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Eating Public Spaces

A design proposal

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ABSTRACT

This project will look at the potential of edible landscaping in urban, public spaces by selecting and designing a site in Ithaca, NY. These potential public spaces include parks, street right-of-ways (ROWS), and the marginal spaces between buildings and alongside roads that are part of public ownership. Based on the premise that design can raise awareness about social issues, landscape architects have the capability to reveal alternative uses of public space in a way that serves the present demands of the public. In concert with the most common uses of public space, leisure, recreation and entertainment, this project adds productive practices. Productive public spaces could initiate a rethinking of how public space can be used (leisure versus working), as well as how food is produced and distributed.

To understand urban linkages and connections it is imperative to look at the city as whole; a system of interacting, interdependent components, and identify the potential for incorporating, and cultivating, publicly accessible produce. Performing a conceptual framework of potential sites, an assessment of existing design strategies held by the city, selection of a site including its inventory and analysis, diagramming spatial and temporal typologies, and selecting an edible plant palette, will result in a productive landscape design alternative. Throughout the project a compilation of current social trends that indicate support for this type of project will be documented, along with oral histories and personal observations of people using public space to procure food. By looking at trends in activities and stakeholders of precedents, stakeholders specific to this site may be uncovered.

The results of the project will include a ranking of city sites suitable for edible plantings, and a design for the initial site which will include programming needs of the site's users and emphasizing edible planting elements. In efforts to get the project picked up by interested parties, design boards communicating the concept and results will be created.

Edible landscaping, accessible to the public, is significant to social, ecological, and economic realms. Community revitalization, biological diversity, and a healthy population contribute to the enhancement of city life. The design alternative resulting from this project will be a multi-use, public space that contributes to the beautification and sustainability of the city.

Key Words: Sustainable cities, Urban food, Public spaces, Urban planning, Food production, Edible landscape

INTRODUCTION: PROBLEM STATEMENT

This project will consider an alternative to the traditional uses of public space, while offering a new form of local food production. In a time of rising concerns involving the health of humans and their environment, the dominant food system is being questioned. The technological inputs of mono-agriculture, and its worldwide transportation, culminate in a landscape where people are distanced from their source of food and that distance conceals the environmental and social impacts of production. Not only are the health impacts of an industrial food system under scrutiny, but also its exclusionary practices which leaves 31 million U.S citizens without food security – the ability to “obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system” (Pothukuchi 2004, USDA 1999).

Urban food production is one means of addressing these issues by reducing the distance between production and consumption, involving the community, and providing food security for those most in need. Urban food production is not a new endeavor. Throughout time food was produced in proximity to its consumers. In more recent history, urban food production usually takes the form of farming or gardening on vacant or unused city land. Producing healthy local food, and improving social interactions, these projects meet needs and tend to be successful in community revitalization.

The this project’s attention to the relationship between beauty, sustainability, and food differs from historical and present urban food production in the intention to be more inclusive of other uses. In a sense, this proposal is a new use of public space, not a singular program (like a community garden), but an activity in concert with other program elements.

Underlying the value of this project is systems theory thinking. Systems theory is defined as “a group of interacting, interrelated, and oftentimes interdependent elements that function together as a complex, unified whole. A core concept is that a change in one element of a system has an impact, either directly or indirectly, on one or more additional elements in that system” and it “rejects the idea that components of any system should be, indeed can be, treated or considered in isolation from other related components or elements of the system” (Wilkins 1999). Understanding the complexity of systems acting on food is integral to making changes to it. Some sub-systems to the food system include social, political, economic, and natural systems. At a planning level (moving food between production, processing, distribution, consumption, and waste), one would consider certain relationships over others; for instance economic consequences and scale of exchange between each activity. For this project, however, most attention is paid to the social and ecological processes at the site and city scale (versus regional). The interconnected processes occurring between the plants, soil, water, sun, animals and people are imperative to the design of the system at a site level, but are likely to have some effect on a larger scale, too.

The dominant food system is defined by its large scale, technologically intensive production, energy intensive distribution, distancing from consumers, strict yield (productivity) orientation, and science-based ideology. The consequences of these characteristics have been called into question. There are a number of people and organizations throughout the country challenging this industrial network of agriculture, working to reduce the scale and distance of food production; particularly regarding commodities that can be produced on land, and in climates, of respective communities.

The Community Food Security Initiative (USDA) and Community Food Security Coalition (national non-profit) are national programs working to reduce hunger and food insecurity by supporting systems oriented, local, self-reliant programs, to meet low income needs in particular (www.foodsecurity.org). The support of more local food systems is growing in communities throughout the U.S. (Kaufman). As a supplement to the local food system, landscape architects have a role in incorporating edible landscaping into the design of public spaces.

Ultimately, this project will introduce new form and use to public space and new form and patterns of food production. Rethinking public space to include productivity alongside recreation, entertainment, and leisure will satisfy even greater needs of society. Designing productive public space in new ways that replace typical images of food production (i.e. rows of produce), while still providing food, could potentially change the perception of how food is produced and public space can be used.

LITERATURE REVIEW

The literature review discusses relevant areas of interest of the proposed project. There are few, if any, instances of incorporating edible plants in public spaces for public consumption. Therefore, much of the discussion builds a case for the auspicious time when this project is realized. Beginning with a critique of the dominant, industrial food system, in which the environmental downside and market failures are consequences, local food systems are presented as an alternative. When considering smaller scale food systems, more sustainable approaches are feasible. The section on typologies defines three methods of sustainable food production; agroecology, sustainable agriculture, and permaculture. Of course, in order to effect any change in city land use, an understanding

of urban planning is essential. Particularly significant is the timing of this proposal, as planners are beginning to see the positive impact of the food system on community life. As planners begin looking at the entire food system, production within the urban fabric will offer great potential. Opportunity for a new use of urban public space, the streets and parks, is ripe for productive landscapes. The designation, or the control, of these spaces is important to their use, and understanding the purposes and rights to these spaces is one of the most crucial points in moving forward with the project. Finally, a review of current urban food production practices articulates its prevalence, and further cases outline either existing activities or conceptual strategies for growing food in cities (See Appendix A).

Background: The Industrial Food System

Food doesn't seem like it should be complicated. It is one of life's basic necessities, and a product of natural resources; plants, animals, and sunlight. However, food is a highly political issue and it has played a major role in shaping our world through social, environmental, economic, and political relationships. Post-WWII is considered a "watershed" moment (Halweil 2004, McMichael 2000, Cochrane 1993) in the history of agriculture and development. Rapid, large scale changes in U.S. agriculture continue to affect the national and global physical landscape. The history of agriculture can be read across the American landscape (Corner 1996, Kimbrell 2002). From damming rivers for irrigation to clearing forests for cash crops, the diversity of natural resources has been compromised in order to expand agriculture. There are countless issues involved with food production from economic (land use) to ethical (genetic ownership) and current debates surround food production addressing the distribution,

productivity, efficiency, quality, security, convenience and safety of the vast, monocultured, technologically dependent, structure.

To understand the industrial agriculture system is to look at its historical and global context. It is a story of political struggle, from an era of colonialism to globalization. Farming transformed from small to big, from family run to management run (agribusiness). Large-scale industrial farms focused on exporting crops to “feed the world” and in the process out-competed small farms (McMichael 2001, Lyson 2004). The industrial agriculture sector truly drives the world economy, primarily by removing farmers from their land (by outcompeting their prices), forcing them to move to cities and engage in wage labor (who become the workers that cheaply manufacture goods) (McMichael 2001).

Today’s dominant food production is heavily vertically integrated, with control no longer in the farmers hands (Halweil 2004, Kneen 1993, McMichael 2001), but in the companies that “control seeds, fertilizers, pesticides, farm finance, grain collection, grain processing, livestock feed processing, livestock production and slaughtering, as well as some well known processed food brands” (Halweil 2004). This centralized control, and consequent dependence on profit driven corporations, has raised responses by many concerned citizens (Kimbrell 2002). There are people, organizations, and academics that passionately plea for greater attention to be paid to the effects, or externalities, of industrial agriculture (Kimbrell 2002, Halweil 2004, Pollan 2005). Today *people* are looking to rebuild communities and invest in sustainable development. Concerns ranging from social degradation, environmental pollution, and fear of food insecurity, are forcing people to call for a smaller scale, community level, local food system. These measures

would empower people and give them more control over access; and it is more sustainable on every level. The next questions are where do these productive landscapes take place, what shape do they take, and how are they tended?

Edible, Urban, Public Landscaping:

When proposing an unexplored, or atypical, project it is helpful to gain knowledge about areas that will most likely affect it. The introduction of publicly accessible edible landscaping necessitates an understanding of current urban food production practices, public space, urban planning and design, and typical forms/patterns of food production.

Food Production Typologies & Methods

For most Americans, the thought of food production tends to conjure up nostalgic images of farming. A red barn to house the animals, corn and wheat fields, a silo for storage, all tended by a farmer in a straw hat riding a John Deere. Some may also think of gardens and even greenhouses. There are a number of forms and patterns associated with food production; the generation of alternative forms and patterns is an integral part of this project. Therefore, a key method in this project is the examination of spatial and temporal typologies of smaller scale, more sustainable food production practices that make use of natural resources and processes (versus synthetic and artificial). These typologies will be further explored during the concept development for the project's site design.

Not only is the form of the food production important, but perhaps of even greater significance is the process by which the food is grown. The following modes of food production tend to occur on smaller scales, require more labor, and value biodiversity and soil genesis. They include agroecology, sustainable agriculture, and permaculture.

Agroecology and/or agroforestry is defined as “a landscape designed to use ecological dynamics to promote or achieve productive purposes, reinforcing the socioeconomic and cultural values of the inhabitants, all while allowing natural flora and fauna to thrive” (Wojtkowski 2004). It is the goal of this method to facilitate, through systems design, the maximum ecological and social wellbeing of the land, while minimizing human intervention (maintenance). “A forest garden requires thoughtful planning at its inception, and lots of work to get it planted and well established. Yet as the garden’s trees, shrubs and herbaceous perennials mature, less and less effort is needed to maintain...a largely self-regulating system” (Hart 1991). Understanding agroecological relationships and the systems design principles will help design a productive public space that requires little long-term maintenance.

