

URBAN TRANSITIONS

**Live | Work Urban Village
South Sunnyland Neighborhood
Bellingham, WA**

**Urban Planning and Sustainable Development
Western Washington University
2015 Urban Transitions Studio (UTS)**

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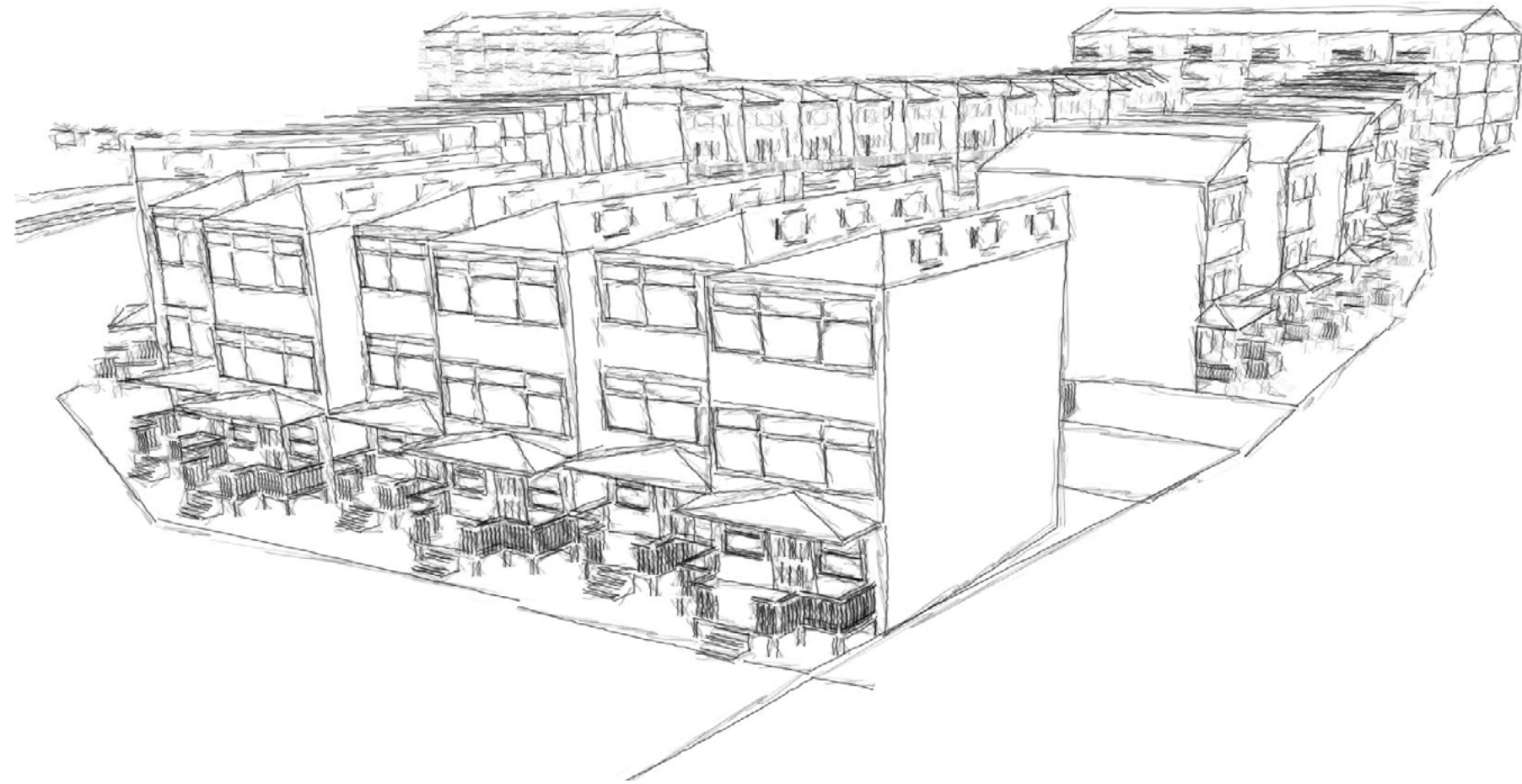
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SECTION 1: THE PLAN CONCEPT



1.0 Introduction and overview of study/project

Urban Transitions Studio is an ongoing collaborative partnership between Western Washington University's (WWU) urban planning program, Bellingham's Office of Planning and Community Development and Office of Public Works, the Port of Bellingham, Sustainable Connections, and Bellingham's Neighborhood Associations. Beginning in 2010, WWU's Planning Studio participated in a coordinated service learning curriculum that partnered several WWU classes with community and institutional partners in order to develop new urbanism planning concepts to help transition Bellingham into a more urban and sustainable community. Winter Quarter's Planning Studio class is the first in a series of coordinated class investigations that emphasizes community planning and design concept development. Other classes participating in the Urban Transitions Studio program include Planning Studio II, investigating approaches to plan implementation; Sustainable Design Studio, exploring the application of green building methods; and Environmental Impact Assessment, assessing impacts associated with the proposed development concept. Each of the participating classes build upon the planning concepts developed in Planning Studio. The program is intended to expand student learning by concentrating planning studies over the course of an entire year and by incorporating multiple dimensions of the planning process with the aim of encouraging effect positive community change towards sustainable development.

The 2015 Studio Project "A Live/Work Urban Village Plan" identifies strategies for transitioning the southernmost portion of the Sunnyland Neighborhood from a light- industrial zoned district into a mixed use neighborhood. The planning site is located adjacent to Bellingham's central business district. Three sub districts

define the geographic scope of the study area as: an area south of Ohio Street, (referred hereinafter as the "Sohio" sub district), an area north of Ohio Street and south of Kentucky Street, (the "Nohio" sub district), and a site north of Meador Avenue which is currently owned and operated by the Bellingham School District (the "Iron Bridge" sub district). The three sub districts lie within or in close proximity to the Sunnyland, the Central Business District (CBD), and York neighborhoods.

The Nohio, Sohio, and Iron Bridge Urban Village Project Students in the Planning Studio class evaluated infill development opportunities for a range of land use types suitable for each of the sub district sites. Students considered existing public policy and land use patterns and analyzed the current intensity of land use in order to assess opportunities for future urban infill. Urban design principles and theories of sustainable development helped guide their consideration of infill development alternatives that emphasize the retention of the historic light industrial uses while promoting a greater diversity in land use mixes and efficiencies. Their challenge was to consider urban mixed use infill alternatives that complemented the existing light manufacturing uses in the area in order to envision a more dynamic and use-intensive neighborhood district.

The objectives of the project were to 1) determine the potential for infill in order to maximize land use utilization, and 2) to consider a range of complementary mixed uses that can contribute to increased property values and create a dynamic urban character, in compliance with the city's Industrial Transition and urban village policies. The development concept presented in Section 6 of Section 1 of this report emphasizes the continued operation of light industrial, manufacturing and related services activities while concurrently promoting urban infill and redevelopment that meets Bellingham's goals for increasing residential growth, vibrant central city development, and strengthening

connections between emerging urban centers and the downtown. Their development concept incorporates a mix of land uses that includes of a diverse live/work housing mix, commercial, light industrial, recreation, and supporting infrastructure improvements that foster synergies and create a strong "sense of place." Implementation strategies, fiscal impact, design and development guidelines, and the assessment of sustainability features pursuant to LEED Neighborhood Development criteria were further considered in subsequent Spring Quarter Planning Studio II and Sustainable Design classes. Their findings are included in Sections 2 and 3.

A special note of thanks is extended to our UTS Community Partners for assisting our students throughout their research activities: Rick Sepler, City of Bellingham (COB) Planning Director; Tara Sundin, COB Development Specialist; Darby Cowles, COB Development Specialist; Chris Comeau, COB Transportation Planner; Rose Lathrop, Green Building and SG Manager, Sustainable Connections; and community representatives from the Sunnyland and York Neighborhood Associations.

Respectfully submitted,

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2.0 Executive Summary

The South Sunnyland neighborhood is surrounded by Bellingham Downtown to the south, residential areas to the north, south and west, as well as Interstate 5 and industrial areas to the east. (See Map 1.) As such, it is geographically positioned to function as a key transition area and connector between these different functional areas. The district is bordered by Kentucky Street to the north, James Street/State Street to the east, Meador Avenue/Kansas Street to the south, and Cornwall Avenue to the west.

The district is partially contained within the Ohio Street Industrial Employment Center, as identified in the City of Bellingham Employment Lands Report. The Ohio Street Industrial Employment Center is one of 10 industrial employment centers in the City, and the Ohio Street Industrial Employment Center is the district located closest to the Central Business District (CBD). As a result, the South Sunnyland neighborhood has a long history of industrial land use, though some commercial uses have been established along the James Street corridor. The district presently contains about two percent of Bellingham's workforce and approximately 47 percent of the workforce in the Ohio Street Corridor (1,156 jobs out of the Ohio Street Corridor's 2,450 jobs).

2.1 Nohio, Sohio, and Iron Bridge

In order to articulate the aims of the Urban Transition Studio (UTS) plan for the South Sunnyland neighborhood, it is important to take into consideration the economies, demographics, and histories of the three planning sub districts. The historical roots of the South Sunnyland neighborhood are traced back to the New Whatcom and the Sunnyland Additions, platted in 1889 and 1908, respectively. The North Sunnyland residential community began to blossom as a neighborhood when single family residential dwellings were constructed in the areas surrounding what is now Bellingham High

School in the 1920's. The presence of the high school has contributed to the blossoming of the Sunnyland neighborhood in its vicinity.

The characteristics of the built and human environments of the three sub districts referred to as Nohio, Sohio, and Iron Bridge are heavily linked to their past as a central industrial area for the city. An early example of the area's industrial architecture is Union Iron Works Foundry, constructed in 1907 at 1900 Grant Street. The sub districts' built environments are primarily characterized by low-density industrial uses. There are currently many underutilized and vacant spaces throughout the sub districts, offering opportunities for urban infill.

The three planning sub districts of Nohio, Sohio, and Iron Bridge are a center of economic activity for the City of Bellingham. As of 2008, the sub districts had a total of 1,165 jobs, and 247 total employers. This represents approximately 2.6 percent of Bellingham's 44,218 jobs. The three sub districts host a dynamic mix of employers, including construction, retail, and health care and social assistance.

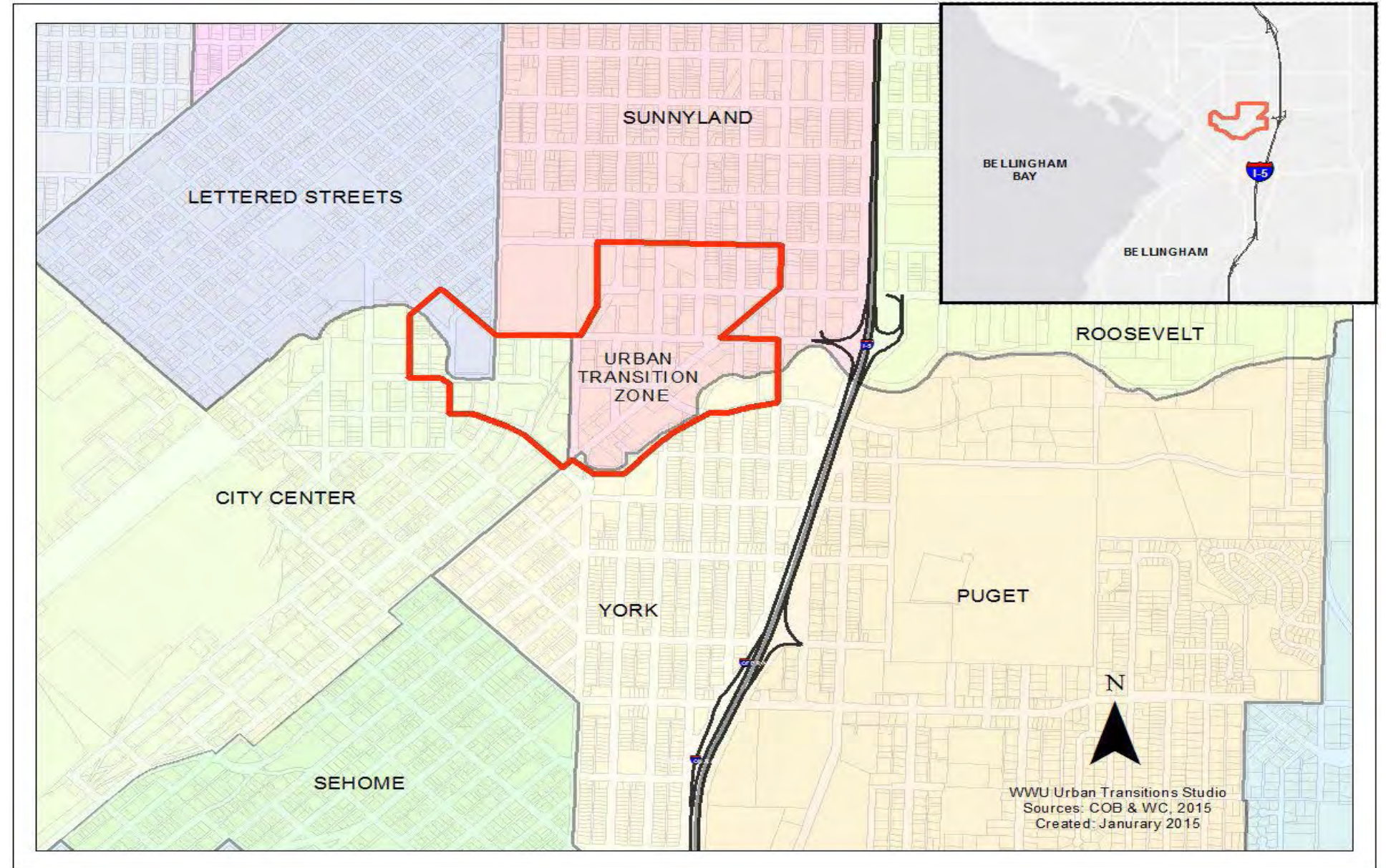
The Nohio study area's economic profile is defined by a mix of industries and commercial activities, with retail trade providing 57 jobs, or 23.5 percent of the total 243 jobs in the sub district (American Community Survey). Erin Baker's Wholesome Baked Goods on Grant St. is a great example of the growing manufacturing and retail trade in the study area. 29 percent of Nohio's workforce have some college or an associate degree, and the majority of its workers are male (63.0%).

