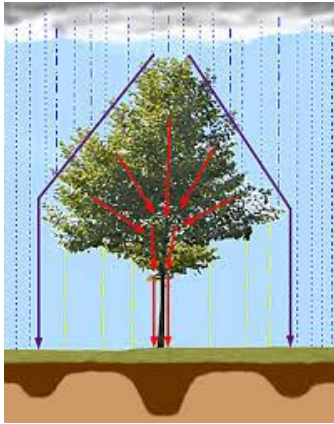
## Deliverables

We have created a blueprint for a sign that could be posted around the site illustrating the area and how we envision our ideas for future land would be implemented. This blueprint includes a suggested location of ten options of land use and a brief description of what the ideas entail. Although it is just a prototype, we believe that YGH could take this sketch and refine it to be made into a display for the site. In addition, we designed a brochure that talks about the lifestyle and science behind sustainability and conservation. This can be distributed to the public in order to advertise YGH and hopefully get people excited about all the potential attractions shown in the brochure. Finally, we have provided YGH this report which describes our ideas in detail. We have also, as per our community partner's request, produced a new digital map of the site that YGH wishes to purchase.

## Wetlands Remediation

Around half of the wetlands on the YGH site has been overtaken by *Phragmites australis*, also known as the common reed, an invasive species that steals space and nutrients from native species. Through a simple combination of management strategies, the native cattails and other organisms can reclaim their habitat as well as prevent future spreading of the phragmites. The Ontario Ministry of Natural Resources has developed a detailed report on the best ways to deal with *Phragmites* that should be taken into consideration (Ontario Ministry of Natural Resources, 2011).

## Water Quality Preservation



In addition to benefiting the biodiversity of the site, increasing native tree abundance can help decrease the effects of stormwater runoff, protect water quality through soil filtration, and prevent erosion of banks. Trees filter and regulate the flow of water when it rains and this slowing of precipitation decreases the impact felt by the soil and allows for better absorption (Fig.1). Trees also absorb nutrients that would otherwise be washed away. The recommended trees for water quality are poplar and willow. They are fast growing and provide a filtering and stabilization effect (Woodland Trust, 2014). Planting these trees along the banks of any bodies of water will help protect the water from leaching soil contaminants as well as erosion.

Figure 1. Throughflow and stemflow  
(physicalgeography.net)

## Soil Remediation

As we understand, there are some areas of the site that are contaminated with cadmium. One way to begin to fix this is through phytoremediation, which is the removal of toxins through plants. The roots of these plants absorb the contaminants, break them down through metabolic processes and release them into the atmosphere as evaporation occurs. Planting Pennycress (*Thlaspi arvense*) in regions of cadmium contamination would help reduce the concentration of the metal. Pennycress can be bought at a local nursery. Another method is mycoremediation, the use of fungi to 'clean' the soil. Planting *T. asperellum* has showed maximum removal efficiency of cadmium (76.17%) (Mohsenzadeh and Shahrokhi, 2014).

## Pollinators

Bees are an integral component to sustainability in so many ways. Agriculture depends on them for pollination and we depend on agriculture for our livelihoods. Implementing beehives is a great way to support the struggling bee populations. The Alberta Ministry of Agriculture and Forestry have composed a very insightful fact sheet about raising bees that we believe would be a good place to start (Government of Alberta, 2002). It is important to remember that beekeeping is an investment and requires a lot of constant attention. It would be effective to start with only three or four hives, as one hive can contain anywhere from 10,000 to 60,000 bees. Planting wildflowers in any unoccupied fields would support the bee population and encourage them to pollinate. Wildflower seed packets can be bought at any garden store.

## Food Forest

### **Overview**

Imagine walking through a small forest laden with food. Imagine berry bushes lining pathways growing around small fruit trees and hazelnut thickets, with the forest canopy composed of productive nut trees. The groundcover is a carpet of culinary and medicinal herbs, with pathways offering easy access from the edges throughout the interior. The land is rich in fungi, insects, amphibians, birds, and other wildlife. A food forest like this is a long-term, low-maintenance, productive, resilient, and diverse planting of fruit and nut trees, shrubs, vines, herbs, and perennial vegetables. It mimics the natural environment while abundantly providing for human needs and supporting a rich biodiversity. The harvest would be available to the community throughout the growing season and used in education and food security projects.