Sustainable agriculture “is an integrated system of plant and animal production practices having site specific application which will, over the long term, satisfy human food and fiber needs, enhance environmental quality and the natural resource base, make the most efficient use of nonrenewable resources, integrate natural biological cycles and controls, sustain the economic viability of farms, and enhance the quality of life for farmers and society as a whole” (Fick 2001, Lyson 2004). This method focuses on farming practices but is supported by tremendous scientific research regarding the reason for such practices. The science, or quantitative data, helps this ecologically sensitive option earn legitimacy. Practices such as intercropping, drip irrigation, composting and genetic seed diversity, have quantitative results that support its benefits. Sustainable agricultural practices are relevant to this project as it favors small-scale food production systems, and is supported by research.

Lastly, permaculture “is a design system for creating sustainable human environments” (Mollison 1988). Originally coined to mean “permanent agriculture”, permaculture more recently connotes “planning and design method with the aim of creating stable, self-supporting systems, a sustainable culture based on ecological principles, which not only supply wholesome food for people, but energy, warmth, beauty and meaningful pursuits” (Register 2002). The applicable information from this method is its distinction from traditional farming and gardening. Similar to agroecology, it uses the integration of plants (and animals) for greatest productivity and least maintenance. Permaculture, however, tends to be more anthropocentric and perhaps even smaller scale.

Some of the key elements of each method overlap including the importance of site specificity (climate, water, soil, biodiversity and energy), water management (collection, irrigation, and drainage), soil genesis (presence or development of essential nutrients), and pest control (weeds, diseases, and unwanted herbivores). Two of the most important aspects of these methods are their focus on recycling organic waste (compost) and building fertile soils. The essential goal in sustainable practices is the recycling of energy. Managing design systems that that foster nutrient exchange and maximize yields help achieve this; such as intercropping plants in space and time. These strategies tend to be more labor intensive, while being less dependent on nonrenewable resource dependent machinery. This is due in large part to the lack of standardization when harvesting the food. One well known example of intercropping is the Native American Three Sisters’ method. The combination of corn, beans, and pumpkin enhance overall yield because together they provide each other protection and nutrition. The corn functions as a pole for

the beans to climb, while the pumpkins protect the corn and beans from animals.

However, it requires human labor to harvest the crops because of the varying size and location of them (Altieri 1983, Wojtkowski 2004, Fick 2001).

With the typologies and the methods mentioned above one may begin to see the potential of integrating productive landscapes within the urban fabric, not only for purposes of consumable food, but for ecological and aesthetic reasons as well. The application of agroecology, sustainable agriculture, and permaculture principles could create low maintenance, sustainable, productive, beautiful environments. Landscape architects already consider natural and cultural processes when designing a site; this project simply seeks to take it a step further and produce food (Voljoen 2005).

Urban Planning

In recent journals and articles regarding the food system as another integral part of the planning profession, critics question the lack of institutional attention and consideration to the way in which food gets from plot to plate (Pothukuchi and Kaufman 1999 and 2000). Professional planners have neglected this topic for reasons given such as: it's a rural issue, not urban; food is a private market matter, not a part of the public sector; lack of funding for food system planning (vs. transportation and housing); and lastly is the denial that there even is a problem with current food system. These were some of the responses planners provided in a 1997-1998 survey administered by planners Kami Pothukuchi and Jerome Kaufman. Since the mid 1990s, Pothukuchi and Kaufman have been actively advocating for planners to start considering their role in the food system, believing that their profession could offer systems analysis and an organizational structure to a system that falls short.

Their critique of the profession is that it claims to be holistic and systems focused, but that it usually only includes public infrastructure. “City planning grew out of the discipline of civil engineering, which emphasized sewage tunnels, reservoirs, roadways, and other infrastructure to improve public health and housing conditions” (Halweil 2004). Even examining this definition, “*improve public health*”, one may begin to see how urban food production could become a significant piece the planning agenda. In fact, according to the American Planning Association’s (APA) website, the 2006 APA National Planning Conference in San Antonio, TX will address issues of food system planning. The particular areas of interest include: “Innovative land use and transportation planning to improve food access in low-income rural and urban areas, the planning implications of bio-diversity and sustainable food systems, rural issues in food security and related planning efforts, the mutual impacts of the food system and the natural environment, linking school and other institutional buyers with food growers, integrating planning for access to healthy foods and for increased physical activity to combat obesity, local government policies to build stronger local and regional food systems, water planning and policies to build more sustainable food systems, and planning to increase the safety of the food system” (www.planning.org).

According to American Planning Association, a food system is defined by “a chain of activities beginning with the production of food and moving on to include the processing, distributing, wholesaling, retailing, and consumption of food, and eventually to the disposal of food waste” (APA 2005, Kaufman 1999). As urban planners become more aware of the role they can play in the food system, and understand that policy regarding food issues is urban, then food security, health, and quality of urban life may be

improved. The food system impacts a city's "economy, public health, environment, land use and other community systems" (Pothukuchi 2000) and planning agencies may significantly contribute to improving food system conditions. The increasing attention and awareness of community food systems by planners implies that landscape architects also have a role. When working in urban settings and public space, designers work with planners, so it is important for planners to understand the value of a design. The more they become engaged in local food systems, the better opportunity for this project to gain footing.

While food system planning may just beginning to find its way onto the urban planning agenda in the U.S., urban food has existed in some form throughout time (Andersen 1992, Halweil 2004). Urban farming was a common practice in and around cities, largely due to the high costs of transportation and the fast decomposition of plants (Halweil 2004). It wasn't until the 1880's that urban planner Ebenezer Howard began working out his "Garden City" proposal. He recognized the rapid urbanization and congested conditions of city life and envisioned planned cities with distinct town and country settlement patterns. The city, where commerce was to be the central hub, radiated outward through neighborhoods, to industry which was separated from agriculture by transportation infrastructure (railroads). This formed an agricultural greenbelt around the periphery of the city, but Howard also incorporated gardens within the city to raise food as well (Halweil 2004, Howard 1892, Pothukuchi 2000). This is the closest that urban planners came to including the food system, according to Pothukuchi.

Government programs encouraging food growing, however, date back to the 1890s when Detroit Mayor Pingree "persuaded owners of vacant land to lease it to the

city for use as allotment gardens where unemployed men could grow food for their families” (Andersen 1992). City gardens that produced food for the public typically began out of food security needs and were for charity from the early to mid 1900s. In the 1970s, after the effects of urban renewal and suburban growth, city garden interests rose from informal grassroots efforts (Andersen 1992). More about community gardening and urban agriculture is covered in a following section. The important point is that institutional planning did not consider the food system in the 20th century, rather band aid programs were incorporated as crisis or need presented itself. The rising interest of the food system by urban planners may indicate the return of food growing in cities as in ancient times, because food is inherently an urban issue. As Elizabeth Graham argues, “cities provide a wide range of parent materials that have the potential to increase fertility, improve drainage, raise working surfaces, reclaim sediments, purify groundwater, and sustain vegetational communities,” and that “any feasible urban planning should take into account...a cultivable landscape” (Koc 1999).

Public Space

In cities, public space offers great potential to meet some the demands of society, not only for recreation and entertainment, but for food and health needs as well. Opportunity for a new use of urban public space, the streets and parks, is ripe for productive landscapes. In his book *The Right to the City: Social Justice and the Fight for Public Space*, Donald Mitchell illustrates how access to, and use of, public space is necessary for democratic societies; they are places to convene and discuss public issues. The designation of a “traditional public forum” is important because political activity is protected in such forums but not in other government-owned places” regardless of the

sometimes confusing application of the forum over the last decade (Kohn 2004). Part of the forum's definition refers to political assembly in that "such use of the streets and public places has, from times, been a part of the privileges, immunities, rights, and liberties of citizens" (Kohn 2004). It is the right of the public to use public space how it deems fit.

Mitchell argues, however, that these spaces are controlled, contested, and dynamic; they do not simply exist, but they are *made*. "Definitions of public space and 'the public' are not universal and enduring; they are *produced* through constant struggle in the past and in the present" (Mitchell 2003). It is the public that determines the use of public space. 20th century designers and planners are accused by Mitchell of imposing limits and controls on social interaction by opposing unscripted interaction. These unscripted interactions, the unpredictability and the dynamism of a diversity of people coming together are what democracy and equality are about. "Public democracy requires public visibility, and public visibility requires material public spaces" (Mitchell 2003). In order to produce culture, versus simply consuming it, a place for democracy to ensue must be created by its citizens. It seems that society today is content, even complacent, about public space, but its political role in democratic societies throughout history renders hope for inevitable change. As progressive measures are implemented in the era of sustainability, new value and use of public space may be created to include working spaces. Although American culture is a consumerist culture, there is a desire, apparent in efforts to revitalize communities, to resurrect cultural practices and activities. One way for designers and planners to assist in this endeavor is to reveal the possibilities for this desire to take shape.

New uses for public spaces are encouraged, but these uses tend to be reactive to current social practices and behaviors, little seems to encourage *new* social practices. Project for Public Spaces is a non-profit organization geared toward fostering successful public space projects, it is “dedicated to creating and sustaining public places that build communities” (www.pps.org). Their section on parks focuses on invigorating these spaces to make them successful based on a spaces use and popularity. The organization maintains a database called “innovative programs” that documents new uses and strategies to revitalize parks. Ideas include environmental education for youth, movies, night-walks, art, but nothing regarding growing food. It seems that food production in public space is either not an innovative idea, or excluded altogether. The central programming activities in current public parks and open spaces tend to form around recreational and leisure activities (this does include food *markets*). Alexander Garvin of the APA calls for the public realm to enhance and expand its holdings. He sees it as the public agencies’ responsibility to seek and exploit the potentials to improve public space. Two ways agencies should do this, according to Garvin, is to reclaim unused publicly owned territory and combine open space with other public uses. These two opportunities are of particular interest to this project. Not only could vacant lots be reclaimed, but the streetscape also holds potential cultivable value. Multi-use, or open programming, of public space creates flexibility, allowing for any number of activities to occur.