Sohio has the largest number of employees among the sub districts at 922 employees. The more industrious character and wider range of businesses compared to the surrounding residential neighborhoods of Sunnyland and the Lettered Streets contributes to this number. Sohio's largest employment sector is health

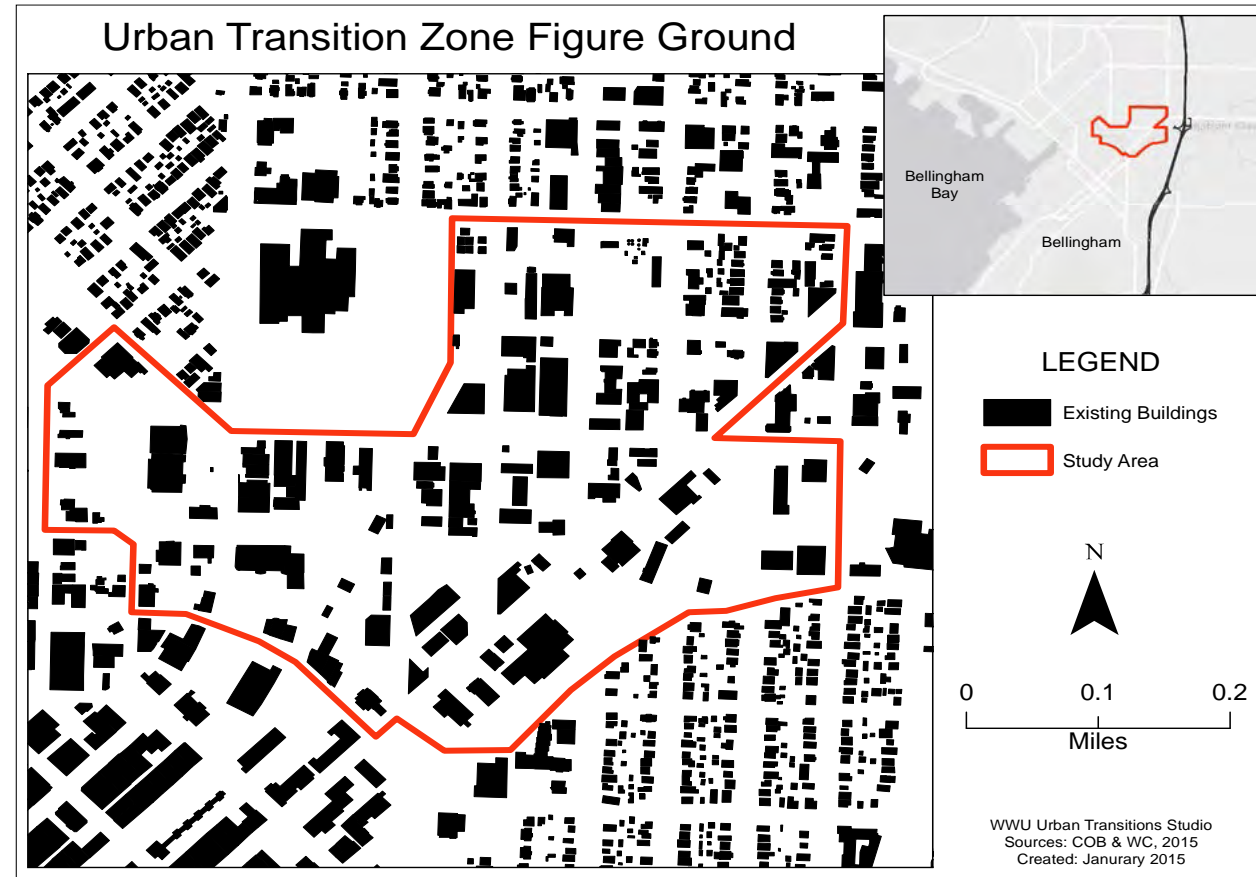


care and social assistance (263 employees, 28.5% of sub district total). Other commercial activities include the Bellingham Food Bank, located on the southeast corner of Ellis and Ohio St as well as professional, scientific, and technical services (144 jobs, or 15.6% of area total). With respect to the demographic profile of Sohio, the majority of workers are white. (881 employees, or 95.6% of area total). Sohio is also home to Live/Work housing, a recent development that complements the historic industrial architecture vernacular.

Finally, the Iron Bridge sub district is a large, underutilized industrial area between the York residential neighborhood to the south and the Sohio and Nohio sub districts to the west. Containing the



Bellingham School District bus facility and several industrial buildings, the Iron Bridge study area provides opportunities for redevelopment as a mixed use housing site to accommodate future population growth in close proximity to the downtown. The Iron Bridge sub district currently lacks residents, and employment opportunities are limited to several car and equipment rental services abutting State Street as well as the operation of the bus facility. Iron Bridge's location serves as an important transitional zone between the single-family residential district of the York neighborhood and Soho and Nohio sub districts. The location of Whatcom Creek flowing between the bus barn site and commercial uses to the north offers important opportunities for creek enhancement, public access, and recreational greenway linkages.



2.2 Characteristics of the planning district

The character of the Nohio and Soho sub districts is largely defined by one to two story light industrial warehouses, identified by their corrugated metal siding and flat roofs. The color schemes of the warehouse buildings are neutral, consisting of light grays and blues. A mix of industrial and commercial businesses is prevalent throughout Nohio and Soho. They range from light industrial businesses such as Carlson Steel Works located on the corner of Grant and Iowa Streets, to retail establishments such as the Judd and Black Appliance store on James Street. There are several

single-family residential homes located in small clusters scattered throughout the Nohio sub district. Whatcom Creek serves as a border between the Soho and Iron Bridge sub districts and the downtown. Whatcom Creek provides a focal component for the UTS plan as redevelopment concepts emphasize increased public access and building orientation to the creek's scenic beauty.

Iron Bridge is characterized as an industrial zone with the primary property being the bus maintenance facility and parking lot owned and operated by the Bellingham

School District. While the District plans to continue the use of the site to support school bus and transportation services, the UTS plan envisions more intensive uses for the site to better complement the residential character of the York Neighborhood located to the south. In addition, several parcels located immediately north of Whatcom Creek are recommended for redevelopment. The Iron Bridge site totals 4.3 acres in area and supports small retail establishments along State Street as well as car and equipment rental along Ohio Street. Iron Bridge's irregular shape, along with its proximity to State Street present opportunities for increased residential and commercial density of the area.

2.3 Landmarks, characteristics, connectivity, view sheds

Identifiable landmarks within the planning district include the steeple of Assumption Catholic Church as well as the Homeskillet restaurant, each bordering Nohio. Soho is home to the iconic Construction Supply Building at the intersection of York & Railroad. An important natural landmark is Whatcom Creek that serves as a natural boundary between the downtown and the sub districts. It offers important green pathway connections between the downtown and the Soho and Nohio sub districts). The creek offers important opportunities for orienting future development towards this natural amenity.

Nearly the entire urban transition zone is located within a ¼ mile from the Ohio & Grant Street intersection, which represents the approximate geographical center of the district. The adjacent James Street area is comprised largely of commercial services and eateries, which is less than a five-minute walk from the center of the district. Further, the district overall lies well within a ½ mile pedestrian shed to the downtown, York, Sunnyland, and Lettered Street neighborhoods making it very accessible by transit, bicycling, or walking.



2.4 Existing connectivity plan

2.4.1 Street

The neighborhood is bordered by major roadways that provide key connectivity within Bellingham. It is also located in close proximity to the Ohio Street connection to Interstate 5, located to the east. Traffic entering or exiting the interstate using this connection access James Street along the district's eastern border. James Street functions as a principal north-south arterial in the city, and as a key point of entry to the downtown.

Other major connections include Cornwall Avenue and Ohio Street, which are both identified as secondary routes in the city's Transportation Plan. Cornwall Avenue serves as another north-south connector, linking residential neighborhoods to the north to downtown. Ohio Street serves as a major east-west connector, providing a route for traffic exiting Interstate 5 to reach the district or to access either James Street or Cornwall Avenue to travel north or south. These roads largely function to collect and distribute traffic around the neighborhood.

In contrast, Grant Street, running from State Street north to Kentucky, has been identified as a collector street and serves to collect internal traffic from within the neighborhood and link to north State Street, which is the area's major arterial.



2.4.2 Bike and pedestrian systems

The district lies within 1/2 mile of the downtown bus transit terminal and has existing bicycle and pedestrian connectivity to the downtown via the Whatcom Creek Trail (see WTA Bus Station Pedestrian Shed). Despite the close proximity, the area currently lacks needed infrastructure such as sidewalks, bike lanes, appropriate signage, lighting, and markers for pedestrian and bicyclist safety. It is important to keep in mind that the bicycle and pedestrian infrastructure components are currently unevenly distributed throughout the three sub-districts.

2.4.3 Creek connectivity

Whatcom Creek is a key central natural feature within the area and offers an opportunity for pedestrian east-west connectivity for the city as a whole. Acquisition of land along segments of the creek has occurred as part of the city's Greenways program. The Greenways program is the city's effort to link Bellingham's trails, ridge tops, and shoreline corridors with a continuous series of parks, forests, and greenbelts. Despite these efforts, there are still some missing segments along the portion of Whatcom Creek located within the district.

In the past, the opportunities offered by Whatcom Creek's central geographic location have largely been overlooked. Most commercial and residential buildings around Whatcom Creek have been oriented away from

the creek, rather than utilizing the creek's aesthetic amenities. Recently, public policy has emphasized the importance of orienting future development towards the creek, and several private interests have completed projects towards this goal. One example includes the recently constructed six-unit live/work development located on Ellis Street, which introduces residential uses along with working spaces while showing building orientation toward both the street as well as the creek. This live/work development demonstrates how new development can benefit from orientation towards the creek's natural amenities while additionally providing greater security and safety to the public's use of creekside greenways through the continuous surveillance by permanent residents of the creek.



3.0 Issues and opportunities

3.1 Transitional District

As alluded to in section 2.4, the sub districts of Iron Bridge, Sohio, and Nohio serve as the three base components for the South Sunnyland Urban Transition District. Due to the abundance of possible infill sites and its proximity to downtown, this area presents many opportunities for future mixed-use development, including new residential opportunities and commercial uses, as well as expanding light industrial uses.

3.2 Downtown

The proposed addition of residential and commercial infill uses in the study site is an opportunity to build upon the recent development trends such as encouraging mixed commercial and residential growth in the downtown. An opportunity exists to make transportation corridor improvements as a means to improve the sub areas' connectivity and association with the downtown's vibrant city center community. The redevelopment proposal effectively transitions this currently underutilized single-use industrial district into an urban transitional neighborhood functionally associated with the downtown.

3.3 Surrounding neighborhoods

There is an opportunity for the Sohio, Nohio, and Iron Bridge sub districts to complement the surrounding residential neighborhoods of Sunnyland, York, and the downtown by establishing the planning district as a cohesive center connecting these established neighborhoods. Further, other opportunities to benefit the surrounding neighborhood residents are introducing greater services, higher standards of safety, and better defined bicycle and pedestrian accessibility throughout the south Sunnyland neighborhood.

3.4 Corridors

The plan has identified several opportunities to enhance pedestrian use and bike connectivity in the Nohio, Sohio, and Iron Bridge sub districts. The study area currently lacks continuous sidewalks and bike lanes, as well as appropriate signage and markers for pedestrian and bicyclist safety. With this in mind, there is an opportunity to create a continuous network of bike lanes and sidewalks throughout the three sub districts. One issue is the Whatcom Creek Trail's lack of connectivity. An opportunity associated with this is improving connectivity between the creek and surrounding corridors.

3.5 Whatcom Creek

A primary opportunity that exists in the area is the Whatcom Creek Trail. The trail could be extended through the existing bridge west of Ellis Street and connected with a proposed bike boulevard along Kansas Street. This would result in a formal entry point to a newly proposed Whatcom Creek trailhead and a linear park in the Iron Bridge sub district. This is an opportunity to increase accessibility for both bicyclists and pedestrians.