A food forest aligns with multiple core components of YGH's vision and goals. For example, the goals of becoming "A destination that promotes innovative, sustainable and resilient food production," (Yorklands Green Hub, *About*, 2018) and "fostering increased citizen engagement in building strong, safe, healthy and inclusive communities" (Yorklands Green Hub, *About*, 2018) would be excellently complemented with the inclusion of a food forest. Researchers are increasingly recognizing that "structurally integrating ecosystem services into landscape planning, management, and design is critical to improving urban landscape sustainability and resilience, and improving human well-being" (Clark and Nicholas, 2013, 1650). These same authors see that urban food forests "can be a valuable strategy to address multiple sustainability challenges (e.g., food security, climate change, and poverty), to contribute to health through affordably increasing public consumption of nutrient-dense foods to combat hunger and obesity, and that it can be used to promote sustainable urban development through providing ecosystem services." (Clark and Nicholas, 2013, 1666).

"Ecosystem services" provided by food forests are carbon sequestration by growing woody perennials, an increase in biodiversity and pollinator habitat, and decreased water and nutrient runoff, to name a few. In the social realm, YGH's vision of building "urban resilience and wellbeing" (Yorklands Green Hub, *Our Vision*, 2018) would be amply supported by the abundant hands-on volunteer opportunities a food forest would provide, via work parties around planting, fertilizing, pruning, harvesting, preserving, and distributing. Further, it is worth considering that at least part of the harvest be made free to the community, in addition education and food security projects. Learning from and emulating the work of organizations referenced in the *Assessment of Past Proposals* section of our report would make YGH's efforts to build "urban resilience and wellbeing" much more robust and appealing to a wide variety of people.

Certainly, a food forest is not the be-all and end-all of being a "world leader in the development and implementation of resilient and sustainable ecological, social and economic innovations" (Yorklands Green Hub, *Our Vision*, 2018). But we do think implementing a multi-faceted food forest with a social justice analysis can put Guelph ahead of an unfolding trend. Food forests are emerging worldwide as a response to food insecurity and climate change (Urban Food Forestry, 2018). However, on a national scale, "urban food forests are only beginning to gain recognition in Canadian municipal urban forest management" (Kowalski and Conway, 2018). Guelph's urban forest management plan contains not a

single reference to food (City of Guelph, 2012). This affords YGH the opportunity to be ahead of the curve.

In Guelph there is a wide array of food producing and procuring activities, including a city-wide community garden network, the Guelph Centre for Urban Organic Farming, urban gleaning projects via Transition Guelph, guerilla gardening and small-scale foraging, as well as organizations that seek to alleviate poverty and food insecurity, but cross-pollination between these is lacking, and we believe the inclusion of a social justice-oriented food forest in YGH's future land use would be an excellent multi-disciplinary project.

### **Decolonization**

YGH states clearly their desire to be "An historic exhibition center that acknowledges the stewardship of the Mississauga First Nation" (Yorklands Green Hub, *About*, 2018). Related to that is their Territorial Acknowledgement that was added to their website on October 28, 2018 (Yorklands Green Hub, *Territorial Acknowledgement*, 2018). Recognition of the historical and contemporary wrongs done to First Nations people is at an all-time high in Canada, and the recommendations from the Truth and Reconciliation Committee are being implemented across governments, schools, businesses, and other sectors of Canadian society. We think a food forest presents an opportunity to integrate some of this groundswell of change.

An important conceptual piece is that food forests are both ancient and new to this land. They are ancient because Indigenous people maintained long-term and far-ranging agro-ecological and forest management programs, but their relationship with the land was severed by European genocide and conquest (Wright 1991). We see this history as an underlying structural element to any use of YGH's site, and educational material would have the potential for important cultural change.

The idea that Indigenous people were mostly hunter-gatherers for whom life was a constant struggle for food and survival has been exposed as a myth (Mann 2006). It is now recognized that much of the forests the first Europeans thought were wild were actually vast forest gardens tended to for generations by Indigenous people (Burr 2009). Forest gardens are believed to be "as old as the human race itself. In the gradual process of families improving their immediate environment, useful tree and vine species were identified, protected and improved, whilst undesirable species were eliminated. Eventually superior introduced species were selected and incorporated into the gardens" (McConnell 2003). As we know, European colonists thought the only way to improve the land was to cut and burn everything in order to grow monocrops, and as such could not truly see what was right in front of them.

Given the historical context the YGH is situated in, combined with the trend of decolonization permeating Canadian society and YGH's interest in recognizing the "stewardship of the Mississauga First Nation," (Yorklands Green Hub, *About*, 2018) there is an opportunity to even further multiply the functionality of the food forest. This could be accomplished with signage, relevant programming, and a First Nations-led opening ceremony, for example.

### **Conclusion**

This section is a conceptual analysis that conveys the multiple merits of a food forest. The actual design and implementation of a food forest would be based on a wealth of resources that would be too voluminous to include here, and such a process is likely best to have led by someone who is hired by

YGH specifically for that purpose. Unless a current member of YGH already is already versed in this information and has the capacity to take it on, it would require a significant investment of time. For example, the two-volume *Edible Forest Gardens* texts, seen as the foremost resource among forest gardeners, surpass 1,000 pages and contain dozens of detailed tables, such as *Plant hardiness zone maps*, *Species-by-use tables*, *Species-by-function tables*, *The top forty ground covers*, *Indicator plants*, and many more (Jacke and Toensmeier 2005).