One of the major concerns regarding this project is the upkeep of a seemingly high maintenance, public, planting scheme. Garvin offers a solution which involves community groups and park users. “[I]nvolving consumers in park management has proven to be one of the most effective approaches to improving maintenance” (Garvin

2000). Partnerships among citizens, communities and the private sector can lead to greater public service and mobilization. More recently, efforts by the New York Restoration Project, a non-profit organization that works to restore parks and gardens in underserved parts of New York City, called upon its neighborhood partnerships to work together to maintain the good work accomplished thus far (Midler 2005). Another aspect about community maintenance is the consequential human surveillance. It stands to reason that the more people who are in the space, and care about the proper use of a space, the less likely vandalism will occur.

The public realm, the physical territory, can be made and used by the people however they agree upon it. If public space and park programming are a result of citizen involvement, then the idea of an edible landscape would surely strike a chord. I state this confidently because it meets most current trends in society: health consciousness, recreation, outdoor activity, cultural traditions, community revitalization, and education (environmental, horticultural, economic and social). Traditionally, public space has been used for recreational and leisure activities; places of escape. Today, people are still searching for an escape, but the activities are changing. People tend to be more interested in physical, educational, and entertainment activities (Rogers 2001). One popular trend is nature and ecological education (www.pps.org, Marcus 1998). In the spirit of multi-use proposed by Garvin, consider including edible plants as part of an agroecology. The edible landscaping could serve an aesthetic, as well as social and economic, demand. Not only could public produce revitalize social relationships through its cultivation, it could also reap economic gains by attracting private investment around a “green” space (Rogers 2001, Midler 2005).

The trend over the last century has been to increasingly privatize resources, in particular public space, for a number of reasons. Public space, however, serves the needs of a democratic society; it is a forum for discussion and interaction. Privatizing inherently limits and excludes those who cannot afford to access resources; what kind of society are we if we deliberately deny people access to a basic necessity such as food? At the turn of the 20th century, cities called upon their citizens to grow fresh food for the hungry public, today food pantries and soup kitchens make meals with food donations from corporate distributors (Kneen 1993). The key difference is supply; in the early 1900s there was risk of real shortage of food production, but today production is not the issue (we have surplus) but distribution is. This is why bringing food producing plants into the urban landscape fabric would be a significant public program.

Urban Food Production Practices

In some sense, growing food in the garden has historically been a common, traditional, cultural practice. Planting orchards and vegetable gardens were not an uncommon event up until the burgeoning industrial revolution. Throughout American history urban gardens have been a part of city life. The form and content of these gardens has evolved as the country and its cities industrialized producing intense growth and great wealth (Andersen 1992). As economic growth occurred the “acquisition of things supplanted issues of survival” (Andersen 1992), growing food eventually took a backseat to ornamental gardening as improved infrastructure and rising land values pushed food production further out into the countryside. “City dwellers throughout the nineteenth century thus had access to far greater variety of fresh fruits and vegetables than most rural residents” (Andersen 1992).

While the majority of citizens lived off of food provided by rural farmers, there were also poor, disenfranchised urbanites that had no money to spend on food. These people needed land to grow nourishment. As early as the 1890's, charity programs allowing the unemployed to grow food on vacant city lots were developed to alleviate hunger (Andersen 1992, Lyson 2004). During WWI and WWII, as part of the war council, successful patriotic initiatives encouraged people to grow food on any vacant piece of land. They were known as victory gardens and were very productive, producing "44 percent of the vegetables on America's tables" in 1944 (Andersen 1992). As the war ended and the country developed, gardening interests changed, but "the complex urban problems of the 1960s inspired a revived interest in the food garden in the city" (Andersen 1992). By the 1970's "informal groups coalesce[ed] into citywide initiatives" and community gardening programs shifted from "small charitable program to an urban gardening activity of great vitality" (Andersen 1992). Community gardens are seen as "essential public facilities" (Knack 1994) in Seattle's comprehensive city plan. In general, planners view food as an essential, public good critical to neighborhood revitalization, the local economy, and health (Pothukuchi 2000).

Growing food in the city can take different forms on different scales including window boxes, community gardens, urban agriculture, and forest cities. Some initiatives take place on city lots, and others are private ventures (Kaufman 2000). Proponents of urban food production value it for its community revitalization effect, and ecological education attributed to bringing "nature" into the city (Knack 1994, Hynes 1996).

The community garden movement is still strong today, with a number of successful case studies throughout the country. Current users or organizations typically

involved in cultivating edible landscapes have been grassroots initiatives carried out by youth groups as part of after school programs, gardening club efforts to revitalize an area, and parks and recreation employees and/or volunteers. As interest in local food systems, sustainability, healthful food consumption, community revitalization, and new uses for public space increases, urban food system ideas may find outlets and empower citizens through experience with horticulture, marketing, environmental management, and community development processes (Lyson 2004). Such examples include Alice Water's *Edible Schoolyard*, Penn State's *Aspen Farm* as part of the West Philadelphia Plan, Greater Rochester Urban Bounty's urban farm *The Vineyard*, and New York City's Park and Recreation *Greening of Harlem* initiative (Hynes 1996, Knack 1994, Johnson 2005) to name only a few. Urban planner Jerome Kaufman collected over 70 examples of entrepreneurial city farming throughout the U.S. These cases of community gardening and urban farming illustrate that urban food production is in practice, is on the rise, and can be expanded.

Over time, this gardening movement has taken on new meaning, challenging people to create alternative food systems. Advocates of local, sustainable food systems are interested in different forms of urban food production such as urban agriculture/farming, and continuous productive urban landscapes (Kaufman 2000, UBC 2005, Viljoen 2005, Pinderhughes 2004). Planners and designers are just beginning to look at their role in the greater urban food system, beyond community gardens (UBC 2000, Kaufman 1999, Johnson 2005). Community developments are now being designed to incorporate local food system. The UBC Design Centre for Sustainability outlines some case studies that include Village Homes in Davis California and Burlington

Vermont's Intervale as examples of sustainable food production initiatives. The Design Centre for Sustainability in British Columbia even suggests serving "multiple functions within the community, and can often complement rather than compete with other urban land uses. Community gardens, for example, can fit into laneways or create an edge to a park" (UBC 2005). There are immense design opportunities of urban food production utilizing fences, roadsides, river banks, etc. particularly surrounding public institutions such as schools, prisons museums, reservoirs, and libraries in a manner that promotes beauty and utility through productive edible plants (Voljoen 2005, Smit 2005). Here are the seeds for expanding the potential of urban food production beyond the garden wall and throughout public open spaces in the city.

Access by Proximity: Remove the Garden Wall

Essential to this project is public accessibility. While there are a number of examples of urban food production, usually taking place in gardens or parks, they tend to be enclosed, protected spaces. As stated before, this project proposes food producing landscape elements in public space. These spaces includes parks, street right-of-ways, municipal properties (schools, museums), even on public buildings. There is tremendous opportunity to grow produce in cities, taking advantage not only of horizontal and vertical surfaces (Pinderhughes 2004, Voljoen 2005), but also microclimates and element exposure (sun and wind). While not in the same context as this proposed project, the following examples indicate an interest in accessible, public food while also touching on some of the core issues. The first situation is an artist/activist manifesto project, followed by a foraging experience, then a profile of a designed agricultural community and an

“ecocity” scheme, then to conclude a discussion about the most recent concept in urban productive landscapes known as continuous productive urban landscapes CPULs.

In California there is a new artist/activist level group that has sparked an interest in harvesting public fruit. The group is called Fallen Fruit and it began as a mapping project to inventory privately planted fruit trees whose fruit fell on public property. The mapping idea stemmed from a discovery of a “long lost law” stating that fruit from a plant on private property that falls onto public property is thereby public. The maps have resulted not only in virtual reality blogs, but also initiating “material” projects that include the design of a fruit park, and a demand for widespread incorporation of fruit bearing trees in the urban landscape (www.fallenfruit.org). People have responded both negatively and positively toward the dissemination of this obscure law. For the most part, though, excitement abounds the potential for the California landscape to feed its people with public/private produce.

Another, very different, instance of procurement of public food is foraging municipal parks. One of the more famous municipal foragers goes by the name “Wildman Brill”, and Wildman offers tours of New York City (and outlying area) parks, most notably Central Park. He began foraging in Central Park out of necessity, then turned his skills into an educational enterprise. Self-educating himself about edible plants, Wildman is dedicated to teaching others about what plants are accessible, edible, and “wild”. Having participated in NYC’s Central Park tour one thing became evident and that was that while edible, the plants he identified may not be considered “culturally acceptable”. Typical items one may forage include mushrooms, onion grass, garlic mustard, sheep sorrel; things that are most likely considered “weeds”, or unintended

vegetation. This experience clarified two points: First, is what may be deemed edible, or “culturally acceptable” to eat by some, may not be by others; it will vary. Second, is the apparent interest and curiosity of finding food in public parks. There were at least 15 people were in attendance on the day observed, and Wildman Brill offers tours almost everyday from spring through mid winter.

An additional thread of interest in public (or at least communal) food, is the Village Homes in Davis, CA example. As part of a movement called *Community Greens: Shared Parks in Urban Blocks*, this neighborhood incorporates agriculture, fruit orchards, and vegetable gardens as integral design elements. “Costs of maintenance are kept low by some cash crops such as the almond harvest, as well as by the natural drainage system that keeps watering costs at a minimum. The gardeners and the Homeowners Association oversee crops” and common spaces are maintained by residents (www.communitygreens.org). The popularity of this community indicates a market, for urban, community centered, living in a naturalistic setting that includes food production.