3.6 Industrial character and sense of place

There are opportunities to expand on Sohio, Nohio, and Iron Bridges' existing industrial character by using similar materials that buildings in the area are comprised of. Many of the mixed housing types, commercial, and industrial buildings that are proposed should include green, sustainable architecture while incorporating elements from the immediate and surrounding neighborhoods. This is an opportunity to build on the existing industrial character and sense of place these districts have to offer.

3.7 Bellingham High School

The UTS plan identifies the opportunity to fully integrate the Bellingham High School site into the surrounding neighborhood by improving sidewalks around its perimeter. This vision includes improving the Iowa Street corridor east of the Bellingham High School campus in order to facilitate access to the envisioned community center in Nohio. This is an opportunity for students as well as area residents to derive greater safety and benefit from an improved public amenity such as the high school.

4.0 Vision and Planning Goals

The Nohio, Sohio, and Iron Bridge sub districts are transitional zones consisting primarily of light industrial activities. The South Sunnyland Urban Village is a viable, sustainable, mixed-use neighborhood that retains the district's distinct eclectic and dynamic working class character. The mixture of proposed infill land uses include residential, commercial, and additional light industrial activities. These combined uses help to reinforce the authenticity of the current working neighborhood while introducing principles of sustainable neighborhood design. The plan envisions new opportunities for the inclusion of affordable and diverse housing choices and opportunities for job creation and small business development.



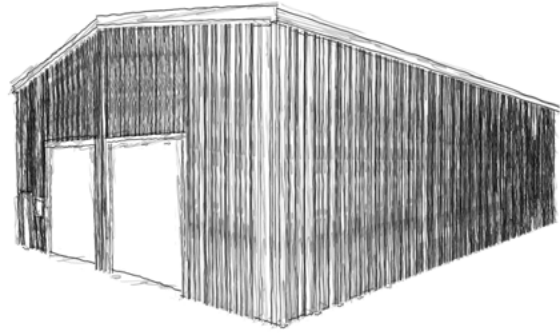
4.1 Project vision and goals

The study seeks to achieve Bellingham's vision for sustainable urban development by promoting mixed-use infill in one of Bellingham's central urban areas. The planning study incorporates principles of smart growth and sustainable development as it aims to transform a currently underutilized industrial district into a vibrant and diverse neighborhood that achieves the following goals:

- Increase density through infill development
- Introduction a range of residential opportunities
- Encourage a range of mixed land uses
- Create a strong sense of place respective of historic character
- Emphasize important landmarks and the creation of nodes
- Ensure the continued presence of employment in manufacturing and services
- Emphasis of existing industrial character in future development
- Expand the city's access to natural features
- Provide functional and safe system for street, bike, pedestrian connectivity
- Emphasize the use of public right of ways for meeting parking requirements

5.0 Land use mix

The plan identifies a range of alternative land uses (below) that contribute to the overarching goal of introducing mixed uses and increased densities to the district. In identifying a suitable mix of land use types, careful consideration of current Bellingham goals and policies, particularly those relating to urban village development, were taken into consideration. Resulting positive effects may include increased property values, optimization of the district's proximity to the central business district, and the creation of increased social capital.



5.1 Light Industrial

Included in the category are manufacturing and distribution service uses that do not result in significant nuisances. The plan calls for continued light industrial uses that result in job creation and the provision of services that support a growing Bellingham economy while concurrently encouraging a range of compatible mixed uses.

- CDP 1 - Buildings in transitional areas between residential and non-residential areas should consider the context of both areas.
- ED-2 - Bellingham accommodates a broad mix of jobs, while actively seeking a greater proportion of living wage jobs that will benefit a broad cross-section of the residents of the city.

Code	Land Use Type	Standards			
		Height: Min/Max	Bulk/ Mass FAR	Max Square Feet	Parking
LW	Live/Work	Max 45ft	Max Far 100%	2500 sq ft per unit	1 per unit/500 sq ft
LO	Live/Office	Max 45ft	Max Far 100%	2500 sq ft per unit	1 per unit/500 sq ft
MW	Micro/Work	Max 45ft	Max Far 100%	2500 sq ft per unit	1 per unit/500 sq ft
RT	Townhome	Max 35ft	Max Far 75%	2500 sq ft per unit	1 for every 1000 sq ft
HH	Homeless Housing	Max 25ft	Max Far 100%	None	None
CE	Commercial-Eatery	Max 35ft	Max Far 100%	N/A	1 for every 75 sq ft/min of 7
CR	Commercial-Retail	Max 35ft	Max Far 100%	N/A	1 for every 200 sq ft
CO	Commercial-Office	Max 35ft	Max Far 100%	N/A	1 for every 300 sq ft
LI	Light Industrial	Max 45ft	Max Far 100%	N/A	1 for every 5,000 sq ft
P	Public Space	None	None	None	Determined by director

Table: Land use types

- ED-19 - Support the retention and growth of Bellingham's small businesses.
- ED-27 - Support the retention and growth of the industrial/manufacturing sectors and seek to attract new businesses to provide opportunities for skilled employment and living wage jobs.

5.2 Commercial Eatery

Commercial eateries should not be overlooked in the south Sunnyland neighborhood, as such establishments can be key in creating a more cohesive, socially active, and economically diverse neighborhood. Single use in-

dustrial areas tend to be largely devoid of social life after regular business hours, especially in the evenings and weekends. Eateries can counter this trend by attracting a steady flow of people from early morning through late evening, creating activity, safety, and interest.

Eateries act as social hubs and over time may become important community destinations. They can complement and bring mutual benefit to local industrial and business employees by providing conveniently located breakfast and luncheon choices. The district's close proximity to I-5 may also attract travelers who can take advantage of the eating opportunities presented.

- GOAL ED-4 - Bellingham accommodates and manages growth primarily by encouraging the development of mixed-use urban villages.
- Policy ED-11 - Provide and support initiatives that enhance quality of life amenities, expand job training opportunities and support other economic development goals and policies.

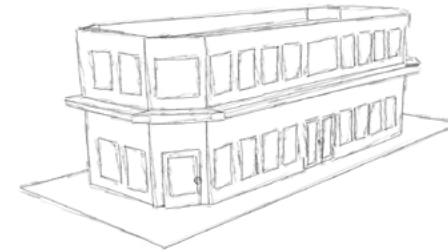
5.3 Commercial Retail

This land use type consists of commercial businesses that provide personal and professional services. Usage of commercial retail in this area allows residents to meet their personal and business needs locally. A variety of retail businesses along a street can create interest and encourage destination status of the area.

- Policy ED-19 - Support the retention and growth of Bellingham's small businesses.
- Policy ED-39 - Provide for a wide range of permitted uses in emerging urban villages to encourage these areas to develop as employment centers.

5.4 Commercial Office

Commercial businesses provide opportunities for shopping and retail services to the public. This use is emphasized in the plan to encourage opportunities for area residents to utilize services within their community with reduced travel.



- Policy ED-11 - Provide and support initiatives that enhance quality of life amenities, expand job training opportunities and support other economic development goals and policies.
- ED-19 - Support the retention and growth of Bellingham's small businesses.
- Economic Development (ED) Chapter states, "Bellingham accommodates a broad mix of jobs, while actively seeking a greater proportion of living wage jobs that will benefit a broad cross-section of the residents of the city."

5.5 Residential

The addition of residential uses in existing urban neighborhoods help to meet growing population demands and reduces the need to expand Bellingham's urban boundaries. A variety of housing types and locations works to meet the diverse population that Bellingham holds. Residential infill helps to enhance the mixed use character of the district by providing round the clock occupancy and increasing the pedestrian activity. New residential uses can minimize commute times to work opportunities located in the district and the nearby downtown.

- CDP 1 - Buildings in transitional areas between residential and non-residential areas should consider the context of both areas.
- ED-28 - Develop or support programs that seek to provide an increased supply of workforce housing.
- VB 7 – Where entire new neighborhoods are formed, development incorporates a system of connected park and open space corridors and human-scale arrangements of mixed housing types.
- VB 26 – Increased housing density and infill exists in the downtown area and in other parts of the community that are appropriate for small lots or higher density housing, reflecting a variety of housing costs.

- VB 27 – Density bonuses for well-designed housing that complements existing neighborhood integrity supplement new opportunities for mother-in-law apartments and duplex or triplex options, subject to design review standards and neighborhood input.
- Visions for Bellingham, Housing, Goal 2, "Increased housing density and infill exists in the downtown area and in other parts of the community which are appropriate for small lots or higher density housing, reflecting a variety of housing costs."

5.6 Live/work

Live/work units bring residents closer to the destinations they need on a day-to-day basis. These mixed use structures typically consist of a ground floor commercial or light industrial-type space with residences located on upper floors. The allowance of live/work structures helps establish a multi-use land use pattern in neighborhood, increase densities, and boots opportunities for a diverse range of households.

- CDP 1 – Buildings in transitional areas between residential and non-residential areas should consider the context of both areas.
- Economic Development (ED) Chapter states, "Bellingham accommodates a broad mix of jobs, while actively seeking a greater proportion of living wage jobs that will benefit a broad cross-section of the residents of the city."
- ED-27 - Support the retention and growth of the industrial/manufacturing sectors and seek to attract new businesses to provide opportunities for skilled employment and living wage jobs.
- ED-28 - Develop or support programs that seek to provide an increased supply of workforce housing.
- VB 7 – Where entire new neighborhoods are formed, development incorporates a system of connected park and open space corridors and human-scale arrangements of mixed housing types.

5.7 Live/Office

Similar to the live/work structures, live/office emphasizes commercial and office spaces on the ground floor of residential buildings to allow for home occupants to operate private businesses within their homes.

- CDP 1 – Buildings in transitional areas between residential and non-residential areas should consider the context of both areas.
- Economic Development (ED) Chapter states, “Bellingham accommodates a broad mix of jobs, while actively seeking a greater proportion of living wage jobs that will benefit a broad cross-section of the residents of the city.”
- ED-27 - Support the retention and growth of the industrial/manufacturing sectors and seek to attract new businesses to provide opportunities for skilled employment and living wage jobs.”
- ED-28 - Develop or support programs that seek to provide an increased supply of workforce housing.
- VB 7 – Where entire new neighborhoods are formed, development incorporates a system of connected park and open space corridors and human-scale arrangements of mixed housing types.



5.8 Townhouse

The Townhouse represents an alternative form of housing popular on the East Coast of the United States, but relatively absent as a housing type in Bellingham. Townhouses provides for an effective means to achieve greater housing density while providing single family housing. Townhouses provide flexibility for the owner through potential for rental units or the allocation of private space through private yards or common ownership of shared space.

- CDP 1 – Buildings in transitional areas between residential and non-residential areas should consider the context of both areas.
- ED-28 - Develop or support programs that seek to provide an increased supply of workforce housing.
- VB 7 – Where entire new neighborhoods are formed, development incorporates a system of connected park and open space corridors and human-scale arrangements of mixed housing types.
- VB 26 – Increased housing density and infill exists in the downtown area and in other parts of the community that are appropriate for small lots or higher density housing, reflecting a variety of housing costs.
- VB 27 – Density bonuses for well-designed housing that complements existing neighborhood integrity supplement new opportunities for mother-in-law apartments and duplex or triplex options, subject to design review standards and neighborhood input.
- CDG-15 - Multifamily developments in Bellingham provide pleasant and safe multi-family housing with convenient access to community services and recreation facilities for all members of the family.
- Visions for Bellingham, Housing, Goal 2, “Increased housing density and infill exists in the downtown area and in other parts of the community which are appropriate for small lots or higher density housing, reflecting a variety of housing costs.”

5.9 Micro Housing

Micro housing is a great option for the neighborhood because of its efficient design characteristics. The small size of the micro-units allows for a portion of the units to be easily dedicated to fill low income housing needs. It may serve as transitional housing for homeless individuals moving out of a short term emergency housing or may provide housing for lower income individuals including college students and young single workers who may not need or desire larger living accommodations. It is an innovative style of housing that can significantly increase densities while providing housing for those who already work in the area. It is also possible for the ground floor to be used as commercial, retail, or office space.

