Planning Homeless Settlement Communities

Western Washington University - ENVS 474 - 2014
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“for a while, in the mid-1980s, when they were “new”, they held our attention, but when it be- came clear that their presence among us was not the result of some aberration in the socio- economic mix but rather a manifestation that something in the country had gone seriously wrong, we disengaged.

Padraig O’Malley, New England Journal of Public Policy

THE PROBLEM

Appropriate and equitable shelter support for portions of the Bellingham/Whatcom County home- less population is required in order to increase dignity, reduce suffering, manage vulnerability, overcome social disintegration, and help to achieve recovery from transitional periods that displaced persons face. Displaced persons require protection from both the environmental elements and from further social isolation. In order to improve the living conditions faced by our fellow citizens who live in Homeless camps, public resources are necessary to help the Homeless segment of society regain their footing in society.

PROJECT FOCUS

This course examined sustainable design solu- tions for the immediate improvement to the conditions faced by many Homeless People through the creation of Homeless Settlement Communities as a transitional stepping stone solution. The student’s planning and de- sign concepts were informed, in part, by current public policy and approaches to providing homeless relief, as well as independent research and conversations with informants. The students was challenged to imagine new approaches to providing homeless shelters in a way that would meet the following design objectives:

- Building and maintaining a community with a strong sense of dignity
- Encourage self-help in creating a sustainable Homeless community
- Enable self-maintained and self-governed Homeless communities
- Adapting principles of sustainability in homeless settlement design

The faculty and students at Huxley College of the Environment wish to especially thank our community partners and mentors for their invaluable assistance in helping our students conduct this investigation of alternative approaches that can be taken to address the conditions of homelessness within our Bellingham community: Greg Winter, Director, Whatcom Homeless Service Center, Theresa Meurs, Hope House Street Outreach; Gail de Hoog, Whatcom County Health De- partment; Claudia Vocarca, Bellingham Police Depart- ment. We further wish to thank the numerous individu- als who live on the Streets of Bellingham for taking the time to talk with out students and help them to gain a better understanding about the conditions that Home- less People face on a daily basis.

We hope some of these design concepts may serve as a short term solution for addressing the still largely unmet needs of so many people that continue to live in Homeless camps throughout our community. Students: Brian Anderson, Lauren Anderson, Jesse Ashbaugh, Claire Bertuluti, Thomas Briesenden, Joshua Dolachek, Nathan Emery, Elliot Fitzpatrick, Sa- brina Gassaway, Mathieu Gauthier, Jeaninne Godden, Katharine Healy, Bailey Jones, Carson Massie, Ashkon Nima, Nick Peterson, Kyle Rosscamp, Colin Strickland, Kirk Turner, John Wachler, Kevin Ward, Cort Wilson, Olin Wimberg.

Instructors: Nicholas Zaferatos and Arunadas Oslapas, Western Washington University

FORWARD AND ACKNOWLEDGEMENTS

TRANITIONAL SETTLEMENTS
INTRODUCTION

Our interest in the tremendous task of improving the quality of care and infrastructure for marginalized groups in today’s society is in response to a history of economic, social, and political issues. These conditions have resulted in a significant portion of people today finding themselves unable to provide adequate housing, medical and social provisions, and often even food for themselves, their loved ones, and their pets. These groups do not have a single face or representation that bears categorization, in fact it is only through the most intimate and individual interactions with each that one finds that no two stories are the same, and no single solution will fit all.

Despite the best efforts of many, today’s economic conditions and often mere circumstance have resulted in a strikingly wide variety in the appearance of homelessness, mental illnesses, domestic violence and abuse, and chronic drug addictions of many forms. All of these are spread out over vast areas and hold such a wide variety of needs, the financial burden of helping them is severe to the entire society. Providing transitional housing for one person at a time can require helping them is severe to the entire society. Providing transitional housing for one person at a time can require thousands of dollars per individual to the public, and at tens of months of personal attention from caregivers. These conditions have resulted in a significant portion of people today finding themselves unable to provide adequate housing, medical and social provisions, infrastructure for the benefit of those in need in order to further developing to affect others in the future.

The purpose of this work is to mitigate the social consequences of homelessness, by providing public infrastructure for the benefit of those in need in order to further developing to affect others in the future.
OPENNESS, CONSOLIDATION, EDUCATION, ASSIMILATION, AND THE NETWORK

Our plan to successful community care is characterized by five key themes which fall under the acronym OCEAN:

1. **OPENNESS** and willingness attitude from the community and lawmakers to shift their perception towards homeless people and those undergoing unfortunate conditions
   - Humanity
   - Collectiveness
   - Self-empowerment Opportunities
   - Socialization Mechanisms and Reinforcement

2. **CONSOLIDATION** of human needs and services to provide for those needs
   - Functionality
   - Community Creation
   - Services and Amenities

3. **EDUCATION** that can power a net positive social capital and benefit everyone for the long term
   - Self-empowerment Opportunities
   - Socialization Mechanisms and Reinforcement

4. **ASSIMILATION** back into the fabric of society with safe, secure, long term employment and housing options for all
   - Final Community Integration
   - Reinvestment in the Local Community
   - “Booster” and Incentive Programs Throughout

5. **NETWORKING** is the primary stipulation of the entire OCEAN process, and perhaps the most necessary for tangible change. It holds that we all must actively engage with and learn from one another.
   - Role Models
   - Community Members
   - Employers
   - Service Workers and Caretakers

OPENNESS is the primary stipulation of the entire OCEAN process, and perhaps the most necessary for tangible change. It holds that we all must actively engage with and learn from one another.

We posit that a mere community space is enough for most needs, but most public spaces are detrimentally affected by over-use from certain demographics, like alcoholics, drug abusers, and the homeless. Instead, one or a series of temporary “community centers” will be provided for marginalized people with the proper context and provisions for those of a variety of needs. In essence, everyone would have to be homeless or suffer from addiction to benefit from the services at these proposed sites.

Communication and socialization are essential for making significant gains.

**OPENNESS** and **CONSOLIDATION**

**OPENNESS**

Selflessness is essential in the long run. The natural human tendency to help fellow beings will be extremely beneficial in this case to shift cultural perceptions towards homelessness and its associations. When the entire community embraces a simple consciousness of these issues and chooses not to simply ignore or kick down those in less fortunate situations, a more equitable and ethical community can be realized.

**CONSOLIDATION**

Every human needs to feel pride. This can come from taking part in joint community efforts and bearing responsibility for one’s self and others. Our actions undeniably have an effect on the system as a whole, and we must consider these at every turn. Close contact with people of all groups keeps up the reminder of the range of daily issues we deal with as a society. Social capital is the product of our combined actions, not the success of a few individuals. If we as individuals feel mutual responsibility for the well being of our local community, we will each feel a greater stake in keeping it enjoyable by all.

**EDUCATION**

This contrasts many of the urges of modern society. As it is, society has overemphasized self-interest, and has done little to ensure maximum effectiveness. Therefore, the following criteria must be provided in some form as a basis for the other later steps to carry weight.

**ASSIMILATION**

The overall usability and ability of the site must also

**NETWORKING**

The second phase of our process is intended to bring together all the services and provisions needed for the later phases to be successful. This entails a variety of current social groups and programs do not communicate adequately with each other to ensure maximum effectiveness. Therefore, the following criteria must be provided in some form as a basis for the other later steps to carry weight.

**COMMUNITY BONDS AND INCLUSIONARY MEASURES**

In line with collectiveness, bonding and inclusion is essential to making sure everyone feels that they are contributing positively to something tangible, and with noticeable gains for all. Society has overemphasized individualism as an honorable trait, but that should be coupled with an honor for the community and solidarity, the tangible manifestation of openness. No significant gains are made alone, and many unseen groups are wrongfully seen as non-contributing members of society. With the proper context and skills, this trend can be reversed for the benefit of everyone.

**THE OCEAN PROCESS AND PROJECT PATH**

**OPENNESS**

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   - Final Community Integration
   - Reinvestment in the Local Community
   - “Booster” and Incentive Programs Throughout

5. **NETWORKING** is the primary stipulation of the entire OCEAN process, and perhaps the most necessary for tangible change. It holds that we all must actively engage ostracized groups and each other to prevent ignorance and negative attitudes from spreading towards people based on appearance, choices, company and overall circumstance. While this is a lofty supposition, it is a requirement for positive impact to take place in later steps. Without a strong local involvement and goodwill towards all in the community, the trends towards ostracism and judgment will only perpetuate further. This cultural shift is quite necessary to even begin to consider the following steps, though it will take adjustments from the whole community.

**HUMANITY**

Selflessness is essential in the long run. The natural human tendency to help fellow beings will be extremely beneficial in this case to shift cultural perceptions towards homelessness and its associations. When the entire community embraces a simple consciousness of these issues and chooses not to simply ignore or kick down those in less fortunate situations, a more equitable and ethical community can be realized.

**COLLECTIVENESS**

Every human needs to feel pride. This can come from taking part in joint community efforts and bearing responsibility for one’s self and others. Our actions undeniably have an effect on the system as a whole, and we must consider these at every turn. Close contact with people of all groups keeps up the reminder of the range of daily issues we deal with as a society. Social capital is the product of our combined actions, not the success of a few individuals. If we as individuals feel mutual responsibility for the well being of our local community, we will each feel a greater stake in keeping it enjoyable by all.

**PATIENCE AND UNDERSTANDING**

This contrasts many of the urges of modern society. As it is, society has overemphasized self-interest, and has done little to ensure maximum effectiveness. Therefore, the following criteria must be provided in some form as a basis for the other later steps to carry weight.

**TERRITORY**

The acquisition of land (the process of which will be discussed in subsequent sections) is the foremost tenant for substantial positive impact to occur. We posit that a mere community space is enough for most needs, but most public spaces are detrimentally affected by over-use from certain demographics, like alcoholics, drug abusers, and the homeless. Instead, one or a series of temporary “community centers” will be provided for marginalized people with the proper context and provisions for those of a variety of needs. In essence, everyone would have to be homeless or suffer from addiction to benefit from the services at these proposed sites.

**FUNCTIONALITY**
COMMUNITY CREATION
We view Community Creation as the culmination of all the Ocean themes, fully realized, in which individuals feel a sense of belonging and contribute their unique talents and resources to the community. We imagine this to be a modern, intelligent, and self-sustaining community of individuals with a strong sense of local identity and responsibility. We envision a community where the services needed to support the community's needs are met through the collective efforts of all community members. Discussions at the OCEAN process have been detailed in the workshops, which should be held at the community level.

COMMUNITY INTEGRATION
At the end of the OCEAN process, we envision marginalized groups no longer suffering from the same realities they did before. We believe that education and training programs should be offered to all community members, regardless of their background or previous experiences. These programs should be designed to provide individuals with the skills and knowledge needed to succeed in the local society.