A more pertinent example of urban edible landscaping is the “ecocity” concept. At the forefront of designing and advocating for true sustainable cities is author of the book *Ecocities*, Richard Register. At first, one might read Register’s books and articles and think he is not only idealistic, but also only talk. For instance, he calls for the establishment of a city’s Department of Agriculture that would be responsible for “helping people grow their own and putting city land into cultivation for both food and wood that can’t be practically cultivated privately” (Register 1987). While this may seem an unlikely achievement in today’s U.S. cities, there are increasing numbers of non-

governmental food policy councils that take on a similar role as proposed for an urban Department of Agriculture (Kaufman 1999).

Working in Berkeley California, Register has been involved with a project called “The Heart of the City Project” which “proposes to demonstrate practical, sustainable solutions to the serious environmental and related social challenges facing urban communities globally” (www.ecocitybuilders.org). A major design strategy is to transform a downtown car-city to an ecological pedestrian city. One the firm’s driving principles is *access by proximity*, this is essential to reducing dependence on energy intensive transportation. Building higher density, multi-use, pedestrian-friendly communities reduces the need for intensive transit infrastructure. This begins to sound like New Urbanism, only Register is keenly aware of the ecological benefits of proximity and the efficient use of space.

The last, and perhaps most recent, concept of growing food in cities are continuous productive urban landscapes (CPULs). This is so far only a *concept* that promotes the integration of food production within the urban fabric, threading green space together. CPULs will be “city traversing open spaces running continuously through the built environment” with the unique aspect of urban agriculture “not only adding new spatial quality to the city, but also socio-economic and environmental qualities” (Voljoen 2005). The spaces can exist on communal or private property and can be open or corridor spaces, whichever, the concept is an integrative, multi-use green urban system. It features accessibility, recreation, leisure, environmental quality, social interaction, and sustainability, all with the addition of agriculture. The underlying assumption is that urban food production and local consumption equivocates to a healthy, sustainable

balance of production and consumption. “The landscapes which urban food growing generates are intrinsically embedded in their local context” bringing people back to place, and in connection with the community and environment in which they live. The concept is full; it takes ideas of sustainable design such as pedestrian centered infrastructure, natural water systems, trees for carbon absorption, and so on, but unlike previous strategies this one finally includes food.

These five examples are important to this project in different ways, but one commonality is that they all indicate an interest in localizing production and improving access to fresh food. It seems a growing number of people are interested in knowing where their food comes from, and have an interest in harvesting food themselves. Additionally, interest may continue to rise due, in part, to a combination of trends: obesity has reached epidemic status, the number of hungry is 38 million in the U.S. (www.secondharvest.com), and the popularity of gardening is on the rise. Designers are challenged to offer alternative ideas regarding the use and form of human settlements, while addressing social needs. Cities spend a lot of money maintaining their plantings and a lot of energy trying to alleviate health issues related to food access, this project suggests a collaborative effort to beautify the city and resolve the important social issues around food.

“A quiet revolution is stirring in our food system. It is not happening so much on the distant farms that still provide us with the majority of our food: it is happening in urban neighborhoods, suburbs, and small towns” (Paul Ableman Fatal Harvest, 2002).

GOALS & OBJECTIVES

Mission: Design a public space to include accessible urban food resources.

Goal One: **Introduce food producing plants to the city's public lands, as part of sustainable urban design.**

Objectives

1. Delineate public space, and its relationship to likely users, throughout the city.
2. Produce accessible food at a local level while also contributing to ecological and social diversity in public space.
3. Work within existing city planning strategies to present alternatives that include edible plantings.

Goal Two: **Create a design vision to gain support in rethinking food and public space.**

Objectives

1. Design a site with a program that integrates public space, food production, and sustainable design.
2. Select edible plants that respond to visual, functional, and ecological values.
3. Use design illustrations to communicate and bring life to the use and operation of productive, edible, public landscapes.

Goal Three: **Transform social practices.**

Objectives

1. Permit the taking of abundant public produce.
2. Illustrate how current social practices in public space can be combined with food activities; how one activity can yield multiple results (i.e. exercise, relaxation, beauty, education, health, food production).
3. Build individual skill sets and social capital through knowledge and experience of plants, ecological systems, food processing, economics, etc.
4. Continue project through educational programs about growing and maintaining food.

METHODS

The primary methodologies for this design problem will be the use of precedent and qualitative research. The purpose of precedent will be explanatory, descriptive, and/or exploratory. By referring to designs that have considered similar topics (i.e. new use for public space and urban food production) it sets up the stage for reasonable explorations of new ideas. The qualitative research will focus on uncovering contemporary phenomena and acknowledging its context in order to collect information regarding people's use of space.

In order to meet the *first goal* of a more sustainable city by including food growing, a conceptual framework should be established, design strategies proposed, and existing typologies thought through. In achieving the *second goal* of creating a design vision that rethinks public space, the first measure is site selection and analysis, followed by concept development and presented with design products. In *goal three* this project considers shifting social practices. The success of this project hinges on the ability of active citizenship. Participants may do so out of curiosity, need, or desire, in any case, involvement will build knowledge and skills through hands on exposure.

A. Establish a Conceptual Framework for Potential Edible Planting Locations

Much of the information regarding spatial city patterns is available in map form on the web, or can be obtained from a city official in the planning department. A preliminary test run was performed and results can be found in Appendix A.

1. Data Collection

- a. Map public land (parks, street right-of-ways, vacant city land)
Task: Collect maps from city planning office (maybe in GIS form)
Findings: This would work to highlight spatial linkages; corridors, parks, and intersections.
- b. Map demographics (income, age, ethnicity & race)
Task: Find thematic data sets from Census 2000 website

Findings: Indication of significant divisions and/or relationships to public space; find people in need

- c. Map existing community resources (schools, churches, food pantries)
 - Task:* Locate resources identified by city planning office maps and/or Census data
 - Findings:* Proximity of likely volunteer resources that would help with regular maintenance; organizations that may actively utilize food that is cultivated and harvested
- d. Map high volume vehicular and pedestrian traffic
 - Task:* Observations along with consulting city planner about busiest streets
 - Findings:* These corridors will be the most visible; visibility will also most likely be instructive to passersby
- e. Map natural features and systems; streams & slopes
 - Task:* Find a topographic map of the city
 - Findings:* Aid in identifying opportunities and constraints as they relate to landform

2. *Synthesis of Collected Data*

- a. Layer findings
 - Task:* Identify points of greatest need, use, and connectivity
 - Task:* Identify opportunities and constraints that present themselves after overlapping map information
 - Findings:* Highlight these areas as greatest potential for designation as productive landscapes

3. *Preliminary Field Selection*

- a. Windshield Survey
 - Task:* Drive along streets and neighborhoods and document significant discrepancies
 - Findings:* Confirm map information and provides a third dimension to data
 - Task:* Rank order sites

B. Site Selection

- 1. Conceptual framework from above to yield potential sites for design development

2. Talk to leaders of groups/organizations that may have interest in community food issues and/or public space
 - a. Churches, schools, gardening clubs, cooperative extension programs, neighborhood groups, parks and recreation, food programs, sustainability initiatives, displaced or new farmers
3. From framework maps and discussions, overlay sketch paper and identify opportunities and constraints of city's public land; then diagrammatically sketch out decision making process
 - a. Considerations include: circulation, visibility, current activities, pollution, neighborhood use, surveillance/safety, community needs/interests, utilities, infrastructure, and natural resources.
4. List and weigh opportunities and constraints; make selection based on which site will give most visibility and interaction with the public
5. Visit site to confirm all opportunities and constraints are considered

C. Assess Existing Design Strategies

In order to work with, or present alternatives to design strategies, it is important to be familiar with the desires of the city. Information from this review will aid in determining how this project could contribute to present initiatives.

1. Obtain city's master plan and analyze its goals
 - a. Access and print master plan, available on the Internet
 - b. Look for ways edible plantings meet criteria and needs of plan
Purpose: How food in the city currently fits, or could fit, into existing planning strategies
2. Uncover the issues and possibilities for planting fruitful plants
 - a. Talk with the city planning department, parks and recreation, and city forester
 - b. Read appropriate chapters in City of Ithaca Municipal Code, available online
Purpose: Leads to issues and concerns, or opportunities, that may not have been considered; or confirms collected information
3. Understand sustainable food production systems such as agroforestry, agroecology, and permaculture
 - a. Use literature reviews, identify similar principles of each method
Purpose: These methods rely on internal ecological systems for long-term maintenance
4. Locate and photograph examples of existing city initiatives of sustainable design, then modify image to include edible plantings

Purpose: This brief exercise will provide visual understanding of a design alternative

D. Site Analysis

Collect relevant information about the site, relevance based on necessary information that is needed to grow food, by consulting professionals familiar with the site (local landscape architects, city forester, city planner, or educators), making site visits to inventory and observe:

- Soil conditions
- Hydrology, water sources
- Existing vegetation
- Existing uses
- Sun and wind exposure
- Microclimate
- Site history
- Current uses
- Access, circulation
- Visibility

1. Layer/synthesize above information underscoring site opportunities and constraints
2. Make frequent site visits at various time of day, time of year, weather conditions, events
3. Take photographs to reflect back on a moment
4. Record visual notes; this helps understand what is seen, what is important at the time, and organize thoughts
5. Use notational drawing and layered inventory data to reveal the maximum potential of the site to achieve the project's mission

E. Concept Development

A cyclical process between mission and concept.

1. What is the vision and how can it be realized?
A concept will generate out of the project mission, community leader input, and site analysis
2. Define Spatial and Temporal Typologies: Food Production, Ecology, & Public Space (One way to communicate change or alternatives is to frame the discussion in familiar language. By illustrating the similarities between what have been considered different spatial and temporal landscapes, a new

understandings of common landscapes can be formed). Appendix B gives an example of information a spatial typology diagram may look like.