If YGH wants to seek out a regional forest garden practitioner as a resource, below are several resources.

Members of The Living Centre, near London, teach on forest gardening, have organized several annual forest gardening convergences, and run the Artemisia Forest Garden Nursery.

<https://www.thelivingcentre.com>.

Ben Caesar is a former Guelphite who runs a forest gardening nursery and consults on the topic.

<http://fiddleheadnursery.ca>.

Whiffletree Farm and Nursery has a wide selection of fruit and nut trees, shrubs, and vines that are sought after by forest gardeners. Their nursery is near Elmira.

<https://www.whiffletreefarmandnursery.ca>.

Green Barn Farm focuses on cold-hardy fruit, nut and berry varieties suitable for forest gardens in Ontario. <https://www.greenbarnnursery.ca/>.

Grimo Nut Nursery stand out in the Great Lakes region for specializing in a wide array of nut trees and hard-to-find fruit trees. Their selection is unbeatable and bulk discounts are available.

<https://www.grimonut.com/>.

### Community Gardens and Greenhouses

Implementing community gardens and community accessible greenhouses on the site would be an excellent way to bring the community together. Studies have shown that communities that have access to gardens grow closer (Hoffman, Wallach & Sanchez, 2010). Additionally, when people are given agency, such as creating and maintaining a community garden, not only are they more willing to learn about sustainable practices; they are also more likely to apply those practices than those given no agency (Hicks et al., 2016). Research has also shown that community gardening can have a positive impact on human health, both mental and physical, based on families who have participated in community gardens. Finally, community gardens help eliminate food security as a concern in families, since these families can learn how to cultivate their own crops (Carney et al., 2011).

The gardens will be on raised beds, to avoid any contamination from the soil. The crops grown in these raised beds will vary by season, in order to allow gardeners to learn about a variety of plants. The greenhouses, because they are temperature controlled, will be able to support a variety of plants. The greenhouses can therefore be used as both a place to grow produce year-round, as well as a place to study species not native to Ontario. Both the greenhouses and the community gardens are near the Superintendents house, so that the food is easily obtained to be used in the kitchens or by community members themselves.

### Food Production: Community Cropping

The GCC site has a large chunk of arable land, and the Yorklands Green Hub group would like to see it returned to its agricultural roots as a self-sustaining entity. Variances in soil types (wetland vs non-wetland) and potential past soil contamination would need to be accounted for when designating areas of crop production; this means that planting large pieces of land with a single crop (monocropping) would be difficult to balance productivity. However, by designating planting sites based on the soil types and planting a diverse number of crops and plants according to best growing conditions provides a host of benefits which include ecological stability (greater pest and disease resistance), enhanced soil health, and a more nutritionally diverse final product (Shelat and Gopichandran, 2015).

YGH would like to see the GCC site evolve into a local food production hub for the community that would provide learning and working experience, food security and sustainability, and which would promote a sense of community (Liu *et al.*, 2017). The incorporation of livestock into this system would further promote these benefits and help complete the nutrient cycle, as well as utilize waste products not fit for human consumption. Furthermore, the introduction of a farmer's market on site would help attract potential customers and citizens, providing a means to sell/buy produce and raise publicity. Ultimately, the end goal of a sustainable local community food hub has very real potential to provide significant economic, social, and ecological benefits to the city of Guelph.

### Integration of livestock in community agriculture

When utilized properly, livestock can have tremendous ecological and economic impacts on food productivity and energy use. Additionally, having greater species diversity among livestock on a food production operation further enhances these benefits by providing stability, multifunctionality (draft, fiber), and recycling of nutrients within the production system. Utilizing traditional livestock at the YGH site could provide food products (meat, eggs, milk), recycling of nutrients through manure usage, and feeding food scraps and enhance crop and plant production (Shelat and Gopichandran, 2015).

YGH would like to see horses used on the site as well. Specifically, YGH would like to have Icelandic ponies on site to provide companionship, draft, and even for offering rides as a means of producing income, or to encourage more families to explore the land. Icelandic ponies are a hardy, cold-tolerant breed of horse that could live outside off pasture and hay. No barn would be required (no building cost), however some small shelters would be required for all animals and ideally a place to bring the animals out of the elements if need be.

The Yorklands Greenhub should make the agroecology side of their land development a primary focus because it fits all 4 of their pillars: local food production, energy (solar/wind/hydro/biomass), promotes Guelph's agricultural heritage, and enhances the surrounding aquatic and terrestrial systems (Yorklands Community Project Organization, 2018).