OCEAN process essentially flows into assimilation, a functional community of caring and hardworking individuals. The individual or group who comes from the Ocean community to the local society will find it easier to connect with others around them, the final realization of a successful OCEAN process. We envision the process as the individuals who started from nothing, joining the community, finding and holding long-term employment without issue, and moving into long-term, viable housing with their needs fully provided. There is no time frame for ensuring that this happens, instead we expect to see a full range of people completing the system successfully, regardless of their history. Over a period of years, depending on their previous social status and the success of those already in the system, the community in turn makes itself all the way from the community to the local society.

EDUCATION
The major strides to be made under education should be the focus of the local society. The community should take the initiative in developing local education programs that are relevant to the local community. These programs should be designed to provide individuals with the skills and knowledge needed to succeed in the local society.

SELF-EMPLOYMENT
The best strides to be made under education should be the focus of the local society. The community should take the initiative in developing local education programs that are relevant to the local community. These programs should be designed to provide individuals with the skills and knowledge needed to succeed in the local society.

ROLE MODELS
Role models are the individuals who have completed the Ocean process and fully reassimilated into society. They can be responsible for teaching workshops and resume training sessions for those who have completed OCEAN, certain private or public institutions may be offered workshops and resume training sessions for those who have completed OCEAN. Those who offer medical assistance, needle exchanges, and other services to marginalized groups will undoubtedly be involved in OCEAN. These service providers should be close to OCEAN participants.

SERVICE WORKERS AND CARETAKERS
Who provide medical assistance, needle exchanges, and other services to marginalized groups will undoubtedly be involved in OCEAN. These service providers should be close to OCEAN participants. persons with special stake in the outcome of the process will help those in OCEAN to understand what is needed and promote faith in the system, and strengthen local support for the OCEAN process. These are everyday people, whose interactions with the community should be shared with the community to impact their experiences should be shared with the community to impact the quality of our community, by caring for all within (openness, consolidation).

COMMUNITY MEMBERS
These are everyday people, with whom interactions with those in OCEAN will have a drastic effect on outcome. We would encourage anyone to promote social contact with those in the process, to show goodwill towards their efforts, as well as educate themselves so that they can be role models. We see this as not a possibility, but the ultimate goal of the OCEAN process essentially flow into assimilation. In the OCEAN process, we envision marginalized groups no longer suffering from the same realities they did before.

COMMUNITY NETWORK
While perhaps not a step itself, this is a theme in the Ocean process with significant weight. The network is a group of individuals and organizations that work together to support the OCEAN process and individuals with special stake in the outcome of the process. The network is a group of individuals and organizations that work together to support the OCEAN process and individuals of the city. It is important to note that the network is a group of individuals and organizations that work together to support the OCEAN process and individuals of the city.

TRANSITIONAL SETTLEMENTS
We must provide additional systems of learning in simple terms for the concept of consolidation, as we have observed. The periphery of society, spread out from each other and their resources thin. Marginalized individuals live along the urban fabric properly without interrupting adjacent services and the information needed to find them. They would benefit from consolidated locations for services and the information needed to find them.
LIABILITY & SAFETY

Any temporary and permanent homeless settlement community must be covered with a liability and safety insurance protection policy. If an individual party is injured, not due to their own fault, another entity may be responsible for a claim. Transitional communities would require liability coverage.

The City of Bellingham is self insured with a coverage limit of $50 million in liability. As the city’s liability program, settlements and transitional communities will be reviewed as claims are processed. The Legal Department will be notified of any potential legal issues, including relating to potential claims. The City of Bellingham’s liability insurance program. This flexibility allows the city to establish transitional areas for claims made in the case of an accident or injury within the establishment. Potential risk exposures may include, but are not limited to; fires, general injuries, flooding, and personal property theft and damages.

TRANSITIONAL SETTLEMENTS

CHAPTER 3

As a transitional step to help alleviate the conditions found in most Homeless camps, this project proposes short-term measures that can be taken to create Self-Sufficient Settlement Communities as alternatives to unplanned Homeless camps. This as a short-term landfill that can be used to house the health and safety of the occupants living in these transitional settlements.

As a transitional step to help alleviate the conditions found in most Homeless camps, this project proposes short-term measures that can be taken to create Self-Sufficient Settlement Communities as alternatives to unplanned Homeless camps. This innovative approach offers a number of potential benefits. These self-sufficient communities allow for the integration of public services and infrastructure, thereby addressing the needs of the homeless population effectively. Self-sufficient communities provide a more controlled environment, ensuring the health and well-being of the residents. Additionally, these communities can serve as a stepping stone towards permanent housing solutions, allowing individuals to transition into more stable living arrangements.

Public health and safety:

1. Build upon the self-initiative and self-reliance of Homeless occupants in the design, construction, and maintenance of the Settlement Community;

2. Design Household Settlement Communities as short-term, transitional, and temporary, so that the entire settlement may be relocated to other sites when the occupied site is scheduled for development to accommodate more permanent uses;

3. Ensure that the beneficiaries of the Household Settlement Community benefit from improved accessibility to public services and infrastructure. It is important to ensure that the services and support are readily available to those who need them.

OVERCOMING POLICY BARRIERS TO THE CREATION OF TRANSITIONAL SETTLEMENT COMMUNITIES

The concepts proposed in this plan intended as a temporary, short-term solution to the growing homeless condition found in most Homeless camps. The settlement design proposes, however, full outside construction and community development. In order to implement gap measures and bring immediate improvement to the community development. In order to implement a plan and Zoning Ordinance in order to permit the development of temporary shelters in “temporary opportunity sites” throughout the city. “Oversized” and “Floating” Zoning are methods used in transitional settlement communities based on the suitability and availability of sites and subject to the temporary approval by the City. In the settlement, the zone would provide exemptions from the current building and health and safety codes while ensuring that protection of the public safety and health of Settlement occupants are assured.

PUBLIC AND PRIVATE LAND ACQUISITION

Private Property Acquisition

The acquisition of private property for temporary use homeless camps presents a difficult financial challenge. Often, these properties are listed at competitive market values based on their highest and best economic use. For purposes of securing short term use of idle private property, temporary designation by the land owner may also be required to ensure that the city can make it possible to donate commercial property, for a given period of time in exchange for financial benefits. When taking into consideration into ongoing property taxes, maintenance costs and income taxes, it is often financially preferable to donate property to charities than to hold for speculation in a volatile and uncertain market. The city has a unique opportunity to leverage these legal and tax liabilities on the donated properties while also supporting a charity.

One of the advantages to the donor is that the size and market value of the property, as opposed to the cost of buying. One of the most difficult aspects of implementing this strategy is how to get traction with respect to the execution of real transactions. One of the advantages to the donor is that the size and market value of the property, as opposed to the cost of buying. One of the most difficult aspects of implementing this strategy is how to get traction with respect to the execution of real transactions. Potential solutions that may one day end homelessness.

Public and/or donated funds to improve public and private sites; use permits to permit activities for a limited purpose. "Overlay" and "Floating" Zoning are methods used in transitional settlement communities based on the suitability and availability of sites and subject to the temporary approval by the City. In the settlement, the zone would provide exemptions from the current building and health and safety codes while ensuring that protection of the public safety and health of Settlement occupants are assured.

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VEHICLE ACQUISITION

The donation of vehicles is an important part of the proposed site. To keep costs low there will be a vehicle donation program can be established through an organization, the city, or a third party organization. These vehicles can be used to house the homeless at the site. Vehicle donations can be used as a tax writeoff thereby removing the added cost from the city.

ACQUISITION OF PUBLIC LANDS

One of the most difficult aspects of implementing a transitional housing settlement on public lands is determining how the acquisition process would be structured. There is plenty of land owned and operated by the City of Bellingham for an enduser. However, if public lands are to be used, a creative legal strategy is how to get within the execution of real transactions. One of the advantages to the donor is that the size and market value of the property, as opposed to the cost of buying. One of the most difficult aspects of implementing this strategy is how to get traction with respect to the execution of real transactions. Potential solutions that may one day end homelessness.

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Planning for a homeless settlement confronts a wide range of social challenges. The initial hurdle for the city is to find an appropriate site with a determinable vacancy period. Vacancies may be numerous but this research will outline and show examples of the specific site factors to consider to help create a more functional and accommodating settlement.

The design of the settlement will be greatly influenced by the location and site features. This is why it is important to designate a site location before figuring out logistics and suitable architecture of the settlement. Different sites vary in scale, proximity, infrastructure, and accommodating settlement. The design of the settlement will be greatly influenced by the location and site features. This is why it is important to designate a site location before figuring out logistics and suitable architecture of the settlement.

## TRANSITIONAL SETTLEMENTS

### DESCRIPTION

**Outdoor With Infrastructure** - These locations will not contain structures that could be used for housing. They may be developed initially for structural elements on the site already where structures may have once existed or were planned to exist. These would be ideal for plans that would incorporate hooking up to existing city infrastructure.

**Port/Industrial Areas** - These sites would take advantage of large open spaces on our waterfront and our industrial parks that are currently under utilized. Many of these parcels are owned by the Port of Bellingham and can be considered Public Land. This gives the advantage of not needing to acquire the land but instead being able to work out a deal with the city for its use as a temporary homeless community.

**Marine Areas** - Similar to the houseboats of Seattle, this community could be living on the water aboard boats or other seaworthy craft. These locations could harbor a diversity of live aboard boats, houseboats and floating houses.

**Vacant Buildings** - The advantage of this category is that shelter from the elements and utility are provided. The buildings at the locations would be temporarily outfitted with an indoor homeless settlement design.

**Outdoor With Limited/No Infrastructure** - The advantage to an outdoor site without infrastructure may be its potential. It could be considered a blank canvas for the city to work out a deal with the city for its use as a temporary homeless community.

## SITE TYPES

**Port/Industrial Areas**
- These sites would take advantage of large open spaces on our waterfront and our industrial parks that are currently under utilized. Many of these parcels are owned by the Port of Bellingham and can be considered Public Land. This gives the advantage of not needing to acquire the land but instead being able to work out a deal with the city for its use as a temporary homeless community.

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## FACTORS AND SUITABILITY

### Existing Structures

Existing structures can comprise of a broad spectrum of people with different abilities and issues. Some people have debilitating mental health issues or substance abuse issues. Others are families who are out on the street because they haven’t been able to find work for too long. These factors are to consider in planning decisions in the design of the settlement.

**Privacy:**
- Analyzing the types and proximity of buildings to a potential site will foster different client appropriateness. Privacy is more difficult to find in some cases carrying possessions among some. For example, someone who has to have a vehicle or a bicycle, however, a site’s proximity to bike lanes, trails, and bus routes should be considered. Homeless families further make a site’s proximity to schools another important factor.

**Infrastructure:**
- While the availability of infrastructure (water, electricity, sewer etc.) is greatly preferred, it is not always available. Whether or not a homeless settlement utilizes these things will also influence the cost of a site. If a site design uses self-sustaining utilities then utilizing the city’s infrastructure may be less necessary.

**Privacy:**
- The value of privacy is something that can be taken for granted when you have a home. Those without a home are forced to exist under the eyes of the public at all times. It stands to reason that a homeless environment would value additional privacy during such a turbulent time in their life. Different groups may require different levels of privacy, and this was taken into account when selecting sites.