- a. Review literature on each subject in order to find commonalities
 - b. Compare existing ecological, agricultural, and public space typologies
 - 1) Diagram typical principles of landscape ecology (Dramsdad, Olson, and Forman)
spatial: edge, patch, forest, meadow
temporal: sunlight exposure, foliage, ground cover
 - 2) Diagram typical principles of agroecology (Wojtkowski, Altieri)
spatial: hedgerow, field, strips, fencing (interweaving)
temporal: seeding, cultivating, harvesting, fallow
 - 3) Diagram typical principles of public space design (Garvin, Marcus & Francis)
spatial: Edge, open space, pathways, fencing
temporal: temperature/precipitation; indoor and outdoor activities
 - c. Illustrate spatial and visual relationships under different professional understandings
 - 1) Draw on visual and spatial similarities in order to find a common language between these different patterns of landscape
 - d. Present diagrams side by side in consistent presentation in order to understand relationships
3. Develop programming
 - a. Develop goals and objectives for the site design
 - b. Consider neighborhood needs
 - c. Incorporate edible plants to meet multiple needs (use, aesthetics, ecology)

F. Plant Palette

1. Look through texts to find edible plants that would survive and flourish in the USDA Zone and explicit micro-climate
 - a. Find examples of trees, shrubs, perennials, annuals, bulbs, vines; woody & herbaceous
2. Consult local knowledge; talk to farmers and educators
3. Present examples of edible plants that have ornamental character (size, form, texture, color, smell)

G. Design Deliverables

1. Contextual maps; available from goal one
2. Bubble diagrams of design process, to document decision-making as it is worked out on paper
3. Typology diagram studies
4. Conceptual site plan, hand drawn colored graphic to communicate layout of entire site
5. Hand drawn sections & details of interrelationships of human and ecological systems
6. Perspectives to articulate the experience of place; 3D visual showing movement, activity, textures, relationships. These will be the most important graphics because they will be the most experiential, and this project is very much about human and ecological interactions

H. Social Uses

There are numerous examples of people participating in urban food production, as well as examples of organizations encouraging the development of new uses for public space. Bridging these two movements makes for an interesting discussion about use and management. One way to convince skeptics or to answer questions about social uses is to provide examples of people and places that are already addressing similar issues.

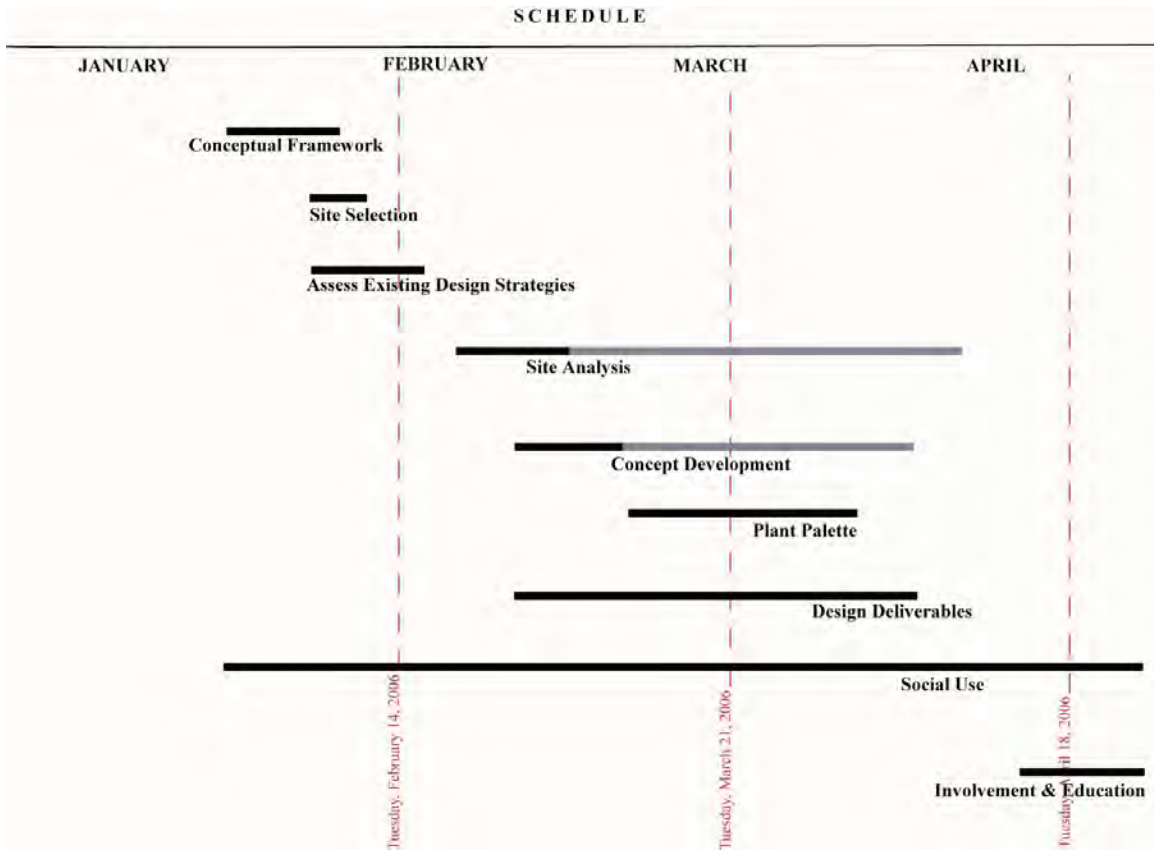
1. Document precedents for food production in public spaces found in books, periodicals, and the Internet; present photos
 - Selection based on following criteria: public land, edible plants, designed landscape
2. Uncover potential groups that may be interested in community food issues and/or outdoor recreation (schools, churches, garden clubs, park and rec., volunteers, co-op interests) looking for common ground for future consensus building
 - Create a matrix: name of group and primary interests
3. Personal observation, oral histories, local observation of people procuring plants in public spaces (Wildman Brill, Fallen Fruit)
 - Personal observation, stories from other's personal experience
 - List activity, scale, space, time, plants, movement
4. Identify ways to combine present day activities into new social practices in section and perspective (i.e. recreation, food acquisition, gardening, exercise)

I. Involvement & Education

One of the most important aspects of this project is public accessibility to a resource that exists on public land and is paid for by public dollars. Proper use and behavior therefore may be determined by the public. The design of the site should be prepared for change and should lend itself ultimately to allowing uncontrolled social interaction while also being instructive and encourage questioning.

1. Talk with stakeholders to set up a program, or integrate with an existing program, to take ownership of project
2. Talk with cooperative extension about organizing demonstrations; what would it entail?
 - Teaching people how and when to harvest something by actually doing it

SCHEDULE



- January
 - Week 2 (23rd-27th)
- February
 - Week 3 (30th-3rd)
 - Week 4 (6th-10th)
 - Week 5 (13th-17th)
 - Week 6 (20th-24th)
- March
 - Week 7 (27th-3rd)
 - Week 8 (6th-10th)
 - Week 9 (13th-17th)
 - Week 10 (20th-24th)
 - Week 11 (27th-31st)
- April
 - Week 12 (3rd-7th)
 - Week 13 (10th-14th)
 - Week 14 (17th-21st)
 - Week 15 (24th-28th)

EXPECTED OUTCOME

The result of this work will yield a design alternative to public space that emphasizes the role of edible landscaping. The methods carried out are generally applicable, but for this project specifically applied to the City of Ithaca, NY. A conceptual framework will be developed in order to select a highly visible site location for an initial design; a way of advertising the project. The framework could inform future phase-in projects, potentially spreading edible landscaping throughout the city.

Explicit to the design is an enduring idea that works to enhance people's quality of life by adding beauty, nature, open space, and food to a community. An expectation of the project is to generate excitement about using public space for more than just leisure activities, and to consider it a working space; to join a discussion on building healthy, sustainable, and socially responsible cities among planners and designers. Exposure to issues regarding cultural and natural conditions surrounding publicly accessible edible landscaping will inform future designers about its great potential.

One of the most challenging aspects of the project will be finding people to take ownership, and see the project carried out and continued. With increasing awareness and interest in health and sustainability, citizens may find this approach worth the investment.

REFERENCES**Texts:**

- Altieri, Miguel. 1983. Agroecology: Science of Sustainable Agriculture. Division of Biological Control, University of California, Berkeley.
- Cochrane, Willard. 1993. The Development of American Agriculture: A Historical Analysis. 2nd Ed. University of Minnesota Press. Minneapolis, MN.
- Corner, James and Alex S. MacLean. 1996. Taking Measures Across the American Landscape. Yale University Press. New Haven, CT.
- Design Centre for Sustainability at UBC. March 2005. "Urban Agriculture". Smart Growth on the Ground. Foundation Research Bulletin, Squamish. No. 2.
- Dramstad, Wenche E., James D. Olson, and Richard T.T. Forman. (??). "Landscape Ecology Principles in Landscape Architecture and Land-Use Planning".
- Fick, Gary. Fall 2000. CSS 190: Sustainable Agriculture. Cornell University. Course notes & Handouts.
- Garvin, Alexander. 2000. *Parks, Recreation, and Open Space: A 21st Century Agenda*. American Planning Association. PAS Report No. 497/498.
- Groat, Linda and David Wang. 2002. Architectural Research Methods. John Wiley & Sons, Inc. New York, NY.
- Halweil, Brian. 2004. Eat Here: Reclaiming Homegrown Pleasures in a Global Supermarket. W.W. Norton & Company. New York, NY.
- Hart, Robert. 1996. Forest Gardening: Cultivating an Edible Landscape. Chelsea Green Publishing Company.
- Howard, Ebenezer. 1946. Garden City of To-Morrow. Fraber and Faber LTD, London.
- Hynes, Patricia. 1996. A Patch of Eden: America's Inner-City Gardeners. Chelsea Green Publishing Company.
- Johnson, Lorraine. June 2005. "Design for Food". *Landscape Architecture Magazine*. ASLA. v 95 no. 6. pp 30- 38.
- Kaufman, Jerome and Kami Pothukuchi. 1999. "Placing the food system on the urban agenda: the role of municipal institutions in food systems planning". *Agriculture and Human Values*. v 16.