### Future Use of Superintendent's House

Inside the superintendent's house, a variety of community activities will be held. The cultural heritage will be preserved both on the inside and outside, and a wall will be dedicated to displaying the history of the corrections facility within the house. A main concentration for this building will be converting some of the rooms into community classrooms. This will give Guelph citizens the opportunity to learn about sustainable energy, ecology, and environmental conservation. These classes could potentially involve students from the University of Guelph who are in programs related to these topics, or students interested in teaching.

Another idea discussed by our team involved introducing a café into the superintendent's house. This would give YGH the opportunity to make a profit off of this local business and demonstrate sustainable living. The café would use vegetables, nuts, and fruits from the site itself and it could connect with other local businesses for other Guelph-made products. This idea would most likely require an addition attached to the already existing building. It would be a great way to welcome more community members on to the site and it could be a great investment once other developments on the land are flourishing. Families and children could get further involved in learning about self-sustainability by helping cook their own food. Some organizations, such as Food Share, have developed simple technologies for making meals/drinks that rely purely on human energy. YGH could install a bike blender into this café so that people can see how waste-free energy can feed us! This bike can be made fairly easily using a regular bicycle and blender, and it creates a fun (and interesting) piece of educational equipment that involved the community in sustainable energy sources (Food Share, 2018). This company even provides a manual on how to build these bikes:

[https://foodshare.net/custom/uploads/2015/11/Bike\\_Blender\\_Guide\\_HIGH.pdf](https://foodshare.net/custom/uploads/2015/11/Bike_Blender_Guide_HIGH.pdf).

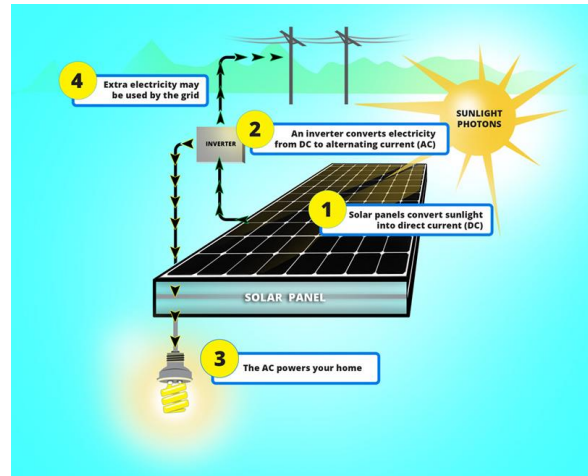
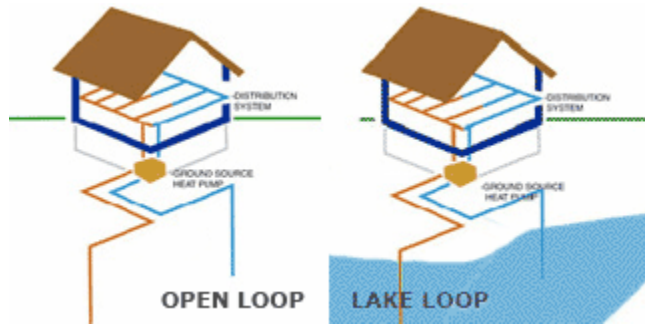
### Renewable Energy

A large portion of our plan is based on ensuring the property is self-sustainable. The superintendent's house will require the most electricity for the purpose of lighting, heating, and other appliances. Depending on YGH's plan for the building, as well as our proposed ideas, solar energy and geothermal energy may be the most reliable sources for this environment.

Yorklands Green Hub has already worked with Guelph Solar to create a plan for the projected site with the goals of saving money in the long term and protecting the environment in mind. This plan outlines using 28 solar panels along the southern-facing rooves on the superintendent's house. This plan will allow YGH to pay off the initial investment of equipment and implementation in under 14 years, allowing them to save nearly \$60,000 in the following 11 years (Guelph Solar, 2018). These panels will work effectively to collect energy from photons emitted by the sun. Electrons are split from the atoms that make up these photons when solar energy hits the panels, which leads to the creation of an electric circuit when attached to conductors. In solar panels, direct current electricity is produced as electrons move in one direction through a circuit. Solar inverters take direct current electricity and convert it into alternating current electricity in order to use this energy over larger distances and for less cost (Fig. 2).



Solar panels act as a clean, and highly efficient energy source that allows for electricity availability even on cloudy days and at night using credit systems when excess energy is produced on sunny days (DeBono, 2017).