- HV-1 - Bellingham’s regulations encourage and provide incentives for innovative housing and mixtures of housing types that preserve natural resources and consolidate open space
- HV-2 - Increased housing density and infill exists in the downtown area and in other parts of the community which are appropriate for small lots or higher density housing, reflecting a variety of housing costs
- HG-1 - Bellingham has a healthy mix of housing sizes, types, and prices, affordable at the wages of the jobs nearby. A balanced mix of housing will have housing costs in sync with wages and incomes in the community
- HG-5 - Encourage live-work development as a way to minimize housing costs and home-to-work trips



5.10 Homeless village

In 2013, during the annual homeless census, 561 homeless people were counted in Whatcom County. Homelessness is a problem that many cities face, and some have introduced homeless villages to house those that are disadvantaged. Because of the pressures facing many homeless people in Bellingham, homeless housing would be a good opportunity to help those in need. Some villages are run by nonprofits, while others are run through donations. The housing is transitional, to allow people a temporary place to live while looking for work and permanent housing. Some existing villages allow residents to stay for as long as they want, with the stipulation of a declaration their educational, career, mental health, or physical health goals. They must report on their progress. Other villages require residents to be on a list for permanent housing. Several prototype units are designed in a way so that they can be constructed in a matter of hours. In addition, the housing structures are small and lightweight, making it possible to transport them on the back of a truck bed. In this way, a village can be built or deconstructed in a day, to be transported to a new location. Housing can be provided where it is needed most, making temporary use of available vacant lots. Typically, each resident has their own small home, while facilities such as bathrooms and kitchens are located in a shared building. The villages are governed and operated partially by the residents themselves, offering them a sense of ownership over their living situation. Homeless Villages offer a sense of safety, stability, warmth, cleanliness, autonomy, and privacy to those who need it most. This style of housing builds a community that allows those experiencing similar situations to help each other recover and thrive.



- HV-5 - Increases in the supply of housing for low income households result from assistance and support to private non-profit groups and other organizations like the Housing Authority and Opportunity Council and from inclusionary zoning provisions that require a range of housing prices in new developments
- HG-8 - Encourage the elimination of discrimination from the housing market based on race, religion, ethnic origin, age, household composition or size, disability, marital status, sexual orientation or economic circumstances
- HP-9 - Promote increased housing opportunities for all economic segments and special needs groups in the community through the use of both private and public financing

5.11 Public Spaces

Public spaces are essential elements to any sustainable neighborhood design. The plan has identified opportunities for providing public park spaces that incorporate the amenities of Whatcom Creek and provide for passive recreational use for future residents of the district. Open space is also provided as an extension of greenway trails through the district.

- ED-44 - Continue to provide a healthy community that includes clean air and water, public open spaces, natural and recreational areas, and “green infrastructure” such as street trees and native vegetation in urban centers and residential areas.
- ED-40 - The City should invest in park facilities, historic and cultural resources and other amenities to stimulate the development of housing and businesses in urban villages.

6.0 The Proposed Development Concept

This section presents a series of development concepts for the South Sunnyland Neighborhood to transition the current light industrial only district into a vibrant and dynamic mixed use neighborhood community consistent with the design goals outlined in section 4.1 above. The following section presents the methodology used to determine the districts' overall capacity to accommodate additional infill development. A conceptual land use diagram depicts the proposed land uses and the emerging new urban form for the sub districts. Issues and opportunities unique to each of the sub districts are then summarized followed by specific land use recommendations and illustrations depicting the overall urban design proposal.

Carrying Capacity Analysis							
Parcel #	380329011309	380329027329	380329035443	380329018372	380329017388	380329025400	380329017354
Lot Area (sq. ft.)	16710.67	216987.47	20020.14	19961.18	19963.48	9984.14	18602.99
Land Use	OTHR PROF SV	NEW/USED CAR	EQUIP RENT/L	GAS SERV STA	OTHR AUTO/MA	AUTO WASH	COMMERCIAL
Legal Acreage	0.38	4.78	0.46	0.46	0.46	0.23	0.43
Building Coverage (sq. ft.)	6010.02	41526.50	3649.46	2310.42	0	0	0
% Building Coverage	35.97%	19.14%	18.23%	11.57%	0.00%	0.00%	0.00%
# of Floors	2	1.5	1.5	1	0	0	0
Appraised Improvement Value	565235	1594071	327521	347800	253173	96500	0
Appraised Land Value	245225	1276922	352800	475000	475000	274400	124940
Improvement Value: Land Value	230.50%	124.84%	92.83%	73.22%	53.30%	35.17%	0.00%

6.1 Capacity Analysis

A two step process helped identify parcels of land that have redevelopment potential, or have space for future infill. The first step compared the land value to the assessed values of building improvements as provided by City of Bellingham data. If the assessed land value ratio of an individual parcel was 75% or lower, the parcel was considered a candidate site for redevelopment. The second step was based on field verification. Through field verification, each parcel was evaluated in person to assess its intensity of use. This process allowed for reclassification empty sites or part of sites that weren't identified by the land value ratio, and identification of parcels that had viable community services to be excused from the list of opportunity sites.

6.2 General urban design concept

Figure 6.2.X is the wide-view conceptual plan for the three sub districts. It shows a generalized distribution of new infill land uses, depicting the pattern of subarea concentrations of residential, industrial, and commercial activities. A detailed presentation of the land use concept by sub district follows in Section 6.4. Figure 6.2.X Bubble diagram showing proposed land use patterns

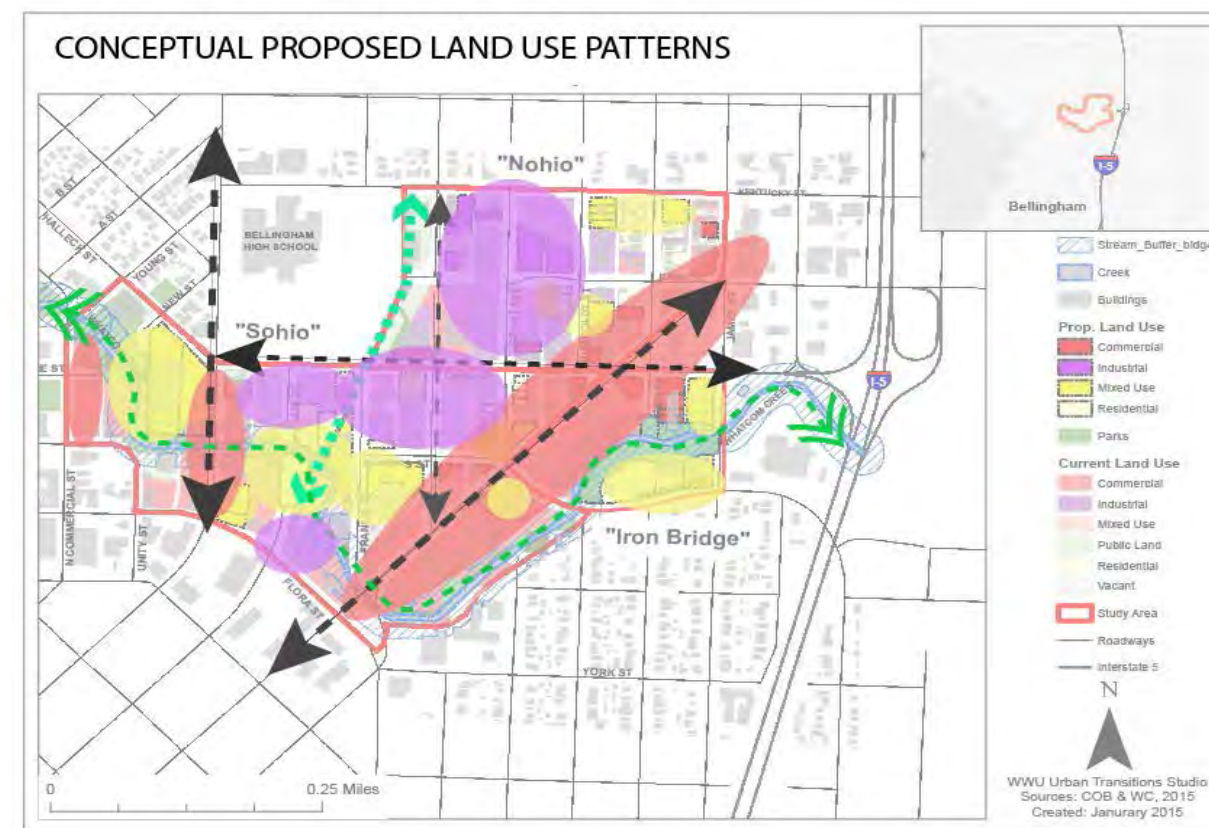
6.3 Corridors

6.3.1 Proposed connectivity plan

The proposal for the corridors in Sunnyland is multifaceted and revolves around improving connectivity and accessibility for all persons using the area. The plan focuses on all forms of transportation and providing sufficient parking for the proposed infill development, while maintaining traffic flow. The core of the improvements includes expanding bicycle infrastructure along both major and minor corridors, improving street safety for pedestrians, and improving Whatcom Creek Trail's connectivity throughout the study area. These improvements will be done in cohesion with the proposed infill developments in the Nohio, Sohio, and Iron Bridge sub districts. Overall, the proposals will greatly improve bicycle, pedestrian, and current infrastructures while accommodating the expected infill projected in the study area.

6.3.2 Street, bike, and pedestrian systems

Currently, there is little bicycle infrastructure in the study area, consisting of only a few blocks of bike lanes on the perimeter. The plan draws from studies the City of Bellingham has conducted and recommends critical improvements. Presently, there are bike lanes along Meador Avenue and Cornwall Ave, starting at York Street and continuing north of Bellingham High School. Proposed improvements will extend the bike lane on Cornwall southward towards downtown and add a bike



lane along York and Ohio Streets, from Cornwall to North State Street. Bike boulevards will be designated along Kansas Street, Kentucky Street, and Grant Street, which will in turn connect to other added bike boulevards outside the study area. The final bike specific improvement is turning North State Street into a shared bike lane.

These improvements will allow for riders of all experience levels to have safe, accessible bike routes, while creating better connectivity throughout the study area and to surrounding neighborhoods.

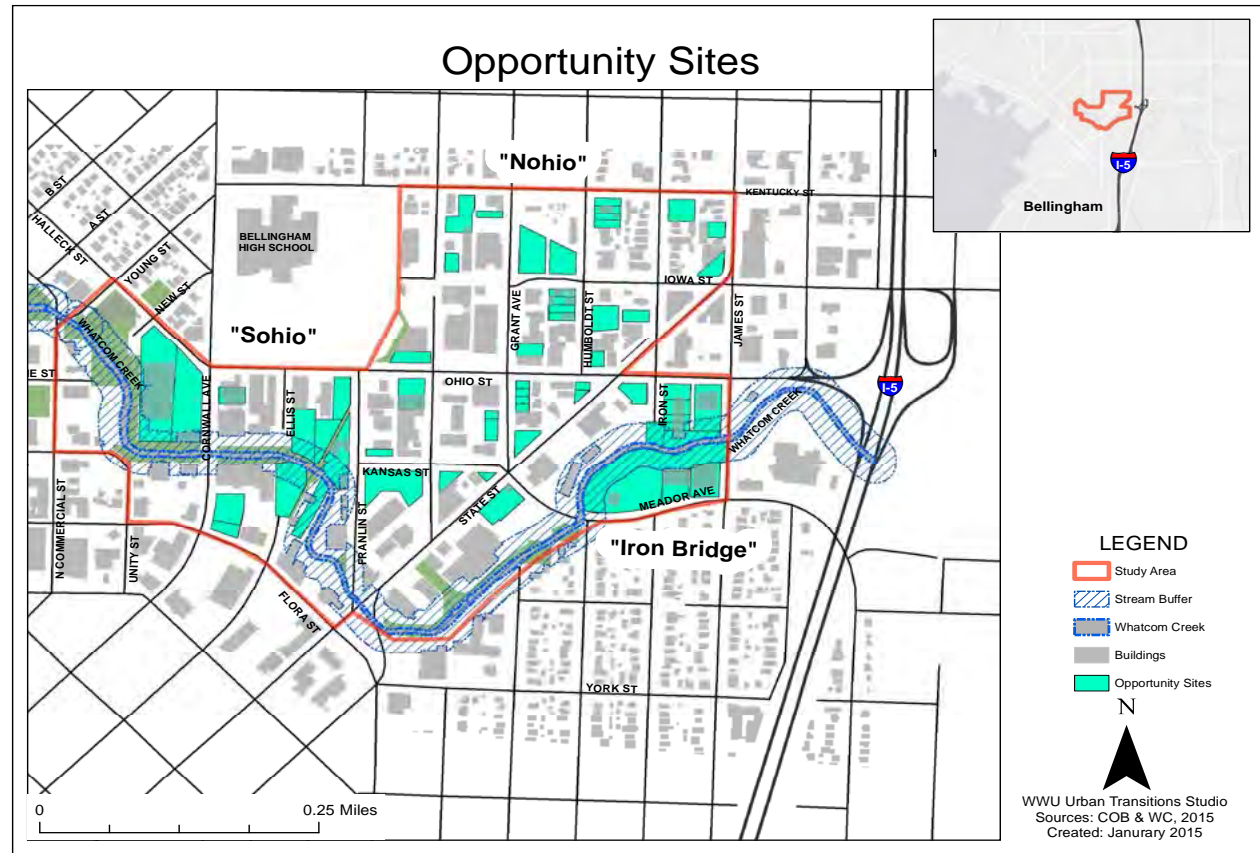
Pedestrian safety on sidewalks and at street crossings is also of paramount importance. Currently, sidewalks either discontinue suddenly, or do not exist at all, and crosswalks are not well marked. Continuity is needed within the sidewalk design to ensure the greatest connectivity and ease of use. Crosswalks need to be designed in a way that is highly visible to motorists, to ensure greater pedestrian safety. In addition to road paint, signs should be used, and user activated flashing crossing lights are recommended on high use streets. The bike and pedestrian improvements encourage using alternative forms of transportation, greater interaction with the community, and working towards the area being less auto centric.