- Kaufman, Jerry and Martin Bailkey. 2000. Farming inside cities : entrepreneurial urban agriculture in the United States. Lincoln Institute of Land Policy. Cambridge, MA.
- Kimbrell, Andrew. 2002. Fatal Harvest: The Tragedy of Industrial Agriculture. Foundation for Deep Ecology, Island Press. Washington.
- Knack, Ruth Eckdish. 1994. "Dig These Gardens". *Planning*. 60, 7, page 20.
- Kneen, Brewster. 1993. From Land to Mouth. NC Press Limited, Toronto.
- Koc, Mustafa and Rod MacRae, Luc J.A. Mougeot, and Jennifer Welsh. 1993. For Hunger-Proof Cities: Sustainable Urban Food Systems. International Development Research Centre. Ottawa.
- Kohn, Margaret. 2004. Brave New Neighborhoods: the Privatization of Public Space. Routledge, New York, NY.
- Lyson, Thomas A. 2004. Civic Agriculture: Reconnecting Farm, Food, and Community. Tufts University. Lebanon, NH.
- Massachusetts Horticultural Society. 1992. Keeping Eden. Bulfinch Press. Little Brown and Company. Boston, MA.
- Marcus, Claire Cooper and Carolyn Francis. 1998. People Places: Design Guidelines for Urban Open Space. 2nd Ed. John Wiley & Sons, Inc. New York, NY.
- McMicheal, Philip. 2000. Development and Social Change. Pine Forge Press, California.
- Meyers, Elizabeth. 1992. "Situating Modern Landscape Architecture". In Simon Swaffield's Theory in Landscape Architecture: A Reader. University of Pennsylvania Press, Philadelphia. 2002.
- Midler, Bette. 2005. "Good Dirt". New York Restoration Project. <http://www.nyrp.org/news.htm>. Last checked December 6, 2005.
- Mitchell, Don and Richard Van Deusen. 2001. "Downsview Park: Open Space or Public Space?". In Julia Czerniak's Case: Downsview Park Toronto. Prestel Verlag, New York, NY.
- Mitchell, Don. 2003. Chapter 4 "The End of Public Space?". The Right to the City: Social Justice and the Fight for Public Space. The Guilford Press. New York, NY.
- Mollison, Bill. 1997. Permaculture: A Designer's Manual. Tagari Publications. Tyalgum, N.S.W., Australia.

- Nassauer, Joan Iverson. 2002. "Agricultural Landscapes in Harmony with Nature" in Fatal Harvest. Foundation for Deep Ecology, Island Press.
- Nestle, Marion. 2002. Food Politics. University of California Press. Berkeley, CA.
- Pinderhughes, Raquel. 2004. Chapter 5 "Urban Food Production". Alternative Urban Futures: Planning for Sustainable Development in Cities Throughout the World. Rowman & Littlefield Publishers, Inc. New York, NY.
- Pollan, Michael. 2005. "We Are What We Eat". Center for Ecoliteracy. [<http://www.ecoliteracy.org/publications/rsl/michael-pollan.html>] (01 Sept. 2005).
- Pothukuchi, Kameshwari and Jerome L. Kaufman. 2000. "The Food System: A Stranger to the Planning Field." *APA Journal* vol. 66, No. 2.
- Pothukuchi, Kameshwari. 2004. "Community Food Assessment: A First Step in Planning for Community Food Security." *Journal of Planning Education and Research*. 23: 356-377.
- Register, Richard. 1987. Ecocity Berkeley: Building Cities for a Healthy Future. North Atlantic Books. Berkeley, CA.
- Register, Richard. 2002. Ecocities: Building Cities in Balance with Nature. Berkeley Hills Books. Berkeley, CA.
- Rogers, Elizabeth Barlows. 2001. Landscape Design: A Cultural and Architectural History. Harry N. Abrams, Inc. New York, NY.
- Schwind, Kirsten. 2005. "Going Local on a Global Scale: Rethinking Food Trade in the Era of Climate Change, Dumping, and Rural Poverty". *Food First*. v 11, No. 2. [<http://www.foodfirst.org/backgrouders/goinglocal>]
- Schlosser, Eric. 2001. Fast Food Nation: The Dark Side of the All-American Meal. Houghton Mifflin Company, New York, NY.
- Smit, Jac. "Linear Urban Agriculture: Accessing 'the commons' for Food Security, a Healthier Environment and Community Development". *UA-Magazine*. p 6.
- Sorvig, Kim. 2005. "Drawing the Experience of Place". *Landscape Architecture Magazine*. ASLA. v 95 no. 10. pp 170- 178.
- Thompson, William J. 2003. "Drawn to See". *Landscape Architecture Magazine*. ASLA. v ???? pp 100-105.
- Wilkins, Jennifer and R David Smith. 1999. "The Food System in Extension and Research". A Sustainable Agriculture and Food Systems White Paper.

[http://media.cce.cornell.edu/hosts/agfoodcommunity/afs_temp3.cfm?topicID=262] (29 November 2005).

Wojtkowski, Paul A. 2004. Landscape Agroecology. Food Products Press, New York, NY.

Viljoen, Andre. 2005. Continuous Productive Urban Landscapes. Elsevier, Architectural Press. Burlington, MA.

Website List:

Following is a list of websites that offer pertinent, up-to-date information regarding food, public space, land use, and some of the newest strategies for urban food.

www.cityfarmer.org/

www.communitygreens.org/

www.csrees.usda.gov/nea/food/in_focus/hunger_if_competitive.html

www.ecocitybuilders.org

www.fallenfruit.org/

www.fairviewgardens.org/

www.fenwayvictorygardens.com/

www.foodsecurity.org

www.foodfirst.org

www.heifer.org

<http://intervale.org/HealthyCity.htm>

<http://journeytoforever.org/cityfarm.html>

www.justfood.org/jf/

www.penn-partners.org/wp/plan/index.html

www.pps.org

www.rodaleinstitute.org/

<http://sagecenter.org/>

www.secondharvest.com

www.statefoodpolicy.org/

www.thefoodproject.org/

www.tpl.org

www.villagehomesdavis.org/Gardens.php. Last checked November 2005.

Appendix A.

A most relevant, current article regarding what I have in mind for this project.



Chronicle / Liz Hafalia

Chard on the Green? S.F. in a post-oil future Imagine shelves bare because of gas prices

- Tim Holt

Sunday, October 2, 2005

Acres of chard and lettuce in Golden Gate Park? The Marina Green with community gardens? Wind turbines on top of the Bank of America Building? Welcome to the post-oil future.

Depending on which expert you believe, we have already reached or will reach in the next few years the point when worldwide oil demand starts to exceed supply -- and gas prices really go through the roof. If cities like San Francisco are to survive as viable places to live, they will have to redesign themselves in ways barely imaginable now.

It's hard to overstate the impact the looming oil squeeze is going to have. A lot of people are going to be left stranded in the suburbs, and a lot of grocery store shelves are going to go empty as supply lines collapse due to rising fuel costs. Many folks are going to lose their jobs as our oil-dependent economy withers. But there will be a greater need for farmworkers, as petroleum-fueled factory farms give way to smaller, labor-intensive operations. In general, human energy will replace machine energy, and there will be an increased demand for craftspeople with time-honored skills: shoemakers, soapmakers, glassblowers, seamstresses.

It will be a wrenching transition as we go from a passive consumer society to one in which each of us will need to play an active role in providing our basic needs. It's easy to see why there are already predictions of

economic chaos, widespread violence and looting, and the imposition of martial law if we fail to begin planning now for a post-oil future.

"Without timely mitigation, the economic, social and political cost (of spiraling fuel prices) will be unprecedented," the U.S. Department of Energy warned in February, before the hurricanes and the big run-up in oil prices.

Denial, resistance, and placing our hopes in techno-fixes like hydrogen-fueled cars won't delay the day of reckoning -- it will require fossil fuels, after all, to produce hydrogen -- but they will keep the fantasy of cheap and easy mobility alive for a while longer.

The reality is that in the very near future we will no longer be a mobile society. We are already seeing the beginnings of this, with rising fuel prices squeezing commuters, taxi drivers, independent truckers, and the entire aviation industry. The post-oil era will see our transformation from a transient society to one that focuses on home and neighborhood. Sprawl development will give way to compact, walkable environments. Suburbs will disappear altogether. Those in direct proximity to cities will be replaced by farms; those farther out will gradually be reclaimed by nature.

So, in many ways, the end of oil could be a very good thing for American society, prompting changes that will strengthen communities, humanize our cities and create a healthier population.

Cities, even individual neighborhoods, will need to become more self-sufficient. Agriculture will play a much more important role in everyday American life. Cities such as San Francisco will have to be creative in finding ways to feed their populations.

Richard Register of Oakland's nonprofit Ecocity Builders has spent the past 30 years writing and speaking on the subject of environmentally friendly and energy-efficient cities. With the looming oil crisis, his writings have taken on a greater sense of urgency. Nowadays, he grapples with the problem of how energy-depleted cities can provide food, water and other basic necessities for their populations. The creative touches that adorned his previous writings -- the rooftop tennis courts, the uncovered creeks meandering along urban streets -- have given way to the more practical: community gardens and greenhouses.

In describing the self-sufficient neighborhoods of the future, Register speaks of "urban fractals," neighborhoods that will contain in microcosm all the elements of entire cities, including housing, jobs, schools, shops, entertainment, and access to nature -- neighborhoods that minimize the need for auto or even transit use.

"Today, when you look at a section of a city it's like looking at a person with an arm or leg missing," Register observes. "In the future, neighborhoods will read as an entire organism."