Geothermal energy is another sustainable option for YGH to use in the superintendent's

house, specifically for heating and air conditioning. It utilizes heat that is naturally produced by the Earth's core and radiated into the mantle of its crust. This site could be appropriate for a horizontal open-loop system (Fig. 3). In this type of geothermal process, water is pumped directly from ponds underground and brought to the building through pipes (Ontario Geothermal Association, 2015). Since the site is quite large, a horizontal loop may be implemented, which is typically more cost efficient than vertical loops since it does not require drilling as deep into the ground (Geothermal Genius, 2014). Water would be brought to a generator which can heat it or cool it. Water can then be returned to the body of water it was taken from through an alternative route. This water remains perfectly clean and would not contain any added pollutants, so the condition of the pond would not change. The only difference this returning water has from when it was taken would be a slight change in temperature. Geothermal heating and cooling systems like these will allow YGH to consume around 50-70% less electricity than standard homes that do not utilize this source of natural energy (Ontario Geothermal Association, 2015).

Some fairly local energy connections that YGH can contact for installation of these systems include Eden Energy Equipment, Hayter Group, and Guelph Solar Mechanical Inc.

### Play Structure

Another idea brainstormed by our group was the installation of a sustainable, eco-park play structure. Such a park would invite more families to the land and it would give children more a chance to learn about their community, sustainability, and other educational sources found on the site. The city of Guelph had one of these play structures built in Riverside Park and Exhibition Park this past year by the company Earthscape. This company has field offices located in Toronto and Elmira, which are fairly close to Guelph. The company focusses on creating playgrounds that are creative and challenging for children and which allow them to take small risks in a safe space. Important for this project, the Earthscape structures typically emphasize nature and connect children with the natural world around them (Earthscape, 2018).

## Digital Map Revisions

We were asked to adjust the map displaying section 2 of the land to improve the resolution, aesthetics, and create a border and labels. We created two options for YGH, so they may pick the one they prefer. The maps in question are attached to this document, we have also provided digital copies on a USB for uploading online. By using a digital copy, the resolution of the image is preserved, giving the image a cleaner and sharper look.



## Assessment and Synthesis of Past Proposals

YGH has had several prior university classes offer in-depth proposals, and what follows is an assessment of the current relevance of their suggestions. These prior reports include a design project from University of Guelph Landscape Architecture student Natalie Gibbs in 2015, a 2014 report titled *Environmental Demonstration Hubs – Orienting Concepts and Applied Examples* from The Research Shop, a project of the University of Guelph's Institute for Community Engaged Scholarship, and another 2014 report from a Wilfred Laurier University Economic Geography class.

While YGH's vision has remained essentially the same, some things related to the site in question have changed. For example, the site has been increased from 36 acres to 70 acres; the portion containing Clythe Creek is no longer part of the site; the province will sell the property, not lease it; and the YGH now lists *Heritage* as their 4<sup>th</sup> pillar, alongside food, water, and energy.

### **Natalie Gibbs:**

In early 2015, University of Guelph landscape architecture student Natalie Gibbs completed a conceptual site design of the YGH site. Her inventory related to the original 36-acre parcel, identifying basic physical features and soil types, and locating the best sites for growing vegetables. Since 2015, the parcel that YGH is eyeing has changed to a 70-acre parcel with several changes to the boundaries. As such, the concepts Natalie presents hold more relevance than the details of her mapping.

### **Concepts:**

#### **Permaculture**

Introduction to permaculture design concepts. At permaculture's core are three pillars: care of the earth, care of people, and sharing the surplus.

An early definition of permaculture, offered by one of its founders, is "The conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability, and resilience of natural ecosystems" (Mollison, 1997). A broader definition has since evolved: "Permaculture is a design discipline based on a set of ethics and the foundational principles of the natural world. Permaculturists apply what they learn from nature and traditional land-based cultures to the human environment, developing ways to ecologically produce food, create shelter, store water, design economic and governance systems, and meet human needs via informed ecological design. The aim is to develop human communities that improve the environment of life so that all may flourish" (Permaculture Institute, 2018).

We see permaculture as most useful to YGH as it applies to the management and improvement of the cultivated and wild sections of the site. It is possible to apply permaculture design principles more broadly, to include the implementation of YGH's long-term vision, its internal decision-making processes, the flow of all activity and energy on the site, and more, and there are local people who could serve as resources for this. However, that would entail an involved collective process within YGH of

learning the permaculture paradigm and spending a significant amount of time conceptualizing its implementation. We wonder if YGH's organizers have other models that may already be working well.

*Suggestion:* Find a regional permaculture designer to see the site design through to actualization. Below are three options.

An active Guelph-based permaculture designer and teacher is Brad Peterson, who has extensive experience designing large and small sites. <https://www.bradpeterson.ca/>.