6.3.3 Connection to the creek

Whatcom Creek has been identified as a major corridor opportunity for creating greater connectivity for cyclists and pedestrians. The City of Bellingham can increase usage of the Whatcom Creek corridor by creating a safer, more accessible and attractive trail. A way to start this development is by first connecting the two existing halves from Maritime Park and the I-5 Section. Although it would be ideal for the City of Bellingham to develop along the entire creek to emphasize this important resource, it is not a viable option. The section west of Ellis Street and southwest of North State Street provides several problems to creating a possible corridor along the creek because there is no direct connection across State Street. To alleviate this problem, a combination of several proposed ideas from the 2014 Bellingham Bicycle Master Plan and 2012 Bellingham Pedestrian Master Plan can be utilized.

The 2012 Bellingham Pedestrian Master Plan proposes a crossing improvement where the current Whatcom Trail meets Cornwall Avenue. Design recommendations to help this crucial crossing include a marked sidewalk, lights, and appropriate signage identifying an entry point onto the trail. From here, a new trail along Central Avenue is proposed to keep consistency with the existing trail and keep bicyclists and pedestrians from making an unnecessary crossing to the South Side of the creek. The new trail would continue through the existing bike trail and to the perpendicular intersection of Ellis and Kansas Street.

A new crossing would be created to safely accommodate pedestrians and bicyclist crossing over Ellis Street to Kansas Street. Kansas Street currently has adequate sidewalks to provide for pedestrians, but there are no accommodations for cyclists. A bike boulevard with a bike box at the Kansas Street and State Street intersection would provide a safe waiting area for cyclists, as well as give them priority while crossing the street.



Bike boxes would be an effective new element introduced to Bellingham. The purpose of a bike box is to increase the awareness and visibility of the cyclists for motorists. It also helps cyclists make safe intersection crossings, which is important at the State Street intersection since it is a primary bike route. From here, pedestrians and cyclists could safely cross State Street and continue to the current sidewalk and bike lane on Meador Avenue. Along Meador Avenue, traffic will continue and be able to cross into the Iron Bridge development through another improved crossing at the Humboldt Street and Meador Avenue intersection.

The Iron Bridge area has a 100 ft. buffer lining Whatcom Creek that will be made into green space. In addition, another new trail will be built adjacent to the creek, increasing connectivity in the area. The trail in Iron Bridge acts as an attraction to the area as well as accenting the creeks importance.

The new Whatcom Creek Trail would continue along the creek and cross over James Street, where it would continue to correspond with the creeks movement around Diehl Ford Sales and connect with the existing trail in the I-5 Section.



6.3.4 Parking

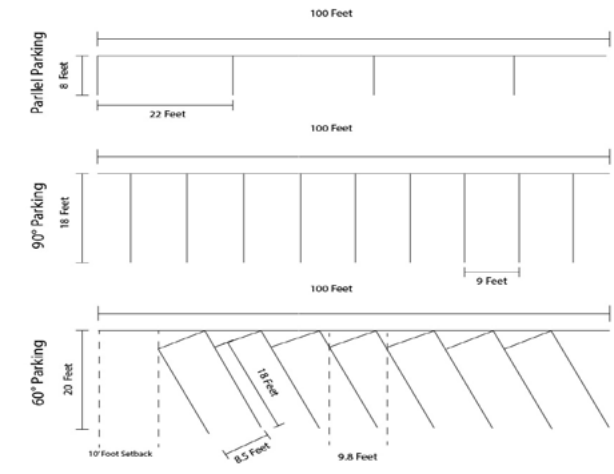
There are three different parking types that are recommended for the Sunnlyland area: parallel, 90° perpendicular parking, and 60° angled parking. As a general theme, parallel parking schemes are used in commercial and industrial areas to allow for truck parking and easy corridor passage on main arterials. Angled and perpendicular parking is used throughout different streets depending on the street type, traffic speed, and parking needs for the area.

Parallel parking is most appropriate for the study area's main arterials, such as State Street. Parallel parking on high capacity, high volume arterials are appropriate because of the opportunity to construct bike lanes within the right of way and allowing for wider driving lanes. Parallel parking is also desirable for collector and side streets that have a narrower right of way and no separate bike lanes, such as James Street (arterial) and Grant Street (collector, north of Ohio Street).

Perpendicular (90°) parking is pertinent for secondary streets in the area, including streets such as Ohio Street and Meador Avenue that have high parking needs. The reasoning behind the application of perpendicular parking on Sunnlyland's secondary streets is based on their wide right of way, allowing for high parking density while maintaining adequate driving lanes.

Angled (60°) parking is encouraged on secondary and collector streets, allowing for high density parking with limited commercial truck parking. Railroad Avenue in downtown Bellingham and the Fairhaven urban village are prominent examples of angled parking in high density environments such as these. The section of Grant Street above Ohio Street is an example of how angled parking would fit on a collector street. This parking scheme would be beneficial to all three sub districts as high density infill development occurs.

Overall, these parking schemes will allow for greater vehicular traffic flow in the sub districts while appropriately complimenting greater infill density in the future.



6.3.5 Street Typology

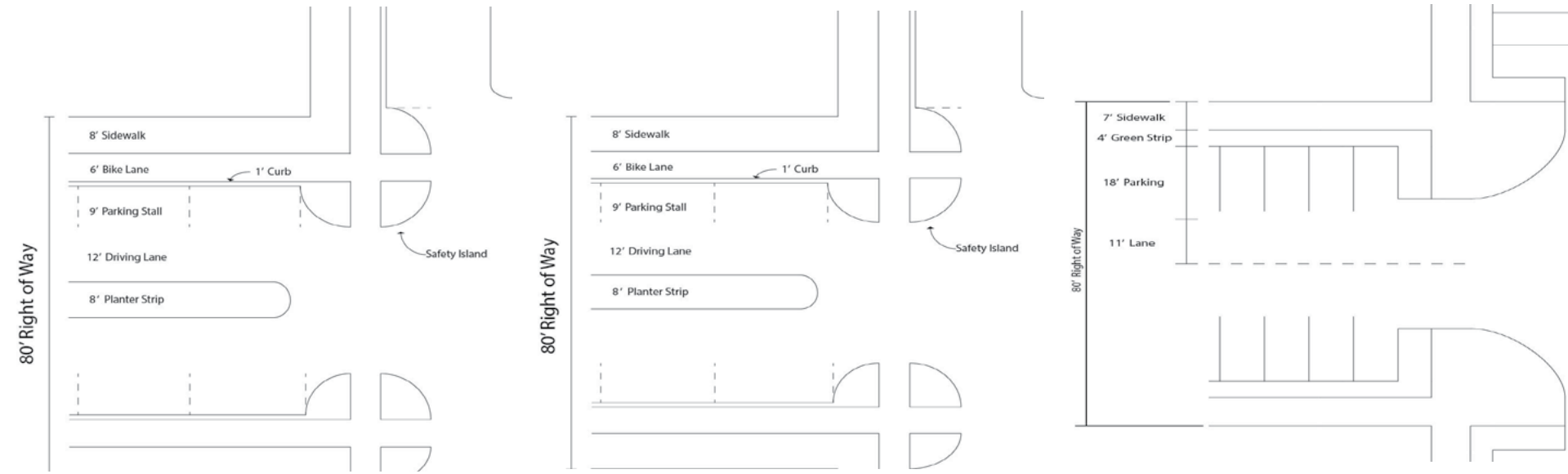
The most common right-of-way width in the Sunnlyland neighborhood is 80 feet wide, therefore the proposed plan designed three 80 foot wide street arrangements using the aforementioned parking styles. The proposed arrangements are examples of how different street types with different traffic and parking needs could be addressed.

The first proposed street arrangement consists of an eight foot sidewalk next to a six foot bike lane. A one foot safety curb separates the bike lane from the nine foot wide parallel parking that lines the street. The bike lanes reside on the inside of the parking to avoid collisions from vehicles pulling in and out of parking spaces. The driving lanes themselves are twelve feet wide to allow for trucks and other large vehicles that may need access to the industrial area. An eight foot wide planter strip runs down the middle of the street, separating the driving lanes and creating a more aesthetically pleasing roadway.

The second proposed street arrangement has an eight foot sidewalk and 60° angled parking. The stalls are, individually, 8.5 feet wide and 18 feet in length. This parking style allows for a high number of spaces on busier streets while not interfering with traffic flow as much as other parking styles. The driving lanes themselves are twelve feet wide, as these streets are likely to receive industrial traffic as well.

The third and final street arrangement proposed uses perpendicular (90°) parking and eleven foot driving lanes. A seven foot sidewalk with a four foot median/green space lines either side of the street. The parking style would work well on slower streets while providing the most parking spaces possible.





6.4 Detailed Development Proposals

6.4.1 The Nohio District

Issues and Opportunities

Within the Nohio District the main opportunities identified were the public trail adjacent to Bellingham High School, the vacant green space next to the Pacific Pride commercial gas station, and the blank walls of various industrial buildings throughout the area, which include the blank Pacific Pride fuel towers. (See: Table 6.4.1)

With the trail, the plan proposes to create a safe and efficient space for both cyclists and pedestrians. Connecting the trail to Franklin St. instead of having the trail end at Kentucky St. would promote connectivity to the northern residential area. Increasing the amount of native vegetation as well as improved lighting at night, through solar chips, will create a more comfortable

space while also promoting the use of the trail an all hours option for alternative transportation. Solar chips are solar powered LED lights, which can be placed into asphalt. The green space next to the Pacific Pride station is a centrally located vacant lot that could potentially be used as an entrepreneurial innovation center. The plan proposes a community workshop and flex space for this area, which would be consistent with the district character of industrial based businesses, while providing a space for community collaboration.

Another opportunity for the neighborhood revival includes the extensive blank walls of most industrial buildings. A proposed mural program will help create a sense of place for the Nohio district. The program could help promote interaction between different interest groups including private business owners, artists, and students. The plan also proposes to paint the Pacific Pride towers in a style that complements the style of the Homeskillet Cafe, which supports the goal of upholding

the eclectic artistic urban landscape that is beginning to emerge in the area. This may help create a landmark within the district, as well as keep with the existing authenticity of the Nohio District.

The main issues with these identified opportunities are cost as well as ownership. The gas station property consisting of the towers and the vacant lot are privately owned. This means that public-private partnership would need to be created. In addition, the cost of improvements made could be a burden on private property owners or the public.

Site Capacity Analysis

According to the site capacity analysis, 19 parcels totaling 5.34 acres were identified as redevelopable using the 75% improvement/land value ratio. A total of 5 parcels were identified as opportunity sites through field verification, making the total estimate of developable/

infill opportunity sites 24 totaling 6.83 acres for Nohio. Such field verified sites that were not in the formative analysis include: 1) the vacant space next to the Pacific Pride station, 2) small clusters of single-family housing, which are recommended to be replaced with denser residential units, 3) any large sites with large parking lots where buildings could be extended to the street or for infill opportunity.

Nohio Site Capacity Analysis Data

Opportunity Sites	Acreage
24	6.83

Methodology and rationale

The Nohio neighborhood is currently dominated by industrial uses such as metal working, bakeries, and automotive repair shops. A small quantity of single family residential homes scatter the area, but are remnants of the previous neighborhood characteristics and do not blend well with the current industrial feel. The proposed

construction of multifamily townhouses as well as the intensified industrial space begins to shape the area as a multiuse region, providing diverse opportunities and amenities to the residents and workers of the Nohio neighborhood. In order to keep with the industrial blue collar authenticity of the neighborhood, the plan calls for adding more industrial buildings throughout the district. The plan envisions the new industrial buildings to be designed in a congruent manner with the inspirations for the district. Inspirations for the district include the colors from Homeskillet, and Grandville Island giants. In order to support high density and affordability, the plan also calls for smaller housing options. Housing options suggested for the district include townhouses, live/work, and mixed use. These types of housing forms are more affordable than regular homes, and can provide opportunity for employees in the to live by where they work. Live/work also provides people the option to run a business or workshop out of their home, fulfilling the plans goal of supporting employment opportunities within the district.