How can San Francisco's neighborhoods be retrofitted for the post-oil era?

The basic principles are fairly clear: Bring jobs and housing in proximity, move away from auto-oriented sprawl. But the details will have to be worked out over time. For starters, it's impossible to foresee just how large a population the Bay Area can sustain from local and regional food sources. This will depend on how much urban land is available for cultivation, and how much food can be imported (using energy-efficient rail) from the nearby Central Valley and farming regions directly south of the Bay Area.

How tall can buildings be in an energy-conserving era? What sort of local manufacturing base can be developed?

The goal will be local self-sufficiency, but ideas for achieving it will come from all over the world. In Kuala Lumpur, architect Kenneth Yeang is designing energy-conserving skyscrapers. With functioning

windows and an outer layer of movable louvers, they allow natural ventilation in the summer and provide an extra layer of insulation in the winter. Paolo Soleri's work in progress, the futuristic Arcosanti village in Arizona, features a compact, pedestrian-oriented environment that makes minimal use of fossil fuels and maximum use of solar energy.

Dutch cities have created hundreds of "woonerfs," or neighborhood streets, designed as places to live and not just to drive through, festooned with gardens, street furniture and artwork.

Bay Area cities can learn a great deal from the experience of Havana, whose population faced slow starvation with the collapse of the Soviet Union, its principal trading partner. The country had to figure out how to quickly expand and diversify its agricultural production, without the cheap fuel it had previously imported.

In 1994, the government created an urban agriculture program that by last year had enabled Havana to grow its entire vegetable supply and a substantial portion of its rice and meat. This was accomplished by a resourceful effort that included placing raised growing beds over paved lots, growing food in city parks, and encouraging virtually every Havanan with any yard space to become a backyard gardener.

All of these approaches can be readily applied in the Bay Area, even without the spur of a dictatorial government. Vast stretches of parkland are already in public hands. Even public streets, as Register suggests, can be converted to cropland by replacing some traffic lanes with strips of community gardens. The Bay Area already has a start with its scattering of community gardens and small plots in some public schools.

Energy-draining water and sewage systems will have to be substantially revamped. Rainwater collectors will begin showing up on the roofs of buildings. Inside, compost toilets can provide fertilizer for urban gardens; filtered gray water from kitchens and bathrooms can be used to water them.

All this is in the talking and thinking stages in the Bay Area, which is still a long way from developing a comprehensive strategy for local self-sufficiency. But there are scattered efforts: Berkeley has created a Food Policy Council to promote local food production. An Office Of Sustainability in the Oakland mayor's office has the same goal. At least four citizens' groups are meeting regularly on both sides of the bay to discuss the region's post-oil future.

Post-oil awareness is spreading throughout Northern California. Citizen's groups have formed in Laytonville, Gualala, Philo in Mendocino County, and Nevada City in Nevada County. The most advanced planning is being undertaken in the little Mendocino County town of Willits, just east of Fort Bragg, where 60 residents have formed study groups to work out strategies for providing food, water, energy and health care for a population of 14,000. They estimate they'll need to convert all 4,000 acres of the town's vacant land to cultivation if they're going to feed themselves.

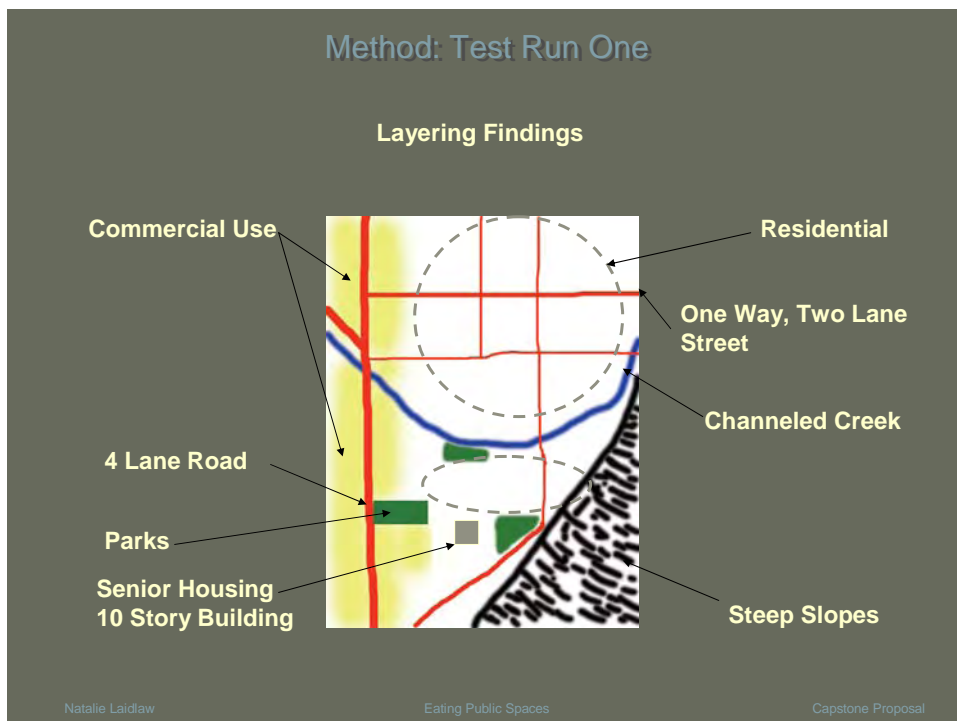
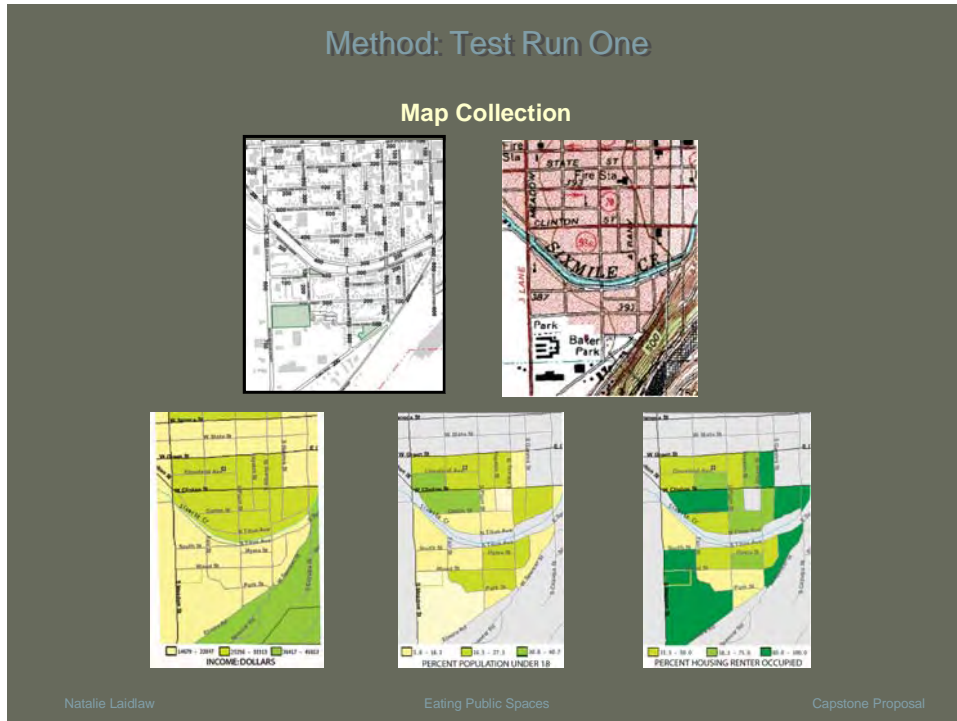
In the coming months, you're going to be hearing and reading some pretty scary stuff about the oil crisis. It may in fact take predictions of mass unemployment and starvation to get Americans and their political leaders past the denial and techno-fantasy stages.

But we shouldn't let the horror stories overshadow the benefits to a society weaned from oil.

We could well have stronger communities, with neighbors who develop bonds based on mutual interdependence. By replacing isolating auto travel with walking and bicycling, we can build cohesive communities and will certainly help trim down an obese population. Not having to warehouse autos means we'll have more room in our cities for human spaces, for shops and cafes and schools. Streets and neighborhoods will be increasingly places that people live in, not just drive by. We'll have fewer gadgets and toys and, just possibly, more time for each other.

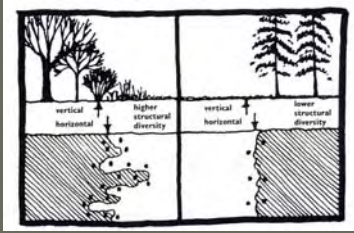
The Bay Area has long been an unofficial capital of the mobile society -- both a destination and a jumping-off point for fortune-seekers, immigrants and folks who couldn't fit in elsewhere. In the coming post-oil era, the city will become a new kind of destination: the end of a restless trail, a place to settle down and call home.

Appendix B.

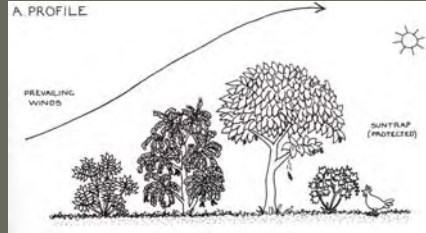


Appendix C.