Jane Hayes is a Toronto-based permaculture teacher and designer who has “spent 23 years co-developing healthy food programs and accompanying site designs with municipalities, non-profits and socially responsible businesses” (Garden Jane, *Meet Jane*, 2018). She's also helped establish children's gardens and worked with Toronto's community garden program, so may be helpful for multiple reasons. <http://www.gardenjane.com/>

Jillian Hovey used to live and study in Guelph and is now a Toronto-based permaculture teacher who has taught on the subject for more than 20 years. She has also worked with cohousing communities and ecovillages. <http://www.jillianhovey.com>.

### **Edible Forest Gardening**

Natalie also introduces the concept of forest gardening. This field is related to permaculture in that both are studies of ecological design that combine useful perennial species in ways that maximize production, while highly valuing ecological benefits, and both can be applied to small or large plots. As mentioned above, permaculture principles have been applied to a wider range of human spheres. We include the forest gardening concepts introduced by Natalie in the section on creating a food forest.

### **Site design maps**

Natalie offered two maps – a larger Master Plan and a smaller detailed Urban Agriculture Hub. Despite the fact Natalie offered a site design based on a previous incarnation of the site's boundaries, her maps are very detailed and can still inform and inspire YGH's site design process.

*Suggestion:* Members of YGH identify features they want to keep and pass these examples on to whoever does a final site design.

### **Programming options**

Natalie offered 23 programming options, and while it is not clear from her document what degree these are based on explicit direction from YGH, they generally still fit YGH's current mandate and are almost entirely included in this document. Most, if not all, of these options have been mentioned to us by Norah, so perhaps Norah mentioned them to Natalie as well, or Natalie has inspired these ideas in Norah.

### **Suggested examples to learn from:**

The usefulness of her three examples are summarized as follows:

**New Forest Farm** – In the works for more than 20 years, New Forest Farm is one of the continent’s “most ambitious large-scale conversions of former degraded corn farm into a perennial agricultural ecosystem” (New Forest Farm, 2018). They focus on systems that are “building soil, retaining water, sequestering carbon, diversifying habitat, and cultivating the human being and our ecology” (New Forest Farm, About, 2018)

As a commercial-scale perennial agriculture system the New Forest Farm (NFF) may be of limited use to YGH, which is looking at smaller-scale multi-faceted operations. The feature most notable about NFF is their use of earthworks (berms, swales, etc. on contour) to maximize water retention; this would be of use to YGH for their interest in sustainable agriculture and benefits to the ecosystem, and NFF are premier teachers of this method.

<https://newforestfarm.us/>

**Evergreen Brickworks** – Based in Toronto’s Don Valley, this is the most active and vibrant regional organization with very similar goals as YGH. Aspiring to be “global showcase for green design” (Evergreen, *Visitor Info*, 2018) that “connects citizens, business, academia and government in order to shape our cities for the better” (Evergreen, *What is Evergreen Brickworks?*, 2018), the Evergreen Brickworks hosts a weekly farmers market, an annual seed sale, ongoing art exhibits, a café, bike repair shop, intensive aquaponics, a skating rink, and an experiential Forest school for homeschooled children and day camp programming for children in schools. They also rent office and project space for like-minded companies.

In particular the Brickworks could be learned from regarding YGH’s interest in renovating the superintendent’s house on site, since the Brickworks themselves redeveloped an abandoned facility for their home base. Secondly, the Brickworks’ business model as a ‘social enterprise,’ is in line with the YGH’s values and could be integrated into YGH’s process of developing a public environmental education hub. As their website states, “A relatively new term for a well-established concept, a social enterprise is a business operated by a charity or non-profit organization that sells goods and/or services in the market place, for the dual purpose of generating income and achieving a social, cultural and/or environmental mission” (Evergreen, *What is Evergreen Brickworks?*, 2018).

<https://www.evergreen.ca/evergreen-brick-works/>

**Guelph Centre for Urban Organic Farming** – this is a 2.5-acre certified organic research farm focused on sustainable urban food production. Over ten years the GCUOF has amassed a wealth of experience not only in small-scale farming but also organizing seedling and vegetable sales, teaching youth about farming, working with greenhouses, liaising with both academia and the community-at-large.

The GCUOF is already listed on the YGH's *Endorsers* page and personal contact may already be established. We recommend them as the primary Guelph-based go-to organization for assistance in implementing urban-scale agriculture on the site.

<https://www.uoguelph.ca/oac/gcuof>.

In addition to Natalie's examples we suggest two more that are noteworthy:

**Beacon Food Forest in Seattle** – Recognized as one of the most established food forests on public land in North America, Seattle's Beacon Food Forest began in 2009 on a 5-acre piece of municipally-owned land. Their food forest has an "Edible Arboretum with fruits gathered from regions around the world, a Berry Patch for canning, gleaning and picking, a Nut Grove with trees providing shade and sustenance, a Community Garden for families to grow their own food, a Gathering Plaza for celebration and education, a Kid's Area for education and play and a Living Gateway to connect and serve as portals as you meander through the forest" (Beacon Food Forest, 2018).