Nohio District Issues and Opportunities

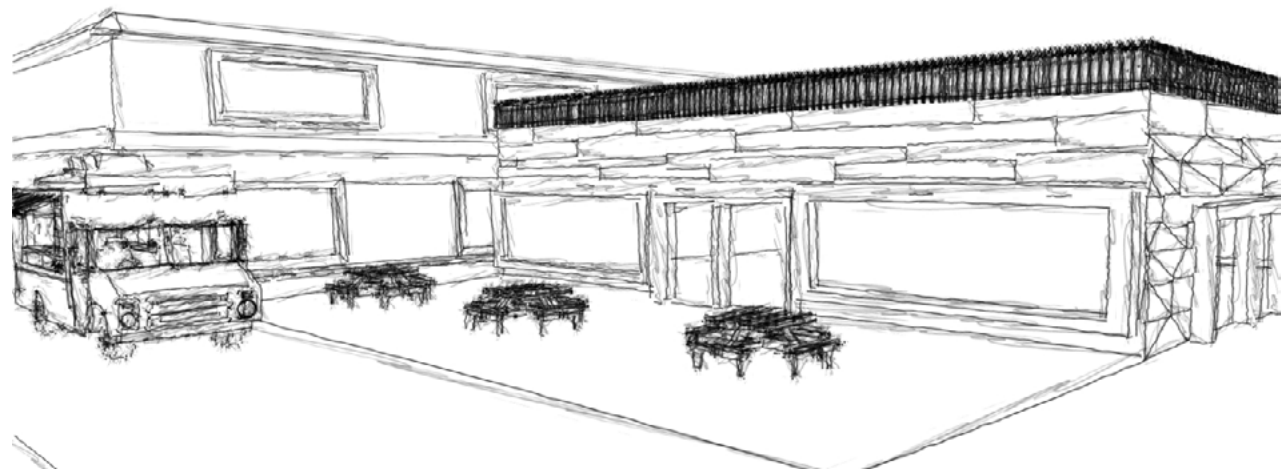
Area	Issues	Opportunities
Trail next to Bellingham High School	<ul style="list-style-type: none"> Traffic concerns Cost 	<ul style="list-style-type: none"> Improve connectivity to downtown Use Franklin as bike priority street
Open green spaced owned by Pacific Pride	<ul style="list-style-type: none"> Private ownership/future development plans Next to industrial uses/gas station 	<ul style="list-style-type: none"> Space for Community Entrepreneurial Center No building on property
Blank walls of industrial buildings (District wide)	<ul style="list-style-type: none"> Private ownership Cost 	<ul style="list-style-type: none"> Community Art Movement Partnership with BHS
Pacific Pride Towers	<ul style="list-style-type: none"> Private ownership Cost 	<ul style="list-style-type: none"> Community involvement Creating space Economic opportunity

Nohio Infill Opportunity Sites Table

Parcel #	Existing Use	Land Available for Infill (sq. ft.)	Improvement Value: Land Value	Proposed Use Type	Preliminary Density
420442	Parking	20,058	62.18%	Commercial - Office	40,116 sq. ft.
				Light Industrial	20,058 sq. ft.
43447	Parking	7,937	156.73%	Commercial - Office	15,874 sq. ft.
				Light Industrial	15,874 sq. ft.
456428	Vacant	49,091	0.00%	Commercial - Office	58,182 sq. ft.
				Commercial - Retail	49,091 sq. ft.
				Light Industrial	49,091 sq. ft.
488451	Auction Lot	4,791	0.00%	Row Housing	2 Units
				Live/Work	1 Unit
488447	Auction Lot	4,791	57.99%	Row Housing	2 Units
				Live/Work	1 Unit
488443	Auction Lot	4,791	0.00%	Row Housing	2 Units
				Live/Work	1 Unit
422439	Auction Lot	4,791	0.00%	Row Housing	2 Units
				Live/Work	1 Unit
522447	Junk Yard	14,810	0.00%	Row Housing	6 Units
				Live/Work	6 Units
536438	Parking	6,316	49.46%	Commercial - Retail	6,316 sq. ft.
				Commercial - Eateries	6,316 sq. ft.
502390	Parking	7,812	64.06%	Commercial - Office	15,624 sq. ft.
				Commercial - Retail	7,812 sq. ft.
				Commercial - Eateries	7,812 sq. ft.
486370	Parking	5,535	77.54%	Commercial - Retail	5,535 sq. ft.
				Commercial - Office	11,070 sq. ft.
490385	Parking	16,284	170.28%	Row Housing	6 Units
				Live/Work	6 Units
465403	Residential	4,791	127.64%	Row Housing	2 Units
				Live/Work	1 Units
467398	Residential	4,791	92.12%	Row Housing	2 Units
				Live/Work	1 Unit
467395	Vacant	4,791	0.00%	Row Housing	2 Units
				Live/Work	1 Unit
468391	Residential	4,791	57.90%	Row Housing	2 Units
				Live/Work	1 Unit
399376	Parking	8,843	109.40%	Commercial - Retail	8,843 sq. ft.
				Light Industrial	8,843 sq. ft.
420422	Parking	8,351	225.73%	Commercial - Office	16,702 sq. ft.
				Light Industrial	16,702 sq. ft.
452369	Parking	7,689	116.62%	Commercial - Retail	7,689 sq. ft.
				Commercial - Eateries	7,689 sq. ft.
535425	Parking	7,933	111.06%	Commercial - Retail	7,933 sq. ft.
				Commercial - Office	15,866 sq. ft.
				Commercial - Eateries	7,933 sq. ft.

Big Ideas - community flex space

One of the big ideas for the Nohio District is the workshop and flex space, which is proposed to be located on the vacant lot adjacent to the Pacific Pride gas station. A workshop is fitting for the area, considering the number of industrial and commercial businesses within the Nohio District. A workshop would primarily serve as a space for community members to work in proximity with one another inevitably leading to business opportunities. In addition, the space could provide opportunities for education and job promotion. Educational classes on metal, woodworking, and digital technology could be offered, which would benefit students from Bellingham High School as well as the community as a whole. This could potentially link adjacent businesses owners to community members gaining skills through educational programs at the workshop. The community flex space is envisioned to have an open floor plan, to support flexibility of space usage. Activities could include meetings, dances, recreation, music recording, and much more. The idea of the flex space is simply to provide an area, which can be transformed by local residents to accommodate the needs of the surrounding neighborhood.



Existing City of Bellingham policies that support the plan concept include the following:

- ED-44 - Continue to provide a healthy community that includes clean air and water, public open spaces, natural and recreational areas, and “green infrastructure” such as street trees and native vegetation in urban centers and residential areas.
- ED-11 - Provide and support initiatives that enhance quality of life amenities, expand job training opportunities and support other economic development goals and policies.
- ED-14 - Support the efforts of business and educational institutions to train workers to meet the current and future needs of local businesses.
- ED-17 - Support access to working capital and other forms of financial assistance to encourage entrepreneurship, innovation and business growth” (6).
- Employment Lands Study, Phase II states that certain employment sectors were identified as desirable for Bellingham. Examples include Professional, scientific and technical services, Equipment and instrumentation manufacturing, Education, including workforce training, Advanced manufacturing.
- ED-28 - Develop or support programs that seek to provide an increased supply of workforce housing.
- VB 23 - The community recognizes that economic vitality and employment for all its citizens requires an increased commitment to education and training, and a service support system that stresses affordable, quality childcare.

Big Ideas - mural program

A mural project has been planned to address the blank walls of the many industrial warehouse buildings throughout the Nohio District. The use of paint is a relatively cheap tool in creating a sense of place for a district, compared to any physical alteration of spaces. The mural program would require a public-private partnership between the owners of the industrial building where the murals would be painted, and those painting the buildings. Bellingham High School is adjacent to Nohio, and would be a great partner in the program. This project could provide students with practical skills, while being able to promote community and self-esteem. The painting of the district would help create a true sense of identity for the district, which is currently not shown through physical spaces. The painted buildings could also promote destination status of the district, helping to support the many businesses within South Sunnyland. Existing policies supporting the proposed mural program include:

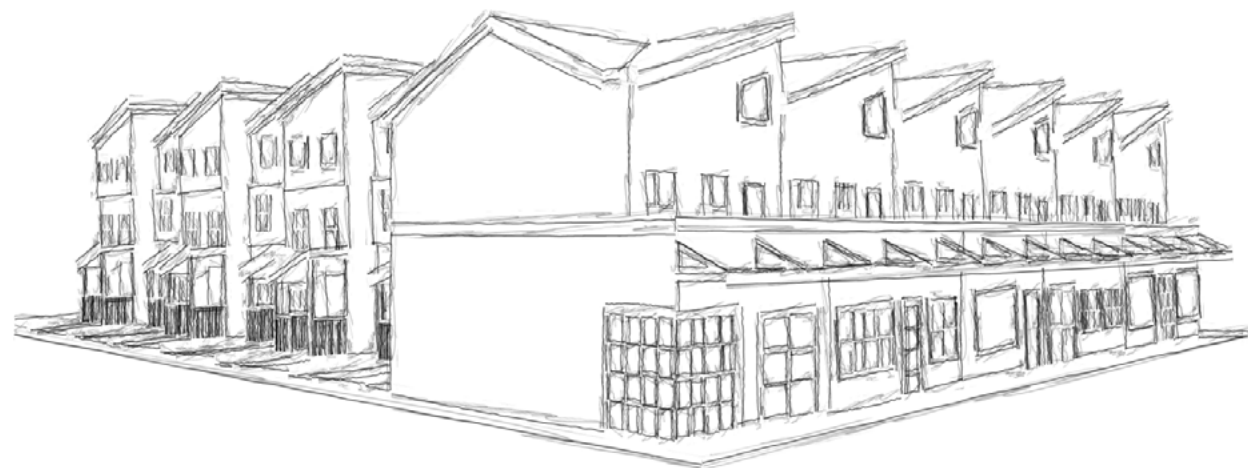
- ED-9 - Aid the efforts of business associations to promote tourism and other economic activities.
- VB 33 - The community supports the highest possible educational quality for its children, including a curriculum that fosters innovative ways of learning, and preparation for life in the 21st century.



Big ideas - Townhouses and Mixed-Use

Given that the majority of buildings in the area are light industrial and commercial, Nohio district is primarily only used during business hours. The single-family houses that do exist in Nohio are remnants from the previously larger Sunnyland neighborhood and now, due to light industrial zoning, are secluded from the rest of the neighborhood. By increasing the amount of residents in the area through higher density housing, the area will have an increase in activity after business hours. Townhouses and mixed-use buildings can achieve this desired density without compromising the light industrial character of the area.

Townhouses can provide multiple units per structure, allowing for greater densities and more affordable prices. Because of its higher density, Townhouses can accommodate over twice as many residents per parcel than the single-family houses that currently exist in the area. Mixed-use buildings, primarily utilized on corner lots, can provide the affordable housing while still providing necessary commercial space for the area's



growing economic realm.

Existing City of Bellingham policies that support the plan concept include the following:

- CDP 1 – Buildings in transitional areas between residential and non-residential areas should consider the context of both areas.
- ED-28 “Develop or support programs that seek to provide an increased supply of workforce housing” (10).
- VB 7 – Where entire new neighborhoods are formed, development incorporates a system of connected park and open space corridors and human-scale arrangements of mixed housing types (F3).
- VB 26 – Increased housing density and infill exists in the downtown area and in other parts of the community that are appropriate for small lots or higher density housing, reflecting a variety of housing costs (F-5).
- VB 27 – Density bonuses for well-designed housing that complements existing neighborhood integrity



supplement new opportunities for mother-in-law apartments and duplex or triplex options, subject to design review standards and neighborhood input (F-5, F-6).

- CDG-15, “Multifamily developments in Bellingham provide pleasant and safe multi-family housing with convenient access to community services and recreation facilities for all members of the family” (CD-8).
- Visions for Bellingham, Housing, Goal 2, “Increased housing density and infill exists in the downtown area and in other parts of the community which are appropriate for small lots or higher density housing, reflecting a variety of housing costs” (11).

6.4.2 The Sohio District

Issues and opportunities

There were five specific sites chosen that highlight the issues and opportunities of the area.

The Habitat for Humanity building as well as other businesses sit upon a giant lot oriented away from Whatcom Creek. This site has many benefits that make it ideal for infill. It is dominated by a massive parking lot providing parking for the senior center as well as the surrounding businesses. With such a large amount of space, this presents the opportunity to infill with an equally large amount of residential, commercial and office space. In addition, the close proximity to Bellingham high school as well as the senior center provide opportunities to appeal to both demographics. To make best use of the space, careful consideration of the existing and projected demand of parking was necessary.

Next, the Bellingham Athletic Club site has many similar problems as the Habitat for Humanity site. With a large parking lot that is heavily used, it was necessary to weigh the benefits and the difficulties that might be encountered with increased infill. The site is located next to the Whatcom Creek Trail, providing an excellent opportunity to incorporate alternative forms of transportation like walking and biking.