**Client Appropriateness:**
- The homeless community is comprised of a broad spectrum of people with different abilities and issues. Some people have debilitating mental health issues or substance abuse issues. Others are families who are out on the street because they haven’t been able to find work for too long. These factors are to consider in planning decisions in the design of the settlement.

### SITES

**Existing Structures**
- Sites with various existing structures can yield a specific development focus.
This image displays local sites in context, chosen for their suitability to the criteria identified at the beginning of this chapter. Yellow sites are possible public and private areas that could be dedicated to community building, while green sites are the five specific locations identified later on in the design concept chapters.

CONCEPTUAL SITES
FIVE DESIGN LOCATIONS

Elwood Heights
Lakeway Gardens
Hilton Avenue
Mercer Field
Old RV Park
TRANSITIONAL SETTLEMENTS

INTRO

With the goal of designing a transitional housing settlement for a diverse group of people who are currently homeless, a familiarity and understanding of the end user was required. A variety of approaches were used to achieve this insight, including literature reviews, casual observations, and personal interviews with members of the homeless community, individuals working to end homelessness, and members of the business community. Furthermore, in an effort to avoid overlooking the needs of the client and designing a settlement that functions improperly, the final goal was to identify needs and desires of the population about which little was known; such research will steer the project's development process and the designs of housing and community facilities in a manner that is compatible with the lifestyle preferences of the users.

RESEARCH: CLIENT PROFILES

In addition to aiding in design strategies, the findings have allowed us to recognize which capital assets and transferable skills these individuals already have (i.e., employment experiences, education, hobbies) so that they can build capacity amongst each other during the implementation stages, and make community contributions during and after their tenure at the transitional housing settlement.

HOMELESS POPULATION IN WHATCOM COUNTY

As of 2013, there are approximately 561 citizens of Whatcom County that have no place to call their home [1]. Due to a wide range of factors, individuals and families are burdened with the responsibility of finding a place for eating, sleeping, and leisurely activities. (insert pic titled reasons for vagabondage are necessary to find and implement solutions to their current circumstances.

In Whatcom County 73% of the homeless are single citizens who are forced to endure a self-reliant lifestyle [1]. 133 homeless citizens are under 18 years of age, without a parental figure to seek guidance from and designing a settlement that functions improperly, an effort to avoid overlooking the needs of the client and what they as individuals needed from the designers to make a livable community. The following case studies gave some of that insight that was then broken down into qualifiable information. CATEGORIZATION - BREAKDOWN BY RISK

High risk persons are those that are dangerous to themselves and others. These citizens are illicit drug users, those who suffer from chronic alcoholism, people with severe psychiatric problems, aggressive individuals, and individuals prone to inciting violence. Although these individuals have their issues, getting them into a home would help them become safer human beings.

Medium risk persons are citizens that are solely dangerous to themselves. These include dependent drug users, alcoholics, and citizens with minor psychiatric issues. The third category is low risk citizens that source negligible nuisances. These individuals and families are burdened with the responsibility of finding a place for eating, sleeping, and leisurely activities.

The volunteer coordinator at the Lighthouse Mission, Jessica, was able to offer unique insight into how the homeless population of Whatcom County is divided into four risk assessment categories: high, medium, low, and beneficial. High risk individuals are those that are dangerous to themselves and others. These citizens are illicit drug users, those who suffer from chronic alcoholism, people with severe psychiatric problems, aggressive individuals, and individuals prone to inciting violence. Although these individuals have their issues, getting them into a home would help them become safer human beings.

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The final group is beneficial individuals who execute positive actions towards their collective groups and society at large. Examples of such individuals and families are beneficial citizens are social individuals with high social capital, motivated leaders, mediators, and technically competent persons.

The volunteer coordinator at the Lighthouse Mission, Jessica, was able to offer unique insight into how the diversity of clientele might affect the settlement. In describing a night at the Lighthouse Mission shelter, Jessica said that everyone shared one large room, and this posed no problems. This reveals that our proposed settlement should be able to accept anyone who is currently homeless, regardless of age or gender. Jessica also suggested that the settlement be slightly larger than expected, and recommended an interview process to screen out any person that would not be a great fit for the settlement, or may need to seek other services.
Alvin

Alvin was born Dec. 30th 1954 in Bellingham, Washington. He was raised in Everett where he lived for 30 years. His family operated a farm there with 50 acres right on the Northskak - he used to Studebaker's through the fields as a young man. He expressed that his father was "destructive" and that he went astray at 19. He signed up for the Marines and after finishing the writing test, he lasted 11 days in boot camp. His parents are still alive and he mentioned that he recently saw them for their 60th anniversary. He explained that he has spent time in psychiatric wards on multiple occasions and that he even worked at a naval hospital in Palo Alto. During the time of his interview, he explained that he had been sick with the fever and hadn't spent much time outside of his motel room at the Aloha Inn - a place where voucher programs have allowed him to stay with subsidized ("specialized") rent. In his spare time, he watches television in his room and his 12-string guitar. Before his tenure at the Aloha Inn, he used to live at motels and along the Lincoln Creek trail behind the Fred Meyer (aka the "Jungle"), where he camped out to live five years ago. He explained how people are "frightened" of going out of that area and how he had his Yamaha acoustic guitar stolen from him there. Alvin owns a mountain bike as well as a WTA bus pass. He appears to be a resourceful person, having acquired his bike from the HUB and getting meals from the Lighthouse Mission. He explained that he has experience with electronics, fixing tube amps, television sets, and other appliances. He has some educational background in electronics from Bellingham Technical College (1972 - 1973). He explained that he has spent time in psychiatric programs have allowed him to stay with subsidized ("specialized") rent. In his spare time, he watches television in his room and his 12-string guitar. Before his tenure at the Aloha Inn, he used to live at motels and along the Lincoln Creek trail behind the Fred Meyer (aka the "Jungle"), where he camped out to live five years ago. He explained how people are "frightened" of going out of that area and how he had his Yamaha acoustic guitar stolen from him there. Alvin owns a mountain bike as well as a WTA bus pass. He appears to be a resourceful person, having acquired his bike from the HUB and getting meals from the Lighthouse Mission. He explained that he has experience with electronics, fixing tube amps, television sets, and other appliances. He has some educational background in electronics from Bellingham Technical College (1972 - 1973).

Craig

Craig is a homeless resident in Bellingham who is originally from San Jose, California. He is 52-years-old and he has spent the last 20 years in Washington State. He used to sleep along Whatcom Creek near Maritime Heritage Park where he explained that he had some of his possessions stolen from him. He said "It’s gone. I can’t control it - It’s over. Someone else needed it more than me." Despite this, he still feels that Maritime Heritage Park is a safe place to be because you can surround yourself with good people. At one point he was employed by Heritage Electric out of Campbell, California. He worked a lot of jobs as an electrician at residences throughout Whatcom and Palo Alto - he even did a job for Bill Walsh, the former head coach of the San Francisco 49er’s and the Stanford Cardinal football team.

DOWNTOWN BUSINESSES

To ensure that the public was well represented, businesses were asked to speak about the homeless situation in Bellingham. Everyday Music is in close proximity to the WTA Bellingham station which makes it a destination for transient individuals. Two employees revealed their experiences of encountering the homeless while working at Everyday Music. Potential customers were reluctant to enter Everyday Music due to the presence of homeless citizens that are believed to be participating in an "open-air drug market". This barrier to customers, combined with incidents of violent behavior and disorderly conduct, has had a detrimental effect on Everyday Music’s business operations. Both employees gave positive responses to the proposed temporary homeless settlements. They believed that they would provide a safe and supportive community are paramount for the transitional transition out of homelessness.

References

Community facilities encompass a significant portion of any housing settlement. There are a multitude of basic daily amenities that any individual resident of a community requires, but specifics will vary greatly depending on the needs of the specific settlement. The biggest decision is whether to create individual private amenities, shared facilities, or to rely upon offsite facilities. For example, individual bathrooms may not be possible in a common building but utilized and bathrooms were consolidated together in a single location. The following is an overview of physical and functional amenities that should be considered.

Water is the fluid of life so it's logical to start there. The basic minimum necessities should include bathrooms, electricity, and a supply of water. Water is a basic necessity for laundry and other shared tasks. In the United States, water could be comprised of a sink, stove, microwave, refrigerator, and even a mini kitchen space necessary for laundry and other shared tasks. The kitchen, the amenities could be comprised of a sink, stove, microwave, refrigerator, and even a mini kitchen space necessary for laundry and other shared tasks. The kitchen, the amenities could be comprised of a sink, stove, microwave, refrigerator, and even a mini kitchen space necessary for laundry and other shared tasks. The kitchen, the amenities could be comprised of a sink, stove, microwave, refrigerator, and even a mini kitchen space necessary for laundry and other shared tasks.

For transportation, the common facility could provide a location for shuttle rides to allow for transit access for residents. This could be one of the most important and could be maintained using a blackboard/whiteboard to share information. Additionally, a “Take it Or Leave it” type space for donations, a drop off location for bicycles and drop off location for electrical items that may be recycled. A head office or administration room could be used to help with facilities and organization, family/tenant requests, filing complaints, and other organizational functions. This office could either be staffed by an external hire (individual) or self-governed by residents. Community communication is very important and could be maintained using a blackboard/whiteboard to share information. Additionally, a “Take it Or Leave it” type space for donations, a drop off location for bicycles and drop off location for electrical items that may be recycled.

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A large number of the Whatcom homeless also have disabling conditions such as mental illness, permanent physical damage and chronic illness. These individuals would need easier access to specialized health care services to provide income, possibly from government resources. This group would also need assistance with housing counseling services, and it would be crucial for them to be part of a community where they would feel safe and comfortable.
WATER

An adequate supply of fresh clean water is essential for the health and wellbeing of any community. Ensuring that this necessary amenity is safely and reliably supplied requires adaptable and scalable solutions that can be custom designed for unique site specifications. There are many alternatives that present options for accommodating communities of any size and delivery techniques for handling water quality concerns.

When negotiating off-grid scenarios, it is important to distinguish “potable” water from “non-potable” water. Potable water is safe enough to be consumed by humans while non-potable water is not. However, non-potable can be used for irrigation and other uses where it is not consumed.

ACCESS - MUNICIPAL SUPPLY

Like utilizing the existing power grid where it is available, the most reliable and economical option for supplying water is to simply connect to the municipal water network when possible. If the community is located within the city limits and privately owned, accessing the existing infrastructure provides the most logical solution. Municipally supplied water is clean, safe, and requires minimal improvements to infrastructure and no filtering or other treatment to insure its potability.

DELIVERY AND STORAGE

Drinking water holding tanks provide the next-best solution in locations where municipal access is not feasible. Drinking water holding tanks may be used to store imported water and/or water harvested on-site. They are available in multiple sizes, styles and fabrics to accommodate the needs and requirements of outdoor, indoor and long-term storage.