<https://beaconfoodforest.org>

**The *rare* Charitable Research Reserve** : The *rare* Charitable Research Reserve is a 900-acre urban land trust and environmental institute at the confluence of the Grand and Speed Rivers. Their mission is to "provide unprecedented engagement opportunities in ecological and cultural research, education, community engagement and recreation" (*rare* Charitable Research Reserve, 2018).

*rare* stands out for their commitment to demonstrating "the link between ecological integrity and economic sustainability [that] includes meaningful reconciliation with Indigenous Peoples" (*rare* Charitable Research Reserve, 2018), which relates to the need for decolonization mentioned in the *Food Forest* section of this report.

<http://raresites.org/>

### **The Research Shop:**

In January 2014, The Research Shop, a project of the University of Guelph's Institute for Community Engaged Scholarship, composed a document entitled *Environmental Demonstration Hubs – Orienting Concepts and Applied Examples*. This document drew from academic and NGO sources to present a "compilation of working models, central concepts, and promising practices related to environmentally oriented community hubs," with the intention of aiding in the decision-making process of YGH.

### **Concepts:**

#### **A Living Lab**



The most useful concept presented in the Research Shop's document is that of a Living Lab. "A Living Lab constitutes an experiential environment, which could be compared to the concept of experiential learning, where users are immersed in a creative social space for designing and experiencing their own future. Living labs could also be used by policy makers and users/citizens for designing, exploring, experiencing and refining new policies and regulations in real-life scenarios for evaluating their potential impacts before their implementations" (Wikipeda, *Living Lab*, 2018).

This concept is in line with several of YGH's goals, in particular, "to be a self-sustaining education, demonstration, innovation and research hub" (Yorklands Green Hub, *Our Vision*, 2018).

## **Permaculture**

Like Natalie Gibbs, The Research Shop suggests the YGH implement a variety of permaculture-based programming options. Most of these options overlap with Natalie's with the exception of Biodynamic Agriculture, which is neither a permaculture concept nor something that we see as particularly useful for YGH.

See the section on Natalie Gibbs for our recommendations regarding permaculture.

## **The Research Shop's suggestions:**

Below are some practical steps suggested to YGH by the Research Shop that we include for the purpose of self-reflection as an organization. Since these steps were proposed in 2014, it appears that YGH has followed through on nearly all of them. The following are "promising practices" related to the "development, implementation, and longevity" of community gardens and non-profit organizations:

Step One: Identify Organizing and Interest groups

Step Two: Form a Dedicated Committee

Step Three: Establish Partnerships

Step Four: Select/Survey the Site.

Step Five: Look for Funding & Sponsorships

Step Six: Determine Guidelines

Step Seven: Start the Community Space

In addition, The Research Shop makes these detailed suggestions:

Create a website and social networking accounts – YGH has done so and is also improving their online presence.

Hold public tours – YGH has been doing this, and will no doubt hold many more once they secure the site.

Celebrate the harvest as a community event – in line with building an environmental and local-food ethos.

Host educational activities for all ages – YGH has been doing this and can continue to do so.

Document activities with photos, videos, and annual reports – YGH's website is a multi-faceted media resource of their past events.

Hold work days and invite the community to lend a hand to accomplish bigger projects – more applicable once the site is secured.

Promote the project through public announcements that go out over local radio, television, newspapers, and free local publications – we understand this is the focus of the 'community engagement' group's research.

The Research Shop offers this final note: "Our research for this project suggests that there is a great strength in forming partnerships and collaborations with other groups whose mandates overlap. In a difficult funding and political climate, collaborative ventures show flexibility and endurance that could serve Yorklands Green Hub well."

#### **The Research Shop's suggested examples to learn from:**

The Research Shop lists many ecological and social enterprises for the YGH to learn from. Not all of them are very relevant and review here is limited to the organizations that stand out the most for their similarity to YGH's vision.

**Kortright Centre for Conservation** – The Kortright Centre for Conservation hosts more than 100,000 visitors each year to their 555-acre environmental education centre just north of Toronto. Identifying themselves as "Ontario's leading centre for sustainability education and events" (Kortright, 2018) the Kortright Centre's primary goals are nature education and to "demonstrate practical, relevant and leading-edge sustainable technologies and practices" (Kortright, *What We Do*, 2018). They accomplish this with an off-grid learning centre, a vast array of environmentally-friendly technologies, a working organic farm with a children's garden, pollinator gardens, 16 km of trails, a full-time nature school and dozens of programs for schools, home-schooled children, and the public.