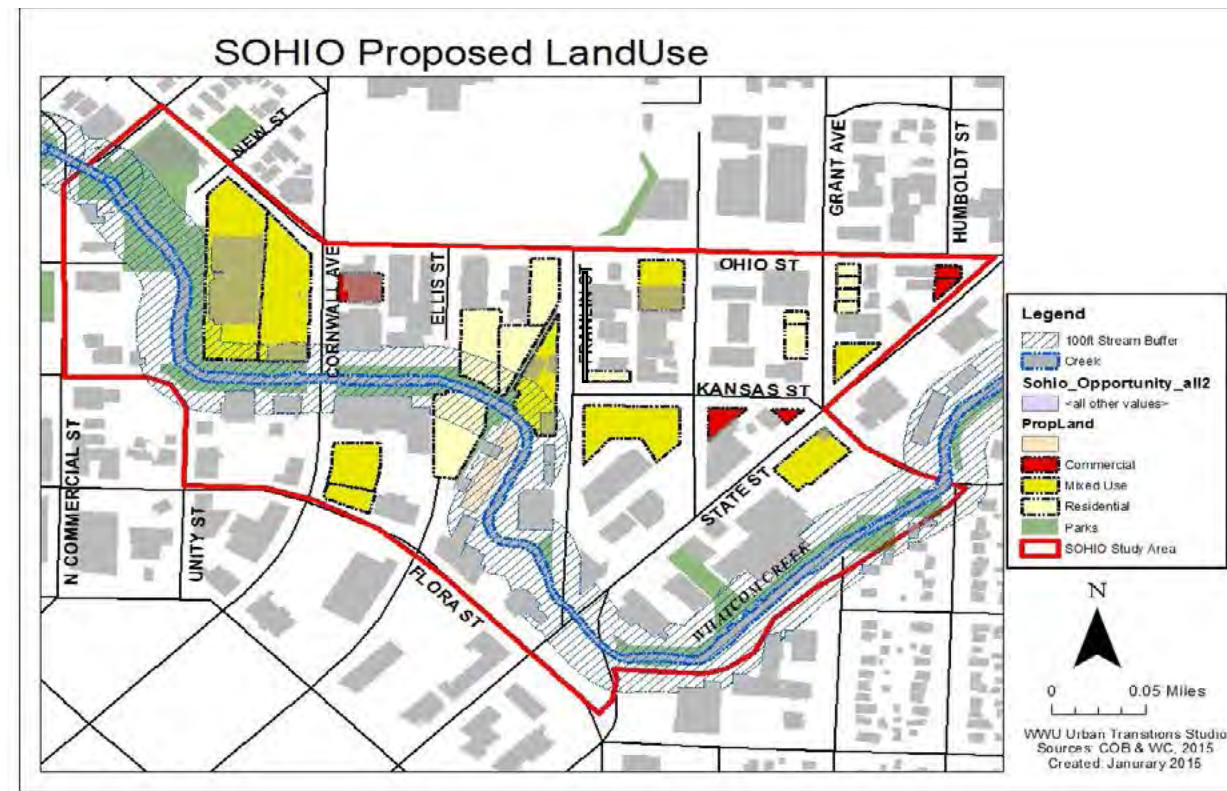
Another opportunity site is the currently vacant triangular lot located off of the Whatcom Creek Trail. While it's location cuts it off from any road, there is the possibility to add parts of parcels from surrounding underutilized spaces. While safety is a minor issue because of its location, with the incorporation of new buildings this issue would be diminished. In addition, this location is very close to the existing live/work units, providing the opportunity to expand upon the current residences in the area.

In fact, there are many opportunities in the area surrounding the live/work units. One of the goals of those occupying the live/work units is to develop more of a neighborhood since they are one of the only residential buildings in the immediate vicinity. There is limited parking currently, but this issue could be easily resolved with the implementation of increased on-street parking.

Finally, across the street from the live/work units is the Department of Labor and Industries. The towering building is accompanied by a massive parking lot that takes up the majority of the site. This provides the opportunity to infill residential space in order to work

toward the goal of creating a residential node around the existing live/work units. Again, because of its proximity to the Whatcom Creek Trail, alternative transportation methods would be easily feasible.

To determine the opportunity sites in Sohio, the capacity analysis data was used as a baseline. The capacity analysis data provided 31 opportunity sites. It was clear that some of these sites did not need redevelopment, therefore field verification reduced the number of identified opportunity sites. The analysis resulted in a total of 24 opportunity sites covering 10.3 acres, providing significant development potential. In some instances, a site may have been identified that would be



Area	Issues	Opportunities
(1) Habitat for Humanity Lot	<ul style="list-style-type: none"> Existing buildings Creek buffer Demand for parking 	<ul style="list-style-type: none"> Significant space Near high school and senior center
(2) Bellingham Athletic Club	<ul style="list-style-type: none"> Oriented away from creek Parking lot heavily used 	<ul style="list-style-type: none"> Near Whatcom Creek Can improve walkability
(3) Vacant Triangle Lot owned by City	<ul style="list-style-type: none"> Disconnected from road Safety 	<ul style="list-style-type: none"> Near pedestrian trail Near existing live/work units
(4) Live/Work Units	<ul style="list-style-type: none"> No surrounding neighborhood Limited parking 	<ul style="list-style-type: none"> Residential and work space Great beginning for a neighborhood
(5) Liquor Control Board	<ul style="list-style-type: none"> Existing buildings Safety Private ownership 	<ul style="list-style-type: none"> Near food bank Bike/pedestrian transportation

great for a single development but it spanned over the space of two or more parcels. Since sites are identified by parcel number and property owner, the data may convey that there are more opportunity sites than would appear if the parcels were merged by a developer.

Land use mix - Existing and proposed land use

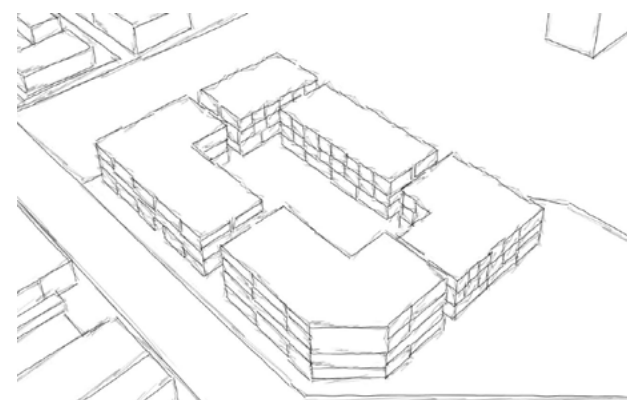
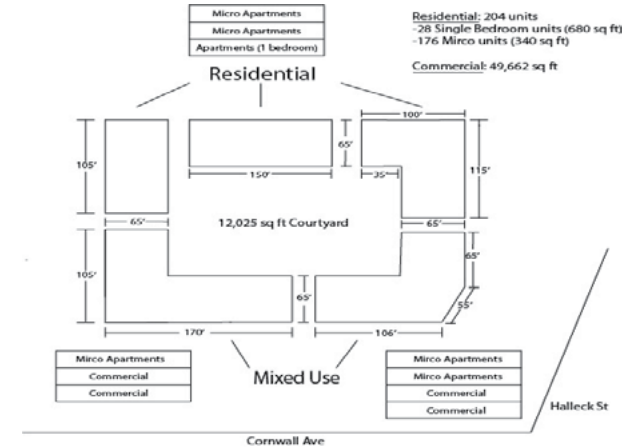
Currently, Soho's land uses are largely separated by type, dominated by commercial and some residential. It is characterized by the vacant areas designed for parking lots. In respecting the range of current land uses, the design goal was to increase variety of uses in order to create a more dynamic neighborhood setting. By emphasizing mixed use development, residents will have a variety of services in close proximity, encouraging walkability and a sense of neighborhood community.

Methodology and rationale

Sohio is a unique neighborhood with numerous attributes that make implementing infill a suitable option. Throughout Soho, there are 24 sites that were identified as either underutilized or vacant. Because of

the abundance of opportunity sites, infill is the most efficient and cost-effective option.

Whatcom Creek runs through a significant portion of the site. Because of the required 100 ft. buffer zone around the creek, the area has the potential to magnify the natural elements of the Creek and it's surroundings. Additionally, the Whatcom Creek trail parallels the Creek, providing a transportation and recreational option to residents. The trail continues from downtown onto Nohio. The proximity of the site to downtown Bellingham is another advantage to the district. The walking distance from north Soho to downtown is under 15 minutes, creating a feeling of coherence between downtown and Soho. There is a variety of services offered in downtown that will also benefit those in Soho, economically, socially and culturally. Many public services are located in the neighborhood as well, including The Department of Labor and Industries, Bellingham Food Bank, Whatcom County Civic Center Annex, and the Senior Center.

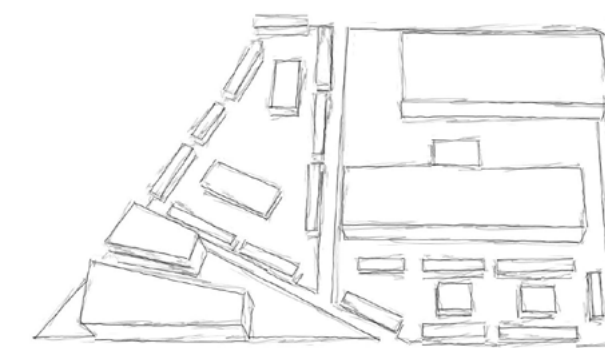


Letter Streets Urban Village

The Lettered Streets Urban Village would be located on the corner of Cornwall Avenue and Halleck Street, across from Bellingham High School. It is within close proximity to downtown and Lettered Streets neighborhood, while sitting on the edge of the civic center district. This massive lot currently serves five businesses and is dominated by a large parking lot. This site is ideal for high density mixed use, so the proposal would be to create five multi-story buildings with a large open

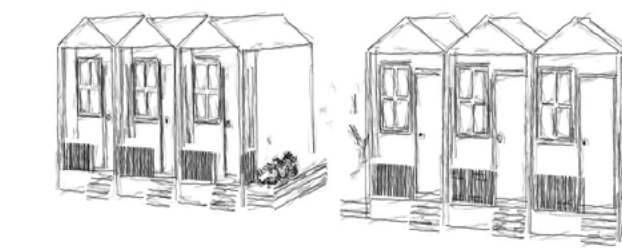
Type	Sq. Ft.	Dwelling Units (DU)
Total Residential	347,146	632
Homeless	7,795	65
Town	92,127	66
Micro	93,902	276
One-bed apartments	153,322	225
Office	81,251	
Commercial	96,145	

area in the center for residents to use. For the two buildings facing Cornwall Avenue, one will be three stories with commercial on the first and second floor, and micro apartments on the third. The other building will be four stories, the fourth story being an additional floor of micro apartments. The three other buildings along Whatcom Creek will all be three story residential buildings. The bottom floor apartments are one bedroom, and would serve as a great opportunity for housing people with disabilities because they are easily accessible, as well as serving elderly people because of the close proximity to the senior center adjacent to the building. The second and third stories would be additional micro apartments. The buildings differ in height to accommodate the buffer requirements of the Shoreline Master Plan. This project provides for a mix of uses and incomes, while leaving room for a community space. It also corresponds to the Downtown Bellingham Plan, which encourages dense, mixed use development within this area. There is an expansive demographic mix here that creates an opportunity for a project of this scale.



Homeless Village

The Homeless Village will be located along the Whatcom Creek Trail, adjacent to Ellis Street. It was designed to incorporate the use of three vacant sites. The first site is an empty triangular lot owned by the city, the second site is an underused parking lot, and the third lot is a partially vacant lot used for minimal outdoor storage. Combining the three sites will create an adequate amount of space for a homeless village. A new pedestrian walkway will be implemented that connects Whatcom Creek trail with Dean Avenue. This will provide the village residents with further walkable connections to the rest of Bellingham. Most homeless individuals do not use cars as a means of transportation, making the proximity to the Whatcom Creek Trail crucial. These lots are also in close proximity to the Bellingham Food Bank. This is a vital service for the homeless community and its proximity to the village is essential.





Sohio Redevelopment Perspective



6.4.3 The Iron Bridge District

Issues and opportunities

There are several potential redevelopment opportunities in the Iron Bridge sub district. However, parcel availability and other issues may need to be addressed in order to ensure the availability of infill sites for future redevelopment.

The Bellingham Schools Bus Facility parcel south of Whatcom Creek is currently underutilized in respect to its relative land value, and this plan envisions the repurposing of the site for more intensive uses. The recommendation for conversion of the Bus Facility for use as mixed use housing would require the Bellingham School District to consider the long term benefits of relocating the existing facility to another site and the community benefits of opening the parcel for higher economic utility. With the cost of public education continuing to rise and as local school districts continue to seek new funding sources, the conversion of the Bus Facility to a higher economic use may prove beneficial to the district's long term planning.

Area	Opportunities	Issues
Bus Barn Parcel	<ul style="list-style-type: none"> Large portion of underdeveloped land Connection to York Neighborhood 	<ul style="list-style-type: none"> School district ownership Cut off from north creek area
Hostess Building	<ul style="list-style-type: none"> Corner of James and Ohio Currently vacant 	<ul style="list-style-type: none"> High cost for acquisition
Hertz Corner Parcel	<ul style="list-style-type: none"> Corner of N. State and Ohio Underutilized land 	<ul style="list-style-type: none"> Currently owned Used for storage
Blue Commercial Building	<ul style="list-style-type: none"> Location on Iron St. 5 parcels 	<ul style="list-style-type: none"> Current business and ownership Dilapidated exterior
Fanatik/Red Commercial	<ul style="list-style-type: none"> Multiple businesses Large portion of open space 	<ul style="list-style-type: none"> No possibility of redevelopment Dilapidated exterior Said open space underutilized



The building previously occupied by Hostess Brands on the corner of James and Ohio is now vacant and is a prime site for redevelopment. Utilization of this parcel will be dependent on negotiating the high cost of acquisition due to the prime location next to the highway ramps. The corner parcel on N. State and Ohio is currently underutilized land that would be prime for new development. Ownership of the parcel by Hertz is an issue, so negotiating the area's usage as heavy equipment storage will be important in determining if future development can occur. The blue commercial building located on Iron St. is used by multiple businesses but has a dilapidated exterior.