SOLAR PANELS

Solar panels are becoming an increasingly more efficient and less expensive method for producing electricity. During cloudy conditions that frequent NW Washington, solar photovoltaic cells will continue to collect energy, although at a reduced rate. Solar panels are easily mounted on top of most any type of structure, and for increased mobility, a solar system can be self-contained within a trailer.

WIND TURBINES

Small-scale wind turbines work very well in conjunction with solar panels. They can be integrated into the system, and have the advantage of providing a supply of energy at night and when solar panels are producing at a reduced rate.

Wind turbines should be elevated as high as possible to collect the most energy. A metal pole braced to the ground with cables is an inexpensive method for mounting a turbine, or if available, trees are often used to elevate wind turbines.

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Chemical treatment is accomplished both by filtering out harmful micro-organisms and also by adding disinfectant chemicals. Water is disinfected to kill any pathogens which pass through the filters and to provide a residual dose of disinfectant to kill or inactivate potentially harmful micro-organisms in the storage and distribution systems.

The most common disinfection method involves some form of chlorine or its compounds such as chloramine or chlorine dioxide. Chlorine is a strong oxidant that rapidly kills many harmful micro-organisms. This method is used by local water utility agencies but requires special training and the handling of toxic chemicals.

**ACTIVE FILTRATION**

Reverse osmosis (RO) is a water purification technology that uses a semipermeable membrane. This membrane technology is not properly a filtration method. In reverse osmosis, an applied pressure is used to overcome osmotic pressure, a colligative property, that is driven by chemical potential, a thermodynamic parameter. Reverse osmosis can remove many types of molecules and ions from solutions, and is used in both industrial processes and the production of potable water.

**PASSIVE FILTRATION**

Slow sand filters may be used where there is sufficient land and space, as the water must be passed very slowly through the filters. These filters rely on biological treatment processes for their action rather than physical filtration.

The filters are carefully constructed using graded layers of sand, with the coarsest sand, along with some gravel, at the bottom and finest sand at the top. An effective slow sand filter may remain in service for many weeks or even months and produces water with a very low available nutrient level which physical methods of treatment rarely achieve, for all homeless people. A basic need is stable housing.
TRANSITIONAL SETTLEMENTS

SHOWERS AND TOILETS

Often taken for granted, these utilities can vastly improve the quality of life for transient people. There is also a variety of options available that vary by cost or by the site selected.

SHOWER OPTIONS

A PORTABLE SHOWER TRAILER-
Initial higher capital expenses may deter some, but the benefits of a prefabricated mobile shower trailer more than make up for the upfront cost. Renting or leasing a small trailer can be upwards of 1,000 dollars a month or a used shower trailer can be purchased for a few thousand dollars depending on its condition.

These trailers come in a variety of options and sizes. They require a source of water, power and a way to dispose of wastewater. They come ready to use and can be set up or taken down in a moments notice. They provide all the comforts of a regular shower with the added benefit of mobility.

SOLAR CAMP SHOWER-
Small camp showers can be both cost effective and sufficient for the needs of a small group. They come in a variety of designs each with their pros and cons. A very basic solar heated shower bag can be purchased for less than twenty dollars. This option is cheap, but it does have drawbacks. For one, they serve far fewer people. Another drawback is that if they are solar heated, people will be taking many cold showers in this climate.

TOILET OPTIONS

PORTABLE TOILET TRAILER-
As with the shower trailer, this option has higher upfront capital expenses. And again, it would need a water and power source and also a method to dispose of sewage. These trailers are easy to setup and maintain however. They can quickly provide an essential utility. They come in a variety of sizes. There is even the option to have a complete bathroom trailer that would completely serve the needs of a small community all within one trailer.

These trailers come in a variety of options and sizes. They require a source of water, power and a way to dispose of wastewater. They come ready to use and can be set up or taken down in a moments notice. They provide all the comforts of a regular shower with the added benefit of mobility.

COMPOSTING TOILETS-
This option is cheaper and requires little in terms of infrastructure. A composting toilet can be built for a few hundred dollars. They require no water or sewer connections. They can also be used to compost food scraps. The drawback to these is that they require periodic maintenance and can only service a few people.

HEATING SOURCES

Heat is a very important aspect of any community especially in the Pacific Northwest where there is often a long cold damp rainy season.

Heat can come in many forms from blankets to electricity to a camp fire. All a group the class looked into a few different options for heating the home that are designed.
WASTEWATER SOLUTIONS

One of the most burdensome infrastructure needs of a community is what to do with sewage and wastewater. Dealing with raw sewage can be hazardous to the environment and it can be a human health risk as well. Luckily, there are a couple of good solutions to this.

TAP INTO SEWER LINES
Perhaps the easiest and most effective is to make use of existing municipal sewage lines. If a site is within city limits, this can often be a viable solution to a community’s sewage disposal issue. For a multi-family site in Bellingham, sewage disposal rates are under one hundred dollars a month.

HOLDING TANKS WITH PRIVATE PICKUP
When tapping into the sewer lines is not an option, wastewater can be held in storage tanks. A private sewage pumping service would then have to come and periodically pump out the tanks. This option can get rather expensive, but it requires little in terms of sewage infrastructure. Holding tanks range in size and can be as cheap as a few hundred dollars. Pumping services are expensive though and can run as much as a couple hundred dollars per pumping session.

WASTEWATER REUSE
In certain setups, water that doesn’t contain raw sewage, such as from showers and sinks, can be reused to flush toilets or for other purposes. This greatly reduces the amount of water consumed and the wastewater produced at a site. It requires more complicated infrastructure and therefore the cost of implementing this system can be high.

SEPTIC SYSTEM AND LEACH FIELD.
Where possible, the use of septic tanks and leach fields can be very effective. These systems require minimal maintenance and can serve the needs of a community with little disadvantage. They tend to only be allowed outside of city limits and often require a large empty area for the leach field, so sites capable of using this are few.

WASTE MANAGEMENT

Whatcom County is serviced by the Sanitary Services Company (SSC), who provide a variety of recycling and garbage options. It’s a private company with 3 recycling centers and transfer stations throughout the county. The services they provide include the disposal of household garbage, medicines/sharps, electronics, scrap paper, newspaper, bottles/cans/plastic, cardboard, and Food. Pool Composting.

The wide variety of services and pickup plans allows for a lot of flexibility in the overall cost and options of a given site. Size options also vary greatly, from small household pickup to large dumpster service. Education and encouragement of proper sorting will be important for the cleanliness of the site.
FOOD PRODUCTION AND SELF-HELP

COMMUNITY GARDEN
A community garden can be used as a stepping stone to reintegrate homeless back into society. Incorporating a community garden into a transitional housing site provides many benefits to its residents. A garden both nurtures and requires nurturing; this results in a therapeutic atmosphere while providing residents with the opportunity to develop a diverse skill set. The skills residents obtain by caring for a garden will play an essential role in securing their future out of homelessness.

Benefits of having an on-site garden:
- On-site therapy
- Life skills development, social & character education
- On-site employment experience
- Food production

COMMUNITY GARDEN

COMMUNAL WASTE

Communal waste should be encouraged whenever possible for the sake of accountability as well as reducing the overall cost. Large dumpsters for trash and recycling sorting stations are both important for the health of the site.

LIFE SKILL DEVELOPMENT, SOCIAL & CHARACTER EDUCATION

A transitional housing community which offers its residents the opportunity to develop skills while providing services that can help the residents apply them, is a system built for success. It is recommended that the transitional housing community residents are encouraged to help maintain the garden, this instills a sense of responsibility and will act as a safe, consequence free “work-like” environment. An on-site work-like environment promotes and stimulates leadership, life and technical skill development, as well as social and character education.

Instilled life skills:
- Responsibility
- Leadership
- Time management
- Teamwork
- Home economics

Providing these services for struggling individuals will help bring them back to the realities of living out of homelessness. Building upon their sense of self worth and mental health, a garden, no matter how big or small, is an easily implemented tool that can greatly contribute to the generation of social capital and well-being for homeless or other struggling populations.
FOOD PRODUCTION
An onsite garden will also help the transitional housing community prosper because the produce grown can be consumed by the residents. Food production and self-help can work hand in hand in this way, in addition to the garden being a means for therapy and skill development, residents will be simultaneously growing enough food to feed themselves and the onsite community. Crops that can be grown year round in Washington state are: kale, carrots, beets, potatoes, yellow onions, and turnips. (Washington Group Vegetable Seasonality Chart)

Site Plans
Five Design Locations

- Elwood Heights
- Lakeway Gardens
- Hilton Avenue
- Mercer Field
- Old RV Park

There are resources within the Bellingham community that can be utilized to train and educate the transitional housing residents about gardening. Joe’s Gardens has stated that they would be willing to provide seeds/cold crops as well as informational sessions on site at Joe’s Gardens to residents. (Gary, 2014)

Another community resource, Cloud Mountain Farms, offers a wide variety of classes which cover nearly all the farming techniques one would need to know in order to start and maintain a thriving garden; these classes range from agricultural techniques to infrastructure and construction techniques for onsite building. The majority of the classes taught at Cloud Mountain Farms are free.

ECONOMIC SELF-SUFFICIENCY & ON-SITE WORK EXPERIENCE
A garden can be implemented on nearly any site to create a self-sufficient community and provide benefits to the residents to ensure both communal and individual success. It is also possible, if the site is permits, to scale up the garden to a profitable farm. An onsite farm would offer an even more abundant range of benefits to the residents, such as real on-site work experience and developing a close connection with the outside community. Not only is there the ability to produce food crops but also room for other programs to be implemented such as beekeeping, canning, gleaning, and livestock such as chickens or goats.

A farm could produce food and other products year round which could be sold to the local co-ops, at Saturday Markets, etc. A “farm model” has the potential to profit, which could be used to help pay off site expenses.

This model would also provide a unique opportunity for homeless individuals to assimilate back into society by making face to face connections with people at the markets and other social events. This up-scaled, farm model will be discussed in depth in Chapter 5: Site Plan 5: Serenity Gardens.

Providing these services for struggling individuals will help bring them back to the realities of living out of homelessness. Building upon their sense of self worth and mental health, a garden, no matter how big or small, is an easily implemented tool that can greatly contribute to the generation of social capital and wellbeing for homeless or other struggling populations.

CHAPTER 4
RESEARCH: FOOD / AGRICULTURE
SITE PLANS
FIVE DESIGN LOCATIONS
Hilton Avenue
Lakeway Gardens
Elwood Heights
Mercer Field
Old RV Park
HILTON HARBOR SITE PLAN

SITE FEATURES
The Hilton Harbor site has two main sections to it; the hill and the lower area directly adjacent to Bellingham Bay, with some water access. Our design concept focuses on the area to the Southeast of Hilton ave, shown at right in red. Currently, the site is not subdivided from the land West of Hilton Avenue, however it is zoned for subdivision from the rest of the property, and we propose not using the entire parcel for our design scheme. There are no existing structures on the site, but there are existing utility hook-ups extruding from the ground. If these are not functional currently, utilities would be easily accessible due to the site’s proximity to other functional structures. The hill is currently covered in grass, while the lower section is a mixture of grasses and graveled areas. Because of the site’s location just outside of downtown, it is highly accessible to emergency, transportation and general health services. This location would also be ideal for providing our clients with employment.