The Kortright Centre stands out in particular for its development of alternative energies and related education. If YGH wants to put Guelph and Ontario on the map "as world leaders in the development and implementation of resilient and sustainable ecological, social and economic innovation" (Yorklands Green Hub, *Our Vision*, 2018), YGH will have to familiarize themselves with the accomplishments of the Kortright Centre.

Along with the Evergreen Brickworks, this is one of the most notable examples we think the YGH should look to, both to learn from and to ensure YGH does not duplicate what is already being offered by other environmental demonstration hubs in southern Ontario.

<https://kortright.org/>



**Everdale Organic Farm and Environmental Learning Centre** – Everdale is located 30 km north of Guelph and has been operating since 1998. Everdale is “a farm-based organization that provides hands-on, solution-based food and farming education to build and engage healthy local communities” (Everdale, 2018). The three ways they accomplish this are as an organic farm, training new farmers, and running school programs.

As local food production and food security is one of YGH’s four pillars, and an envisioned outcome is the “Diffusion of local, sustainable and affordable food initiatives throughout Ontario” (Yorklands Green Hub, *Our Vision*, 2018) Everdale should be sought out as a local leader in new farming initiatives and facilitating youth educational programs.

<http://everdale.org/>

**Sole Food Street Farms** – this Vancouver-based organization helps low-income and disenfranchised city residents produce top quality produce on urban farms. While a class analysis and social justice do not normally figure into conventional stewardship and conservation activities, social justice does certainly figure into the “urban resilience and wellbeing” components of YGH’s vision. Sole Food Street Farms’ integration of class and mental health concerns makes them stand out as an organization, and we recommend YGH learn from them to enhance the social justice aspects of their vision.

<https://solefoodfarms.com/>

**Foodshare Toronto** – Like Sole Food Street Farms, Foodshare Toronto has a strong focus on social justice through their Food Justice programming. In particular, Foodshare focuses on “Partnerships with communities who experience the most food insecurity and multiple oppressions, particularly racialized communities and other marginalized communities” (Foodshare, 2018) This programming includes community gardens, a community kitchen, youth nutrition education, a rentable bicycle blender, and more.

Guelph has its own communities of racialized refugees and other new Canadians who would significantly benefit from a connection to both the local ecosystem and small farming opportunities afforded by YGH, and Toronto Foodshare would be an excellent regional organization to learn from. Perhaps members of YGH could arrange a sharing of best practices by either going to view their facilities, or have a Foodshare member come to teach YGH for an afternoon.

<https://foodshare.net/>

**The Stop Community Food Centre** – The Stop offers similar food justice programming as Foodshare Toronto and our recommendation is the same as above – to learn from The Stop’s best practices and see what makes sense for the YGH to implement here.

<http://thestop.org/>

### **WLU Economic Geography class:**

In early 2014, an economic geography (EG) class at Wilfred Laurier University presented five separate reports to YGH, focused on branding and marketing, identifying academic partners and comparable projects, and a site map.

### **Their Suggestions:**

#### **Site design maps**

The EG document, like Natalie Gibbs, offers a colour-coded map of the site with information about soil condition and land use suggestions of land use. This map, like Natalie's, is only for the 36 acres, not the new 70 acres. The EG map is not as detailed as Natalie's and as such does not offer as much inspiration value. The primary merit of this map is their detailed description of soil types and suggested uses, which is available on page 9.

#### **Branding**

The EG document makes several recommendations regarding outreach. The option they perceive as most effective, albeit the most costly, is a promotional video distributed online. They cite the cost of a professionally-produced video as up to \$7,000, and recommend teaming up with a University of Guelph film production or media studies class who could take it on as a class project.

As their next-most effective promotional tool they suggest both a radio ad and a bookmark. They suggest a number of slogans, one of which YGH has adopted front-and-centre on their website. And they suggest a logo, which YGH has since settled on.

#### **Marketing**

The EG document's marketing suggestions include more frequent Facebook updates, starting a Twitter account, tabling at the farmers market, organizing field trips to the site, and connecting with University of Guelph classes in the departments of Geography and Environmental Sciences to create an arrangement where students volunteer with YGH for a portion of their final grade.

We leave discussion of marketing and community outreach to the other ASCI group, but include this to remind YGH how far they have come – for several years now YGH has been solidifying their presence in Guelph, successfully organizing multiple events on and off the site, and has amassed a list of 46 organizations who endorse YGH's vision and want to help make it reality (Yorklands Green Hub, *Endorsers*, 2018).

### **The EG document's suggested examples to learn from:**

Part of the EG document follows up on a request from YGH for a review of relevant projects around the globe. Most of the projects the EG returned with are not as relevant to YGH as the previous ones mentioned in this document. Several are large-scale programs run by federal governments or international development agencies, and the others are either no longer functioning or are eclipsed by the others mentioned elsewhere in this report.

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