Method: Test Run Two
Spatial Typology of an Edge



Edge Structure
Dramstad, Olson, & Forman.
Landscape Ecology Principles



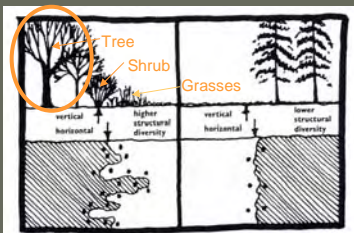
Windbreak Edge
Morrow, R. *Earth User's Guide to Permaculture*



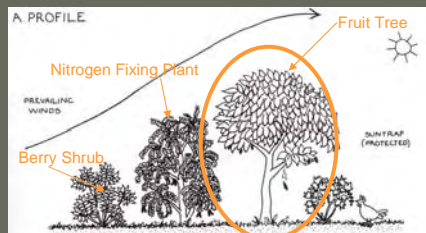
Park Edge (Herald Sq., NYC)
Garvin. *Parks, Recreation, & Open Space*

Natalie Laidlaw
Eating Public Spaces
Capstone Proposal


Method: Test Run Two
Spatial Typology of an Edge



Edge Structure
Dramstad, Olson, & Forman.
Landscape Ecology Principles



Windbreak Edge
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Park Edge (Herald Sq., NYC)
Garvin. *Parks, Recreation, & Open Space*

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Eating Public Spaces
Capstone Proposal

Appendix D.

Capstone Report Standards:

LSA800 Capstone Studio: Final Submission Standards

While MLA students are not required to prepare a ‘thesis’, they must conduct a major integrative investigation during the Capstone Studio. (MS students have requirements similar to those described here and should obtain them from the Office of Instruction and Graduate Studies.) The results of this investigation are communicated in two ways. First, each student will make a public presentation lasting approximately 40 minutes, plus up to 20 minutes of discussion. These presentations are scheduled in April about 2 weeks before the end of the semester. This presentation fulfills the College’s Capstone Seminar requirement.

Second, each student is required to submit a report documenting the project in text and graphics. This report must be printed on paper as specified below and supplemental digital submissions are required. One paper copy will be bound by the Faculty of Landscape Architecture and be available in the office. It is envisioned that over time the Capstone Studio will produce a series of case studies and other investigations that will be useful to future students and others. It is therefore important to establish some general standards to guide the preparation of this archival report. The following instructions for preparing a Capstone Studio report will help assure that they can all be bound together as a series. The report is due on the final day of classes. Students who do not meet this deadline will jeopardize their May graduation.

STYLE AND FORMAT

Some matters of style and format must be determined with your major professor and committee. However it is expected that the report will consistently use a standard accepted style and format guide, such as:

University of Chicago (Editor). 2003. *Chicago Manual of Style*, 15th Edition.
Chicago: The University of Chicago Press.

CREDITING SOURCES

A major hallmark of scholarly work is that the original source of material and ideas are credited through citations or notes. Not placing quotation marks around copied material is plagiarism, a serious academic infraction. All cited sources must be included in the bibliography, including web pages, conversations, artwork, as well as books. Refer to the Author-Date citation format in the *Chicago Manual of Style*.

It is against US Copyright Law to copy significant portions of another’s work without permission. Covered material includes all books, sound recordings, photographs, paintings, web pages, etc. Copyright law covers work for 70 years past the death of the author, even if the work does not display a copyright notice. There is a “fair use” exception of the copyright law for purposes such as “criticism, comment, news reporting, teaching, scholarship, and research” (see the web page

<<http://www.copyright.gov/fls/fl1102.html>>). It seems unlikely that the fair use doctrine would apply if the material were not properly credited. For more information on copyright law, point your web browser to <<http://www.loc.gov/copyright/>>.

ASSEMBLING THE REPORT

The contents of the report are determined in consultation with your major professor and committee. The typical parts of a report include the following:

1. **Title Page.** Include the report title, your name, and the names of your committee members. In addition, include the studio identification: “LSA800 Capstone Studio, Faculty of Landscape Architecture, State University of New York, College of Environmental Science and Forestry, May 2006.” Refer to the instructions for preparing a thesis included in this handbook.
2. **Copyright notice.** (Optional)
3. **Acknowledgements.** (Optional) During most projects others assist the authors to reach completion. This is the place to acknowledge their contributions.
4. **Table of Contents.** At a minimum, the table of Contents must include each of the major section headings and the page number on which they occur.
5. **List of Tables.** It is normal to also include a List of Tables where a page number accompanies each item where it may be found.
6. **List of Figures.** It is normal to also include a separate List of Figures with page numbers.
7. **Abstract.** Begin with the heading “Abstract”, and then on the next line your name, the date (May 2006), and the report title. The abstract is a brief summary of the problem, methods, findings, and conclusions. It is not an outline. The length should be 350 words or less.
8. **Introduction.** Typically, there are three components to the introduction. These may be separate chapters.
 - a. **Problem statement.** What is the question being solved by this study? Why is it important?
 - b. **Orientation to the report.** Give the reader guidance about what this report will tell them.
 - c. **Objectives.** Typically the objectives come directly from the study proposal, though they may be slightly edited. Well-stated objectives allow someone who reads the full report to determine whether they have been met. People cannot easily think about more than 5 objectives. If you have more objectives than that, consider whether some may be combined. You may want to have both study objectives and learning objectives.
9. **Literature review.** What is known about this problem? Review the published work of others, the relevant theories, etc. This review must be structured to help the reader better understand the problem. It is more than a simple listing of studies with a couple of sentences about each one.
10. **Methods.** The objectives require appropriate methods to be achieved. What was the process you used to conduct your study? Where and by what means did you obtain your data? What forms of analysis did you use to turn the data into information?

11. **Results.** What did you find out and/or what is your proposed response to the study problem? It may require more than one chapter or section to report the results.
12. **Discussion.** This section interprets the results and what they mean. It is an opportunity to respond to the inevitable question, “So what?” What might you do different next time? It is also an opportunity to reflection on the lessons you learned.
13. **Conclusions.** This is the final summary step in your reasoning. Did you achieve what you set out to do (your objectives)? What are your recommendations to others?
14. **Endnotes.** Sometimes there is information you feel is important to include in your report, but it is somewhat incidental to the presentation. Examples might include a brief discussion of alternative views, where difficult to locate original source material was found, or a clarification of event chronology. In this situation, use a note. Endnotes appear in a section just before the bibliography. Footnotes appear at the bottom of the page on which they occur.
15. **Bibliography.** All material cited in the report must be included in the bibliography.
16. **Appendices.** Sometimes it is inappropriate to include in the body of the report material such as raw data, copies of laws, lists of people or places, analysis tables or other details. If it is important for archival purposes, then this material may be included as appendices.
17. **Vita.** This is a resume that emphasizes your academic credential and related work experience that helped prepare you for completing your project. (refer to page 48 in this handbook for vita format guidelines)

MARGINS AND BINDING

The size of the report is 8.5-by-11 inches. The page must be vertically oriented. The margins for each page are 1.25 inches on the bound (left) edge, and 1 inch on the other 3 edges. The report must be submitted loose (i.e., not bound). The Landscape Architecture Office will have the reports hard bound.

Documents may contain pages up to 11-by-17 inches in size, provided the larger pages are arranged for bounding on the 11-inch side of the document. Pages up to 11-by-16 inches in size may use a single fold preparation, while pages 11-by-17 inches in size must use a common Z-fold. Folded pages must be 8.25-by-11 inches in size to allow for document trimming after binding.

PRODUCTION DETAILS

Fonts. Choose your fonts for readability. Be cautious in the use of fancy fonts. The purpose of the report is to communicate the results. It is unfair to sacrifice the reader’s ease of text acquisition for graphic style. Paragraphs composed with serif fonts (e.g., Times) are easier to read than non-serif fonts (e.g., Helvetica). The body of the text should use a 12-point font, with a larger size being acceptable for headings. It is unacceptable to use any font that is less than 9 points as viewed on the page (i.e., after being ‘reduced’).

Number of copies. Two *unbound* originals signed by your committee must be filed with the Landscape Architecture office.

It is normal that each member of the committee receives a final copy, as well as others who made significant contributions to the study. You must bind the copies that go to your committee.

Page numbers. Every page should be numbered in sequence in the lower right corner to the page.

Paper. The report should be printed on good quality opaque white paper (e.g., acid free 20 lb. 100% cotton rag). In choosing your paper, be aware of how it will photocopy.

Printing. It is important that the printing be both permanent and legible. Typically this means using a laser printer with black ink at 600 dpi or greater output resolution. Color may be used, but color prints must be from color laser printers or original artwork using permanent pigments. Inkjet ink prints fade quickly and run if touched by moisture—duplicate them on a color photocopier.

DIGITAL PRODUCTS

In addition to the printed Capstone documents, students must also submit an electronic version of their final Capstone proposal, final Capstone presentation, and final Capstone report. The best way to prepare these submissions is to output the finished documents as PDF files prepared using the “print” or 300 dpi quality settings in Adobe Acrobat version 6 (or newer). All fonts are to be embedded in the document, and no security settings are to be applied — we will apply security settings later, but we may need to make minor alterations to the document before placing it into a Department archive. If you would prefer not to deal with creating an appropriate PDF version of your work, you may submit your digital work in the format within which it was completed. However, you will need to submit not only the final documents, but also all the files of content which were inserted/placed/imported into those documents. This is the only way we can insure that graphics and other content used in the documents will appear correctly when PDF versions are created. If you submit your electronic work in this manner, then the submitted materials must be organized in a manner that makes it possible for someone unfamiliar with your work to readily understand how it was assembled. This means, for instance, no cryptic file names, no missing files, no report documents split into dozens of different Word DOC files, no unusual document formats, etc.

To submit the digital version of your proposal, create a folder labeled with your last name and place it on a CD/DVD disk. Name your proposal document file Yourlastname_proposal.pdf and copy it into this folder. If you turn in a document other than a PDF file, then name that file Yourlastname_proposal.*** (using the correct extension), and include in your folder another folder labeled Proposal_Content within which you will submit all files of content (graphics) that were inserted/placed/imported into the proposal document. The disk is to be submitted to Dayton Reuter, who will be coordinating this effort. The final Capstone presentation and final Capstone report are to be similarly organized and turned in to Dayton as described above. Note — if you do not submit these final documents as PDF files, then there should be two subfolders within your folder: one subfolder labeled Presentation_Content, and another sub-folder labeled Report_Content. Each subfolder should contain its respective relevant content. Any questions regarding this process of submitting electronic documents should be directed to Dayton Reuter.