CLIENT PROFILE
The target demographic for the design process was high risk homeless people. These individuals may have illicit drug use, chronic alcoholism, severe psychiatric problems, or have history of violence and sexual offenses. It was important that the design of the settlement reduced stress. This would help residents heal by

SITE PLAN 1: HILTON HARBOR

CHAPTER 5

SITE LAYOUT
The concept for the proposal at the Hilton Avenue site along the industrial waterfront includes a variety of human-scale designs that can be implemented at minimal cost per unit. It features a community kitchen situated on a tugboat or otherwise attainable structure outfitted with the proper utilities and cooking necessities, and a communal open space and event/workshop space on the northwest corner of the site, possibly atop a semi-covered barge or otherwise flat, usable space. Living units in this concept appear in the form of repurposed non-seaworthy vessels. These can be acquired through public donation, or found inexpensively from local boat dealers. To be living units the "boats" must be at least 18 feet in length, with the potential for some retrofitting to accommodate long-term housing for between one and three people per unit. If donated boats are under the 18-foot minimum, they can be gutted and the hulls can be repurposed as raised garden beds to be shared by the community. Boardwalks will connect the units to the kitchens and rest room areas with a public forum space at the center. This can appear as a gazebo or outdoor seating area capable of fitting the entire community for social gatherings and group votes. Boardwalks connect the residences to each other and to the community structures, maintaining the maritime theme and contributing to the atmosphere of the site.

HILTON AVENUE SITE PLAN CONCEPT

TRANSITIONAL SETTLEMENTS
HILTON HARBOR DESIGN
THE VISION

The reclamation of non-seaworthy boats as retrofitted homes is an idea that, if seen into fruition, would change the lives of many. Bellingham is a city rich with maritime history and holds an abundance of resources for this project. The project site sits on Bellingham Bay, and is a perfect temporary fit to host a community of boats on land to house the previously homeless. By taking advantage of pre-existing structures, such as old boats, half the work of “building” housing is already done.

This project is unique in that it is intriguing and full of character whilst serving its main purpose; to be a home. Every boat that comes in brings its own stories and harbors a foundation of liveliness for the community group. With the right guidance and support, the community members have a chance to be an active part of building their home. As the community develops, the current members can gain experience and skill in either re purposing old boats to make them fit for living or salvage and recycle parts that would have otherwise gone to waste. This process could turn into a program that can be assimilated into other job skills and/or develop a new local industry.

From preliminary research done in the area, there are plenty of boats that can be suitable as a living unit that are either free or very inexpensive. The structure of the community design calls for a communal facility. This would be one larger boat, such a retired tugboat or commercial fishing vessel. The communal boat could be the sole boat outfitted with full utilities such as toilets and showers. The consolidation of utilities to one boat would cut down cost and stress on the site location. The communal boat could also be outfitted for solar panels and rain barrels, as well as composting toilets, to mitigate use of resources. The optimal community size is around 20 to 30 members. The site layout would promote community involvement while maintaining the integrity of one’s own space. The remaining boats would be simple living units to accommodate 1 to 4 people per boat depending on the acquired boats and preference of inhabitants. The boats would be stationed in boat cradles and would not constitute permanent structures. They would be connected by paths of raised boardwalk to define the shape of the settlement and provide the concept of a cohesive community through obvious connectivity.

WATER, HEAT, BATH, AMENITIES

Potable water would be accessible through a community boats existing water systems. Filtering systems, siphons, and pressurizing systems could be removed and water would be supplied directly via piping in the boats hull. Drainage would connect to through-hull fittings and work with nearby sewer systems.

Using Washington State plumbing system code as a guideline it was decided that this site would require 6 toilets. This is based off the assumption that Hilton site would provide space for 20-30 people. If a boat lacks sufficient utilities they can be supplemented with external units. They would be separate bathroom facilities accommodating either men or women.

In addition to showers aboard the boat a portable trailer with 6 shower stalls may be appropriate. It is partitioned down the middle with 3 stalls on each side to accommodate separate gender facilities. This trailer does require a connection to water with a minimum water pressure of 40 psi and a flow rate of 5 gallons per minute (http://www.cohsi.com/rentals.htm).

The boats may not be designed, or in good enough condition, for keeping the occupants warm during colder months. It is a relatively simple process to add insulation to the boats in the form of some reflective and insulating layers. Each boat will have a layer of Reflectix double reflective insulation, followed by a layer of polyethylene foam, and finally another layer of Reflectix insulation. Further insulation could come in the form of greenery atop the boats, which would buffer the internal temperatures as well as add characteristic aesthetics to the residences.

CHAPTER 5
SITE PLAN 1: HILTON HARBOR

Canopy provides outdoor rain cover and shade
Reinforced hull stands would support boat outside of the water
Front door has ground access for visitors
Kitchen Area would ideally have a cooking area that would encourage residents to get together for meals

COMMUNITY BOAT

Managemnet operations could be ran in the bow of the community boat
Lounging and eating
Office for any resident looking for a well work suited space
Healthcare unit could give a private space for a resident in the case of a medical emergency or illness recovery

TRANSITIONAL SETTLEMENTS
Hilton Harbor could potentially become a landmark and a strong step towards a self-helping community. The abundance of unused boats and proximity to Bellingham’s rich maritime heritage makes Hilton Harbor the ideal transitional settlement near downtown.

The approval process for this settlement would begin with building public awareness. This will help mitigate costs as more people may be willing to donate their unused boats. Afterwards, boats would be surveyed and selected for based on the needs of the settlement. Volunteers would then help strip the boats of their unneeded components while providing instruction and example for new and future residents. Once the community is established, they can set their own ground rules and management plans. Boats could continually be added, installed and modified.

Since the Hilton Harbor design utilizes retired vessels, costs are on a lower range for encampment structures. Re-purposing boats is not difficult to do and would require only basic re-engineering. Campaigns to raise funds will help pay for the use of tools and labor; other public involvement could also potentially cut costs. Costs are mostly long term and can be integrated to different extents with different boats.

This settlement would be the stepping stone for high-risk homeless to live healthy lifestyles. Individuals wanting to live in the settlement would be required to abide by the communities procedures. Seasoned residents could be elected to be in charge of managing meetings.

Many options were considered in the design process. Hilton Harbor was chosen because of its message in sustainability, equality, and culture. It is a feasible solution and appropriate for the Hilton avenue site, and our client group.

### ESTIMATED COSTS

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<th>Item</th>
<th>Costs</th>
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<td>Housing &amp; Garden boats: Insulation</td>
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<td>Solar Panels for small onboard lights</td>
<td>$75 liner, $69 caulk and $50 foam core per/ft</td>
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<tr>
<td>Outfitting costs</td>
<td>Starting ~$140 w/o hardware</td>
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<td>Community Tugboat</td>
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<td>Boardwalk: Wood</td>
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<td>Hardware</td>
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<td>Lighting (Lights, clips, timer)</td>
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<td>Parking lot</td>
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<td>Contracted to company</td>
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CHAPTER 5
SITE PLAN 2: LAKEWAY GREEN

CLIENT
The structure of Lakeway Green is best suited to serve clients who can be identified as low risk and beneficial. High and medium risk clients should not be overlooked, but more intensive services should be focused on these individuals. Low risk and beneficial clients would thrive at Lakeway Green, which offers plenty of capacity building opportunities in a setting with relaxed oversight. This relaxed oversight will be supplemented through beneficial individuals, who have high social capital and are already well suited at making positive influences within their communities. The amount of capacity building and skill training opportunities will provide all residents with skills to learn, keeping themselves busy and igniting positive changes in their habits and state of mind.

SITE PLAN
The overarching goal of Lakeway Green is to provide an opportunity for homeless individuals to get their lives back on track and start acquiring work skills, thereby building their work skill capacity. Building capacity consists of skills training, community involvement, and social development. The extensive opportunities for skills training, including the Clean Green Waste facility, a community garden, a native plant nursery, a community kitchen and a woodshop. These opportunities make Lakeway Green an ideal transitional work-to-housing settlement. This specific site is well positioned to teach residents a variety of skills that they will be able to take with them, thus allowing them to begin to build the foundation for their new lives. In addition to learning new skills, the residents may allow for Clean Green Waste to increase its hours of operations, making it more convenient for users of the facility. Here, residents have a place to call their own and will have the opportunity to fall into a routine in which they can sleep easy, learn, and become mentally and physically healthier.

LAKEWAY GREEN SITE PLAN
The Lakeway Green is a proposed transitional housing settlement located at the corner of Lakeway Drive and Westown Drive. Currently, the City of Bellingham operates its Clean Green facility where green waste is recycled and transformed to larger compost facilities. In addition to this site-specific service, the site hosts the Lakeway Community Garden, a newly designed native plant nursery, and woodshop operated by the Parks Department - all of which provide opportunities for the residents to oversee and assist the City’s operations in which they could gain work experience and transferable skills. In addition, the settlement is in close proximity to public transportation and is conveniently located within a mile of the Lakeway Center, thus making grocery shopping easy and accessible. Residents’ homes will be located next to the community garden as well as in the forested areas in the lot’s southeast corner. This location setting,noise with skills meeting means relaxing and pleasing aesthetic factors. The Lakeway Green’s forested segments, with a paved trail system and well maintained lawns, coupled with a new community facility, will allow the residents to live in an engaging community that fosters healthy interactions while simultaneously providing them with quiet and quiet living quarters.

SITE
The Lakeway Green is a proposed transitional housing settlement located at the corner of Lakeway Drive and Westown Drive. Currently, the City of Bellingham operates its Clean Green facility where green waste is recycled and transformed to larger compost facilities. In addition to this site-specific service, the site hosts the Lakeway Community Garden, a newly designed native plant nursery, and woodshop operated by the Parks Department - all of which provide opportunities for the residents to oversee and assist the City’s operations in which they could gain work experience and transferable skills. In addition, the settlement is in close proximity to public transportation and is conveniently located within a mile of the Lakeway Center, thus making grocery shopping easy and accessible. Residents’ homes will be located next to the community garden as well as in the forested areas in the lot’s southeast corner. This location setting,noise with skills meeting means relaxing and pleasing aesthetic factors. The Lakeway Green’s forested segments, with a paved trail system and well maintained lawns, coupled with a new community facility, will allow the residents to live in an engaging community that fosters healthy interactions while simultaneously providing them with quiet and quiet living quarters.
The goal of Lakeway Greens lies in helping residents promote a sense of community. The communal active communication between neighbors by putting neighborhood that encourages favorable behavior and owned facilities, mimicking the style of a traditional community will be oriented so that the residents' eyes fall onto the community spaces and city-the community through their work.

With the skillsets acquired from Lakeway Greens, the residents will be able to get a job and potentially become a successful and self-sufficient individual. In addition, consolidating the homeless individuals into a settlement, beneficial services such as police, social, and community resources may be more efficiently and effectively applied.

The site is adjacent to city owned and maintained service lines - water and sanitary sewer lines could be readily installed and/or extended to service the proposed community. Since there are currently no building structures and minimal impervious surfaces, the necessary underground infrastructure could be put in place, using traditional open trench methods and situated without constraints from any other existing utility lines. Furthermore, because the proposed housing units are mobile and can be easily rearranged, future maintenance of buried pipelines would not require costly trenchless methods (i.e., pipe bursting, cured-in-place piping). Additionally, the advantages and disadvantages of the various piping materials should be considered. Polyvinyl chloride (PVC) is commonly used and chlorinated polyvinyl chloride (CPVC) can withstand corrosive temperatures up to 122 degrees Fahrenheit. Orangeburg pipe on the other hand is common among older homes - it is relatively cheap material that is durable but easily ruptured under pressure and should be bedded in sand and/or pea gravel to prevent rupture.

There is adequate space within the site to integrate parking amenities for the tenants with vehicles. However, there are multiple bus stops adjacent to the site, and the site could serve various beneficial functions. It is a feature that, if extended around the perimeter of the site, could serve various beneficial functions. Essentially, it would provide a:

- Visual screen for more privacy and increased aesthetics
- Bioreclamation cell to sequester pollutants from stormwater, thus protecting the community gardens from heavy metals associated with high traffic volumes
- Green buffers to minimize noise pollution

Essentially, it would provide a, a, and compost heat recovery system that was developed in the 1970's by Jean Pain, a French inventor. From one pile of compost, he heated his home of 1,000 sq. ft and could heat water to 140 degrees Fahrenheit at a rate of four liters per minute. Essentially, the design consists of a large pile of yard debris and/or wood wastes while spreading piping is embedded throughout the pile to recover heat generated by the microbial breakdown of organic material. This heating method would be cost effective and could sufficiently heat the small, enclosed housing designs. Furthermore, on-site composting facilities could supply organic matter to use as mulch layers and compost-amended planting mix for the community garden and the new native vegetation nursery along Woburn Street. The native vegetation nursery is currently maintained by the Parks Department and is a feature that, if extended around the perimeter of the site, could serve various beneficial functions. Essentially, it would provide a:
TRANSITIONAL SETTLEMENTS

CHAPTER 5

SITE PLAN 2: LAKEWAY GREEN

ZONE 3
Area with dry soils, infrequently subjected to saturation. Plants within this zone should be used to transition or blend with the existing landscape.

ZONE 2
Area that is periodically moist or saturated during storm events. Plants within this zone are also applicable in Zone 3.

ZONE 1
Area with frequent standing or flowing water. Plants within this zone should tolerate summer droughts without extra watering.

BIORETENTION FACILITIES

<table>
<thead>
<tr>
<th>Zone</th>
<th>Area Description</th>
<th>Wetland Functions</th>
<th>Plant Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZONE 3</td>
<td>Area with dry soils, infrequently subjected to saturation.</td>
<td>Transition or blend with existing landscape.</td>
<td>Tolerant of urban pollution, white flowers.</td>
</tr>
<tr>
<td>ZONE 2</td>
<td>Area that is periodically moist or saturated during storm events.</td>
<td>Transition with Zone 3 plants.</td>
<td>Drought resistant, blue-black fall, bright flowers.</td>
</tr>
<tr>
<td>ZONE 1</td>
<td>Area with frequent standing or flowing water.</td>
<td>Tolerate summer droughts.</td>
<td>Drought tolerant, small pink roses.</td>
</tr>
</tbody>
</table>

*List of appropriate trees and shrubs for the three planting zones of bioretention facilities with respect to soil moisture characteristics and desirable size of mature specimens.

- **Species**
- **Mature Size**
- **Comments**

<table>
<thead>
<tr>
<th>Species</th>
<th>Mature Size</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ZONE 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Arbutus unedo</em> - Strawberry Tree</td>
<td>6 – 10 ft.</td>
<td>Tolerant of urban pollution, white flowers.</td>
</tr>
<tr>
<td><em>Mahonia aquifolium</em> - Tall Oregon Grape</td>
<td>6 – 10 ft.</td>
<td>Drought resistant, blue-black fall, bright flowers.</td>
</tr>
<tr>
<td><em>Rosa gigantea</em> -* Back paddock rose</td>
<td>Up to 6 ft.</td>
<td>Drought tolerant, small pink roses.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Mature Size</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ZONE 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Amelanchier canadensis</em> - Western Serviceberry</td>
<td>10 – 20 ft.</td>
<td>Drought tolerant, very cold hardy.</td>
</tr>
<tr>
<td><em>Acer platanoides</em> - Vine Maple</td>
<td>Up to 20 ft.</td>
<td>Tolerant of shade &amp; dry sites, pretty fall colors.</td>
</tr>
<tr>
<td><em>Rosa rugosa</em> -* Mottled Rose</td>
<td>6 – 10 ft.</td>
<td>Tolerates saturated soils, fruits persist.</td>
</tr>
<tr>
<td><em>Rubus spectabilis</em> -* Salmonberry</td>
<td>5 – 10 ft.</td>
<td>Magenta flowers; nectar source for hummingbirds.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Mature Size</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ZONE 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Malus parviflora</em> -* Pacific crabapple</td>
<td>Up to 40 ft.</td>
<td>Tolerant of prolonged soil saturation.</td>
</tr>
<tr>
<td><em>Abies concolor</em> -* Red Aspen</td>
<td>30-120 ft.</td>
<td>Highly adaptable, rapid growing, nitrogen fixer.</td>
</tr>
<tr>
<td><em>Diospyros virginiana</em> -* Pacific persimmon</td>
<td>6-13 ft.</td>
<td>Drought tolerant, white flowers.</td>
</tr>
</tbody>
</table>
The “Green Micro Housing” concept emphasized an energy efficient and environmentally conscious/healthy living environment. The micro homes would be at the pinnacle of energy efficient design, with slanted roofs for grey water collection, and solar panel attachments for electricity production. The homes would also come furnished with composting toilets for waste management and a reduction in needed sewage links. Bamboo flooring paired with radiant floor heating would help heat the home and eliminate the need for lumber. Twenty units, each occupying 120 square feet could be placed on the lot, housing between 20 and 40 people, with the possibility of a couple occupying one unit.

“Housing on wheels” encapsulates using compact, mobile homes complete with a kitchen, bed, dining room, and bathroom complete with a shower for an all-in-one home amenity approach. The small, 120 square feet size of the mobile homes would allow for 30 of the homes to be placed in the Lakeway Green lot, utilizing it's forested areas efficiently.

RVs would be used in the fourth housing concept, utilizing a cement slab laden composting station across from the community garden. The cement sections would be used as parking dividers and section enders for the RVs to allow for their positioning. At the heart of this housing concept is to utilize the compost being dumped in the proposed RV lot and using the Jean Pain composting technique to capture heat for constant supplies of hot water and heat for the RVs.

The finalized and selected housing solution for Lakeway Green involves utilizing 17 foot truck trailers/U-hauls and retrofitting them with a bed, kitchen, cutting surface, lower and upper cabinet, sink, composting toilets, bamboo flooring, drywall, and windows. 21 of these units would be placed on the lot allowing for the housing of 21 to 42 citizens in total. Next to these homes, a community center would be built to satisfy residents need for social interaction and community membership.
COMMUNITY BUILDING

Lakeway Green offers plenty of community spaces, including the forest and trail network, community garden and native plant nursery. In addition to these amenities, a community building is planned that will provide residents with a place to use the restroom, shower, and do laundry, in addition to common facilities for leisure activities, recreation, and a large kitchen facility where meals can be prepared and shared in a manner in which the residents can learn cooking skills alongside kitchen safety. The community building will encourage interactions with residents of Lakeway Green and the public, making this space a crucial component in breaking down socio-economic barriers. Case workers can also utilize this space, delivering an efficient way to consolidate services. It is recommended that an onsite manager be present during the day, with an office in the community center. The onsite manager should be an expert in dispute resolution techniques, and may delegate tasks to the residents. The community facility will add to the aesthetic value of the site, and is designed with sustainability in mind. It is planned to meet or exceed Washington state law, which mandates that public buildings must be certified to at least the LEED silver standard. A green roof, water harvesting system, energy efficient windows, and solar panels will reduce the environmental impact of this building, and make it an attractive and resilient public space.

CHAPTER 5

SITE PLAN 2: LAKEWAY GREEN

ESTIMATED COST

The team has been trying to reach U-haul for a potential corporate partnership in which old U-Haul trucks would be donated and then retrofitted. If this falls through, the option to buy old U-Haul trucks would raise the cost to approximately $2,000 per unit, and buying the trucks in bulk would reduce the per unit price. The Lakeway Green's homes will require furnishment to foster a positive and comfortable living environment for residents. Through potential partnerships with Home Depot and Uhaul, homes and community centers could be substantially equipped with little to no cost to the City of Bellingham. The total cost of retrofitting all 21 units, which includes insulation, bedding, and adding windows, a composting toilet and bamboo flooring, comes out to approximately $20,000. If the U-Hauls are not donated, acquisition of these units would cost approximately $42,000. The Community Building's kitchen appliances, six shower stalls and toilets, and laundry appliances would amount to $15,000. The hiring of an on-site manager to help facilitate day-to-day operations would cost approximately $25,000 a year. Partnerships with local nonprofits and businesses, and a heavy reliance upon work from volunteers and future residents would reduce the total cost of retrofitting the U-hauls and allow them to build their skillsets. Partnerships with local non-profits and businesses would also help drive down the cost. A heavy reliance on work from volunteers and future residents would cut costs for the retrofits and add to the residents' skillset.

COMMUNITY BUILDING COST BRAKEDOWN

• Kitchen appliances ~ $11,400
• Showers for 6 stalls it will be $983 brand new
• Toilets for 6 it will be $528 brand new
• Laundry- $1500~$2000 for new appliances

TOTAL: ~ $15,000

OPERATING COST BRAKEDOWN

• On site manager ~ $25,000 per year? potential for a beneficial member to eventually take over this position
ELWOOD HEIGHTS SITE PLAN

EXISTING SITE

The site proposed for the development of the Elwood Heights neighborhood is a 9-acre parcel located in the Samish Neighborhood. Of Bellingham’s 24 designated neighborhoods, the Samish Neighborhood is the largest, with over 2.000 acres including Lake Padden park. Close to 3,500 residents call this South Bellingham area home. The primary building types are both large and small single-family homes, with dense areas of open green space, trail access and recreational spaces. This specific 9-acre plot is located at the corner of 40th Street and Elwood Avenue. The plot is currently owned by the City of Bellingham and is wholly undeveloped besides a small single-family home and a shed used for recreation. However, the site is well-equipped for future development as its bordered by utilities including power lines, gas mains and sewer lines that serve nearby residential neighborhoods.

In terms of natural settings, the site is densely forested with a curved swatch from the upper Northeast corner around to the lower Southwest corner. The proposal involves working with the tree cover, as it would provide a sound buffer and recreation area for the future residents of the Elwood Heights community. Additionally, this is an unmarked small stream that is a tributary of Whatcom Creek flowing through the canopy cover in the forested area. The biggest consideration in terms of site is the wetland areas. Though only covering certain sections of the plot, they do signify areas of special consideration. Best Management Practices could ideally be exercised in tandem with development, respect for the parts of the land containing wetlands. An additional measure could involve purchasing credits through a Habitat Mitigation Bank, which helps provide compensation for the unavoidable impacts of building in areas containing pods.

In terms of the development timeframe on the site, ideally the establishment of this transitional community, with its necessary utilities and other intensive features would cater to a two-year plus residency on the site. There would likely be family turnover in cycling through in terms of the site's transition, so founding residents would not necessarily reside in Elwood Heights for this entire time period. One consideration to note in terms of the site’s time frame is the nearby location of San Juan Boulevard, which is separated from 40th Street to a very forested clump of land in the Samish Crest Greenway. There are tentative plans to develop this connector to merge with Elwood Avenue. However, in the city’s TIP plan from 2010, this connector was in the bottom half of development priorities and in a recent WSDOT Whatcom Council of Government Model a two-lane new Boulevard Connector was forecast only in their 2035 model, and that given funding needs are met for the proposal.

SITE LAYOUT

This City of Bellingham owned parcel of land is a perfect spot for the proposed Elwood community. The neighborhood houses contain families, but there is a buffer of forest between this community and the neighboring homes. To aid in transitional housing goals, the development of this community would be ideal for those with children in need of local schools and regular family homes, making this site ideal. Proximity to schools will also be important so that both children can be able to attend school every day. The site is within 2 miles of Happy Valley Elementary School, 3 miles from Fairhaven Middle School and 2 miles from Sehome High School. There is a school bus route that runs through the neighborhood as well, so children of Elwood Heights would be able to get on the same bus and go to the same schools as rests of Samish Neighborhood children.

While making the children of these families feel at home is important, it is equally important to consider the needs of adults in the community. It will be important that members of the community have a steady source of income, and transportation to their jobs would be a big factor. Luckily this community is located: 25 miles away from the nearest bus stop and 5 miles from the Lincoln Creek Park and Ride. Also, it is located just outside of Sehome Village, housing numerous stores including Haggens and Rite Aid, where the people of Elwood Heights could do their grocery shopping without having to travel a great distance.

CLIENT PROFILE

The clientele for the Elwood Heights community site is families, in the variety of forms of which this group could be composed. Included in this designation are both nuclear and non-traditional families, including single parents with kids. Parents with children under age 18 qualify, as do pregnant women. Additionally, the proposed community would be trained-out family-friendly. According to the 2013 Whatcom County Coalition to End Homelessness Annual Report, of the 571 homeless persons counted there were 70 families. This amount—specifically 9 acre plot is located at the corner of 40th Street and Elwood Avenue. However, in the city’s TIP plan from 2010, this connector was in the bottom half of development priorities and in a recent WSDOT Whatcom Council of Government Model a two-lane new Boulevard Connector was forecast only in their 2035 model, and that given funding needs are met for the proposal.

There are a number of specific considerations to take into account when establishing a settlement to house families. This could include providing easy access to medical care, hospital and health care access for pregnant women or for children with disabling conditions that need frequent treatment. Specific needs will vary depending on the community’s residents, but providing both user-friendly housing features alongside as valuing child safety in relation to nearby streams and roads as well as the boardwalks connecting the yurt housing pods will prove essential.

Beyond basic amenities, there are a number of key services especially important for homeless families. These services with children were extremely likely to mention education as a reason for homelessness (46%) as well as family break-up (21%). In these situations, both law-based resources to deal with custody concerns or child support payments as well as coun- seling to provide necessary healing for stressful family situations would be vital to provide via current Belling- ham homeless resources and on-site community center workshops and sessions. With small single family lots comprising the majority of land in the Samish Neighborhood, this community aligns well with the current layout of the Samish neighborhood.

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CHAPTER 5
SITE PLAN 3: ELWOOD HEIGHTS

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TRANSITIONAL SETTLEMENTS
Minimizing the cost of building Elwood Heights was also a priority because the chances are there is not going to be a significant amount of funding for the project. Reducing costs was another reason for having the pods of homes with communal bathroom since it would be significantly cheaper to provide upkeep for infrastructure for one bathroom unit as opposed to 5 separate ones per housing pod. Also, building the homes close together would reduce costs and require shorter access roads. The site was designed around the existing vegetation and wetlands so additional resources would not need to be spent on the deconstruction of the area. This would also give the community more of a spacious feel. The natural vegetation that is already on-site is a great buffer to the surrounding neighborhoods. The north, east and south sides of the site all contain a tall tree buffer that would reduce noise from the direct neighbors.

A major goal in designing Elwood Heights was to create a housing site within a location that is family-friendly and a place where the residents feel they are actually part of a community. In order to create more of a communal setting the design for the site consists of two pods of 4-6 houses that are arranged in a circle with the fronts facing each other and a unit on the end to serve as the shared shower/bathroom unit. The center of the circle could serve as a communal area where people could garden or children could play. This design would allow for easier interaction between the families. Additionally, Elwood Heights was designed to incorporate a general community building and space. This area would include gardening space, a playground and a community building where all of the residents could hold meetings, make group meals or whatever they desire.
COMMUNITY/SHARED SPACES

The large community building will be the center of the community, both metaphorically and literally. The community center will be a large yurt somewhere in the 30 to 40 foot radius range. The community center will include segregated showers, laundry facilities and a large kitchen space suitable for large meals or gatherings. Communal bathrooms will be installed in the housing pods for easy access as well as easy maintenance. The entire housing community will be connected with raised boardwalks that double as thoroughfares for utilities. This will facilitate easy maintenance of utilities as well as quick disassembly if the need to move arises. The community center will also be the place where skill building workshops take place as well as housing administration. A smaller separate yurt may be jointed to the large community yurt to provide day care services for single working parents. This separate yurt could house items such as play equipment or development learning tools.

HOUSING DESIGN CONCEPT

Yurts are circular, semi-portable housing concepts made out of simple materials in a way that provides for strong structural integrity and longevity. The base for a yurt home is a raised wooden platform which can be built with a variety of different styles ranging from $1,000 - $6,000, depending on design. The structure of yurt’s walls are composed of circular vinyl lattice that is then insulated and finished with a canvas wall covering. The dome shaped roof is built out of wooden rafters and insulation, with the dome cooling entirely at the top. The base of the roof structure is held together with a compression ring and tension band that runs around the whole structure. The dome shaped roof provides incredible strength and requiring no internal support system. This leaves the inside of the yurt completely open and spacious. On average, an entire yurt and platform can be set up in 1-2 days with a 4-5 person team. The structure on top of the platform can cost anywhere between $8,000 - $20,000 depending on diameter size, which ranges from 16 to 33 feet.

The circular yurt design provides for efficient wind/snow resistance, efficient heating, and portability at an affordable price. Heating can be provided using wood, electric or gas stoves. Electricity, kitchens and bathrooms can all be easily installed within a yurt residence for additional start-up costs. Walls and roofs can be erected in larger yurts to create different rooms and more space.

Many families choose to live in yurts due to the low startup costs, limited financial commitments, availability for all resources and facilities that are found in traditional homes and the creative and communal nature of yurt life. For these reasons, this style of housing seems ideally suited for the proposed clientele and site location.

Each individual yurt in this proposal will be around 22 feet in radius and will have a small cooking area consisting of a stove, microwave, and shelves/cabinets. Additionally, each unit will have a small fridge and a sink with hot and cold water. Electricity and water will be wired/routed underneath potential boardwalks to each yurt in order to limit burying of infrastructure and as an attempt to keep this housing concept semi-temporary. The water will pump from the community center at a central boiling location. Several power outlet ports will be present for electric and lighting needs. Basic sleeping necessities will take up most of the yurt layout space; however, layout can ultimately be rearranged based on resident personal preference. Heating will be maintained using radiant floor heating pipes that have hot water pumping from the community center. There are no bathrooms proposed within each individual unit. Bathrooms and showers will instead be offered within a nearby gender-separated shower/bathroom yurt.
EXISTING SITE

This old R.V. park is located at 341 Telegraph Road Bellingham, WA. The 3.23 acre, commercially zoned property has existing infrastructure and utility hook ups that lend to near immediate occupation. The ground has already been graded and paved and the current R.V. hook ups are ideally placed and can be readily accessed with minimal improvements.

The site is close to many entry level employment opportunities, close to bus lines and groceries, and other amenities.

The site is Privately owned and is listed at $3,576,696

CLIENT PROFILE

This mobile living solution is targeted at individuals who prefer transient living as a way of life. Rather than requiring a more stationary and permanent residence, this idea offers the flexibility and mobility of existing homeless communities, but more of the amenities that allow for greater levels of health, shelter, security, and belonging.

This site is specifically designed for older males who statistically are the majority of those choosing this lifestyle, but is not exclusive to this demographic. This layout makes it inclusive of all people and situations, though families aren’t recommended to be here due to the location of the site and the nature of mobile living.

RV SITE PLAN

CONCLUSION

The goals of the Elwood Heights community development are ambitious and multi-faceted. With careful consideration of site placement to meet the needs of the clientele including location near schools, easy transit access and the naturally-enhanced nature of the site with the forested tree buffer and stream adjacent, the site provides an ideal transitional staging ground for families down on their luck to be safely housed. The nature of the surrounding Samish Neighborhood zoned Residential Single makes placement of this community in-line with current planning paradigms. The yurt housing design concept fosters community building and hands-on, quick start-up housing construction. This allows for neighborhood interaction even before the yurts are fully erected. Yurts provide a low-cost, scaleable and mobile option for meeting the needs of this under-valued clientele group in a dignified manner.

<table>
<thead>
<tr>
<th>Item</th>
<th>One Time Cost</th>
<th>Multiple Units</th>
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<tbody>
<tr>
<td>22’ Yurt Structure</td>
<td>$18,000</td>
<td></td>
</tr>
<tr>
<td>(includes Roof and wall insulation, gutter system, windows, door, residential lock)</td>
<td></td>
<td>20 residential &amp; 2 bathroom</td>
</tr>
<tr>
<td>X 12 = $216,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22’ Insulated Panel Deck</td>
<td>$1,000</td>
<td></td>
</tr>
<tr>
<td>(do it yourself)</td>
<td></td>
<td>X 12 = $10,200</td>
</tr>
<tr>
<td>33’ Community Center Yurt Structure</td>
<td>$24,730</td>
<td>$24,730</td>
</tr>
<tr>
<td>(includes Roof and wall insulation, gutter system, windows, door, commercial lock)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33’ Insulated Panel Deck</td>
<td>$5,000</td>
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<td>(do it yourself)</td>
<td>$8,170</td>
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<tr>
<td>Radiant Floor Heating</td>
<td>$2,674.12/ft²</td>
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<tr>
<td>Job materials &amp; supplies</td>
<td>$25/ft²</td>
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<tr>
<td>22’ x (360sqft x $2.67) = (1880sqft x $25)</td>
<td>$10,514</td>
<td>$10,514</td>
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<tr>
<td>33’ x $23,657</td>
<td>Total $128,797</td>
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<tr>
<td>Ongoing Costs</td>
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</tr>
<tr>
<td>Total Costs</td>
<td>$264,930</td>
<td>$393,727 (with radiant floor heating option)</td>
</tr>
</tbody>
</table>
CHAPTER 5
SITE PLAN 4: RV PARK

COMMUNITY / SHARED BUILDINGS
To establish more of a sense of community, there will be a number of communal spaces in the center of the camp. This not only establishes a community feel but also minimizes infrastructural needs. Communal space will be provided to use for necessary utilities and it can also be used as a central meeting area. Shower and restroom trailers will be located centrally to make them equally accessible for everyone in the community.

A communal kitchen space will be provided in the center. Having the kitchen centrally located improves access for emergency vehicles in case of fire. Individually owned trailers, or larger ones may be provided. Food scraps and old grease can be saved for use as feed or fuel, therefore, there will be no unexpected costs associated with heating the facility.

A propane stove can easily be used to heat the communal tent facility. Propane tanks can be purchased, refilled, and used as necessary. The advantage of propane is that the fuel is pre-purchased before use, and therefore, there will be no unexpected costs associated with heating the facility.

NATURAL BODY HEAT RETENTION
Blankets, sleeping bags, and warm clothing are simple, inexpensive methods for retaining body heat during the day and night. Body heat retention methods should be prioritized before wood or propane heat is used in order to minimize costs.

A communal kitchen will be located in the center as well. Having the kitchen centrally located improves access for emergency vehicles in case of fire. Individually owned trailers, or larger ones may be provided. Food scraps and old grease can be saved for use as feed or fuel, therefore, there will be no unexpected costs associated with heating the facility.
TRANSITIONAL SETTLEMENTS

With the drawdown in Iraq and Afghanistan, there will be a surplus of Military Base-X tents. This surplus will make a huge number of tents available at reduced prices. Prices range from a few hundred dollars to a few thousand. This is dependent on the condition of the tent as well on the size. Sizes range from single occupancy up to space for twenty beds. These tents are durable and are ideally suited for this climate. Setup and take down of these tents is quick and only requires a few people.

SIPS HOUSING

Structural Insulated Panels are pre-assembled, and consist of insulating foam sandwiched between two sheets of Oriented Strand Board (OSB). SIPs can be custom ordered in various shapes and sizes for ease of assembly. SIPs are structurally engineered and require very little additional support framing. A small SIP structure can easily be transported by truck and placed with a forklift due to the lightweight characteristic of the Panels. SIPs have a nearly 50% increase in insulation efficiency compared to standard wood framed structures.

TUBE HOUSING

Pre-cast concrete pipes are a carefully designed and engineered product making it an unique material to be used as innovative housing. With a little imagination you can see where this idea could take the minimalist tiny concrete village. For example what if you took a few of these and connected them at the center with a common area via some kind of custom breezeway. Add plumbing, power, and some skylights and you’d be in business.

VINYL HOUSING

The vinyl housing consists of vinyl siding a roof area garage insulation and a bamboo floor all placed on cinder blocks. These dwelling units would be cut off site and then assembled by the occupants of the site. These units would be cheap and create a sense of ownership at the site.

COMPACT CAR TRAILERS

These small units would be lightweight and pack flat. Inside the only amenities would be a bed and small table, making it suitable for a short term stay. These could be towed behind vehicles or delivered directly to the site as permanent home structures, and then easily moved again to a new site.

SOLAR HOT WATER (2)

WOOD STOVE

ELECTRICITY $350 - $600 (monthly)

PROPANE $200 - $400 (monthly)

GARBAGE/RECY. $300 - $500 (monthly)

SHOWER TRAILER $7,000 - $10,000

RESTROOM TRAILER $7,000 - $10,000

WATER 73.81 (monthly)

SEWER 367.9 (monthly)

ELECTRICITY 350 - 600 (monthly)

PROPANE 200 - 400 (monthly)

GARBAGE/RECY. 300 - 500 (monthly)

SHOWER TRAILER 7,000 - 10,000

RESTROOM TRAILER 7,000 - 10,000

WATER 73.81 (monthly)

SEWER 367.9 (monthly)

ELECTRICITY 350 - 600 (monthly)

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SEWER 367.9 (monthly)

TRANSPORTATION

HOUSING DESIGN

Mobile Estates is an homage to the old RV site that closed a number of years ago. By making use of already existing infrastructure, this property is practically “move-in” ready. A short term lease would be procured from the private owner with the added benefit of tax write offs. Residents of Mobile Estates will find a nice and convenient space waiting for them. If they have their own vehicle already, they can just pull up and claim a spot. If not, donated RV’s and campers will be provided for them.

SUMMARY CONCLUSION

Mobile Estates is an homage to the old RV site that closed a number of years ago. By making use of already existing infrastructure, this property is practically “move-in” ready. A short term lease would be procured from the private owner with the added benefit of tax write offs. Residents of Mobile Estates will find a nice and convenient space waiting for them. If they have their own vehicle already, they can just pull up and claim a spot. If not, donated RV’s and campers will be provided for them.

Everything a person will need will be available in shared communal spaces in the center of the site. They will be able to take a hot shower, grab a hot meal, and even learn some mechanical skills at the mechanic shop. If a resident is able to fix up their RV to a drivable condition they are free to hit the open road. For those that choose to stay, some level of cooperation is expected of them. They can tend the gardens, clean the rest rooms, work in the shop, or pay rent. Therefore, there will be no unexpected costs associated with heating the facility.

ESTIMATED COSTS
Serenity Garden is a transitional housing model designed to help homeless individuals gain work skills and become self-sustaining. The property owner and the property are leased to the Serenity Garden based on an agreement established through a competitive solicitation process.

FUNDING SITE
Payment for the use of the property would be separated into two sections: payment for the land and other expenses (Serenity Garden) and lease payment for the property (property owner). The lease agreement would allow the tenant to treat the land and property as if they owned it. The agreement would benefit both the landlord and the tenant. Leasing the property for five or ten years would allow for a fair rate of return on the property.

Serenity Garden is a client profile of individuals who have experienced chronic homelessness. The members accepted into the program are drug users, alcoholics, and people who are dangerous to themselves and others. Pets are allowed on site, as most homeless shelters and communities don’t allow pets. This will be a trial, and if it’s successful, pets will be permanently allowed.

SERNITY GARDEN SITE CONCEPT
A. EXISTING SITE
Address: 3116 Mercer Ave, Bellingham WA 98225

ON-SITE ATTRIBUTES
The property is approximately a total of 620,000+ sq ft and zoned as light industrial. It has been divided into three parcels and currently zoned for RT12 and RT13. There are no setbacks and the legal description includes all land utilized for the property.

B. CLIENT PROFILE
Serenity Garden will house males and females over the age of 18. The site is designed to be permanent, however the members are temporary. They can stay in the program for up to two years. They will be assigned jobs and skills training and then become a permanent employee at Serenity Garden.

C. ON-SITE ATTRIBUTES
This site is approximately a total of 620,000+ sq ft and zoned as light industrial. It has been divided into three parcels and currently zoned for RT12 and RT13. There are no setbacks and the legal description includes all land utilized for the property.

D. FARM DESIGN
As depicted in Serenity Garden, Figure 1, approximately 6,200 sq ft of property will be used to grow food. A few crops that can be grown include vegetables, herbs, and fruit trees. There is also 260,000+ square feet that will be used for growing vegetables and fruit trees. Approximately 6.2 acres of the property will be covered in fruit trees and berry bushes. An orchard is the most efficient way to manage the different seasons of fruiting for these plants.

As mentioned in Serenity Garden, section a, there is already a significant amount of existing infrastructure. The farm would need at least two for beginning stages of operation. The farms would need at least two for beginning stages of operation. As well as extending the growing season, it is also essential for the success of a profitable and fully functioning farm. Drip Irrigation is a very important aspect of the farm because it reduces plant stress via consistent watering, reduces water usage and eases overall labor. Drip Irrigation is a very important aspect of the farm because it reduces plant stress via consistent watering, reduces water usage and eases overall labor.

Newly installed irrigation systems will make it possible to grow produce year round. As depicted in Serenity Garden, Figure 1, approximately 6,200 sq ft of property will be used to grow food. A few crops that can be grown include vegetables, herbs, and fruit trees. There is also 260,000+ square feet that will be used for growing vegetables and fruit trees. As depicted in Serenity Garden, Figure 1, approximately 6,200 sq ft of property will be used to grow food. A few crops that can be grown include vegetables, herbs, and fruit trees. There is also 260,000+ square feet that will be used for growing vegetables and fruit trees.

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E. HIGH TUNNELS
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The products grown by the residents at Serenity Garden will be sold to local co-ops and other food markets. Two days a week, Serenity Garden will be open to members of the public who wish to come and purchase produce, eggs, and other products.

Residents will be trained by Cloud Mountain Farms, a local non-profit community farm dedicated to providing hands-on learning experiences to aspiring farmers [E]. They have many free workshops that Serenity Garden residents can attend to learn how to properly maintain the farm. Some of these workshops include: Beginning Vegetable Gardening, Learning to Grow Fruit Trees, Learn to Garden Sustainably, Build Tunnels and Cold Frames, Using Tunnels and Hoop Houses for Productive Gardening, and How to Harvest. By attending these workshops, Serenity Garden residents will gain valuable knowledge and skills that they can apply to both life at, and after, Serenity Garden.

Tunnels and Cold Frames
Using Tunnels and Hoop Houses for Productive Gardening
How to Harvest

The community building will have services and programs, such as community arts and building programs, counseling (mental health, substance abuse, etc.), health and wellness services, and support groups. Case management involves providing hands-on learning experiences to aspiring farmers 

F. HOUSING DESIGN
The individual housing will be HDT Base-X Model 103 tents that are military grade. They are 9’5” x 15’ (area of about 40 square feet) and are lightweight and durable. The frame allows for an easy and quick setup of less than 30 minutes and can be setup by two people. The price range of these tents is about $400 to $500 and some tents can even be donated for free. They have mesh walls, a front door that can be converted into an event and activity space. Such events include monthly cooking lessons, community BBQ’s, game night, movie night and others!

G. ESTIMATED COST
The total cost for the Serenity Garden’s program would sit at $794,232.99 with the potential of having $2,000 of this cost donated.

H. SUMMARY
Serenity Garden is a place to help assimilate the homeless back into society and get them back on their feet. It’s a place where they can feel safe and connected, be with people who share the same experience as they develop skills that can be applied to the real world. They finally can have a roof over their heads, a place to sleep, and food, while at the same time benefitting them to help in the future. By completing their duties, activities, and counseling they will be taught by learning job skills and improving their overall health. Gardening can be therapeutic, and can be used as a tool for therapy for mental illnesses. Serenity Garden offers multiple resources and activities to keep the community members busy.

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