Whatcom Creek, which runs through the Iron Bridge sub district, provides its own unique issues and opportunities. The 100 foot creek buffer cuts into developable land on many of the previously mentioned parcels and actually encompasses some of the existing buildings. This constrains planning for the redevelopment. However, the creek also provides a natural aesthetic that could be celebrated and utilized for providing the area with an enhanced sense of place. The buffer also provides opportunities for parks and walkways, a long time desire of the York neighborhood.

Through the capacity analysis ratio, three buildings were identified as redevelopable north of Whatcom Creek, along with the entirety of the "bus barn" site south of the creek. In total, 2.51 acres of land were identified as opportunities sites including the 100 foot development setback from Whatcom Creek. Through field verification, each of the identified sites were confirmed as redevelopable except for the building on the west side of the Iron Bridge sub-district, north of the creek. Although considered underutilized by the capacity analysis, four thriving small businesses currently occupy the building, giving space community value in its current state. Additionally, the building sits within the 100 ft. creek buffer, which would prohibit the redevelopment of the site if demolished.

Land use mix

Existing and proposed land use

In the Iron bridge area, commercial land uses dominate north of the creek and the bus facility occupies the south. In addition to a few areas of unused open space, the some of the buildings north of the creek are either not well maintained or up for lease. These conditions present the opportunity to provide the area with much needed redevelopment and updated commercial facilities. The ideas proposed the Bus Facility center around a need for urban infill in the form of townhomes, as well as an area of mixed use live/work development. This brings increased urban density and housing variety to the largely single family York neighborhood while sowing the seeds of successful local business for years to come.

Methodology and rationale

Ideas proposed for the Iron Bridge neighborhood lie in the need for increased density of housing in the City of Bellingham. Currently, the bus facility could accommodate more intense land use since over a quarter of the 3.8 acre area is unused. Additionally, the old Hostess building is in a prime location next to downtown and the highway and is currently empty and up for lease. The rational option for development in this area centers on a maximization of housing units. Therefore townhomes and live/work developments offer the greatest density of units while providing for new and diverse forms of housing in the Bellingham area.

Policies and principles

The policies that can be identified as a justification for the ideas presented in the Iron Bridge redevelopment area go as follows:

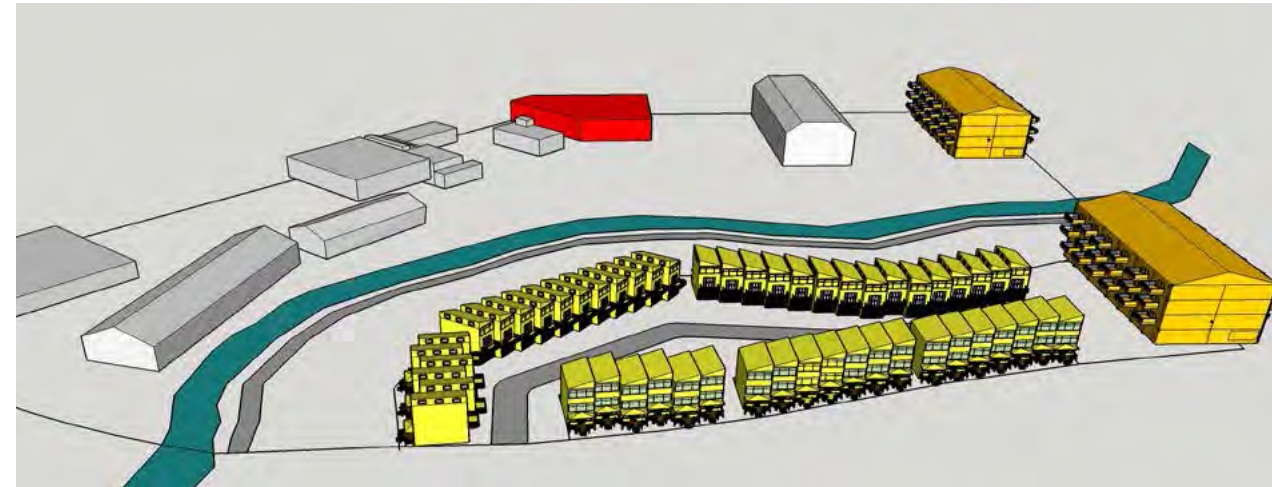
- CDP 1 – Buildings in transitional areas between residential and non-residential areas should consider the context of both areas.
- Economic Development (ED) Chapter states, “Bellingham accommodates a broad mix of jobs, while actively seeking a greater proportion of living wage jobs that will benefit a broad cross-section of the residents of the city.”
- ED-27 - Support the retention and growth of the industrial/manufacturing sectors and seek to attract new businesses to provide opportunities for skilled employment and living wage jobs.”
- ED-28 - Develop or support programs that seek to provide an increased supply of workforce housing.
- VB 7 – Where entire new neighborhoods are formed, development incorporates a system of connected park and open space corridors and human-scale arrangements of mixed housing types.
- CDP 1 – Buildings in transitional areas between residential and non-residential areas should consider the context of both areas.
- ED-28 - Develop or support programs that seek to provide an increased supply of workforce housing.
- VB 7 – Where entire new neighborhoods are formed, development incorporates a system of connected park and open space corridors and human-scale arrangements of mixed housing types.
- VB 26 – Increased housing density and infill exists in the downtown area and in other parts of the community that are appropriate for small lots or higher density housing, reflecting a variety of housing costs.
- VB 27 – Density bonuses for well-designed housing that complements existing neighborhood integrity supplement new opportunities for mother-in-law apartments and duplex or triplex options, subject to design review standards and neighborhood input.

- CDG-15 - Multifamily developments in Bellingham provide pleasant and safe multi-family housing with convenient access to community services and recreation facilities for all members of the family.
- Visions for Bellingham, Housing, Goal 2, “Increased housing density and infill exists in the downtown area and in other parts of the community which are appropriate for small lots or higher density housing, reflecting a variety of housing costs.”

Description of each land use

Townhouse – Townhouses in this area are three stories tall with the first floor being a garage, and the second and third story being the interior of the home. They are 15’x30’ each or 450 sq ft per floor for three floors overlooking Whatcom Creek and the new park area.

Live/Work and Live/Office - Live/work-office buildings in the area are four stories tall, with the bottom floor designated for business uses and the top 3 floors being used for housing. Both of these units are on corner lots giving them a lot of visibility making them an opportune site for businesses.



Commercial Retail - Commercial Retail for this area lies on the corner of State St and Ohio. This is a central location for this type of development because of its close proximity to downtown and the freeway onramp. In addition, this corner lot has extensive street frontage making it prime commercial property on a heavily utilized street.

Big Ideas

The Iron Bridge sub district recommendations operate with goals of positively influencing the bordering York Neighborhood and Lt. Industrial area by increasing diversity of housing type and connectivity between the two areas. Iron Bridge can be seen as a transitional zone, from the dense single family homes in the York neighborhood into the bustling industrial area of south Sunnyland. This can be achieved by gradually shifting the land use types to incorporate businesses and housing as you move away from York. Doing so lessens the sudden break between residential and light industrial that exists now.

Townhouses and Mixed Use

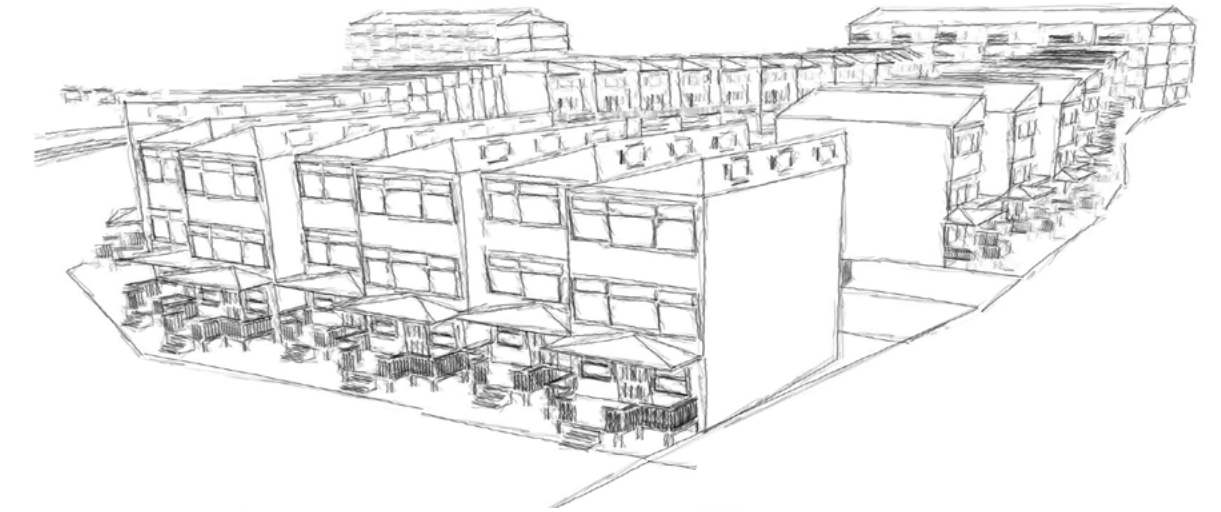
The underutilized bus facility parcel has the potential to be beautified, transforming from a neighborhood eyesore and polluter to the creek, to a thriving community addition of townhouses and small commercial businesses. With a combination of townhouses and live/work development, 124 residential units will fill 2.51 acres south of the creek, or about 50 units per acre. This could be done by subdividing the parcel in half, with the west parcel becoming townhomes along the creek and live/work housing on the east parcel. The introduction of townhouses and mixed use to this site will create an effective transition between the York and South Sunnyland, in addition to increasing the types of residences available in the area.



Environmental and Recreational Hub

The redevelopment of the bus facility and old hostess building requires 100 ft creek buffer. This leaves room for the creation of a linear park, adding to the character of the area and increasing the recreational and educational opportunities. Increased physical connectivity between the two neighborhoods can be achieved by adding a footbridge crossing Whatcom Creek adjacent to the

linear park. This cross creek connector will help residents embrace the two green spaces that can function as an environmental hub that the area is currently missing. The end of Iron Street will accommodate the food trucks that currently occupy the lot on Ohio Street, creating space that both residents of York and employees of Sunnyland can enjoy.



7.0 Outcomes and Impacts

7.1 Infill Analysis: On-Street Parking Capacity Analysis

Public Right of Way On-Street Parking Capacity Analysis

As the South Sunnyland neighborhood increases in density with mixed-use infill, logistical and safety issues will become more pressing. Infill inevitably means more vehicles will be in the area, and on-street parking within the right-of-way must be maximized through variations in parking schemes that are specific to each block in order to best fit the needs of the adjacent land uses.

Parking Capacity

There are several sites in the south Sunnyland neighborhood that are occupied by parking lots. These lots support the local businesses, customers, and residents to the area. To receive greater value out of the land use of these sites, moving to majority to on-street parking is required.

Methodology

Parcel improvement potential for properties in south Sunnyland depend on the amount of parking that can be transferred from on-site to on-street parking. The gross maximum for each proposed parking can be found in Table 7.2. To get these figures, a base length of 400 ft was used, as it was the average block length in the study area. This length was then measured throughout Sunnyland to find a number of segments that fit the base length. The maximum number of segments that could be developed for parking found was 92 segments. These segments were then multiplied by the base length to get an amount of feet that could be used to develop into parking.

The equation used is as follows, 400 ft x 92 segments = 36,800 ft for on-street parking development. Not all of this can be used for parking however. The reasoning behind this is the base length does not consider space for setbacks, driveways, fire lanes, etc. To accommodate for these variables, 60% of the block was deemed as developable. So a total of 22,080 ft (36,800ft x .6 = 22,080 ft) was found as the real potential feet available for parking.

Dictating one type of parking would not be realistic to fit the entire study area. Depending on the type of development around the area, a different parking scheme would apply to that corridor. This is why calculations for each proposed parking was estimated.

Each different parking type has a specific calculation that was use to find the amount of potential spots:

- For Parallel: number of spots = block length / 22 ft (stall width)
- For 90°: number of spots = block length / 9 ft (stall width)
- For 60°: number of spots = block length / 9.8 ft (stall width)

Type of Parking	Maximum Number of Potential Spaces
Parallel	1,003 Spaces
60° (Angled)	2,253 Spaces
90° (Perpendicular)	2,453 Spaces

7.2 Infill Analysis: jobs and Residences

Potential new jobs created

The number of jobs and housing units created can be estimated based on the total amount of infill development dedicated to each commercial, industrial, and residential uses. For commercial uses, 625 sq ft of new space is assumed to be required to support the creation of one new job (City of Bellingham Jobs Analysis Report). With a projected addition of 302,352 sf of added commercial space, approximately 484 new commercial and service sector jobs may be established. An estimated 775 sq ft of new industrial space is assumed to be required to create one new job. The addition of 26,864 sq ft of new industrial space may provide additional 35 employment opportunities. Thus, the infill recommended in the South Sunnyland planning district has the potential to create 519 new jobs.

Potential new residential units

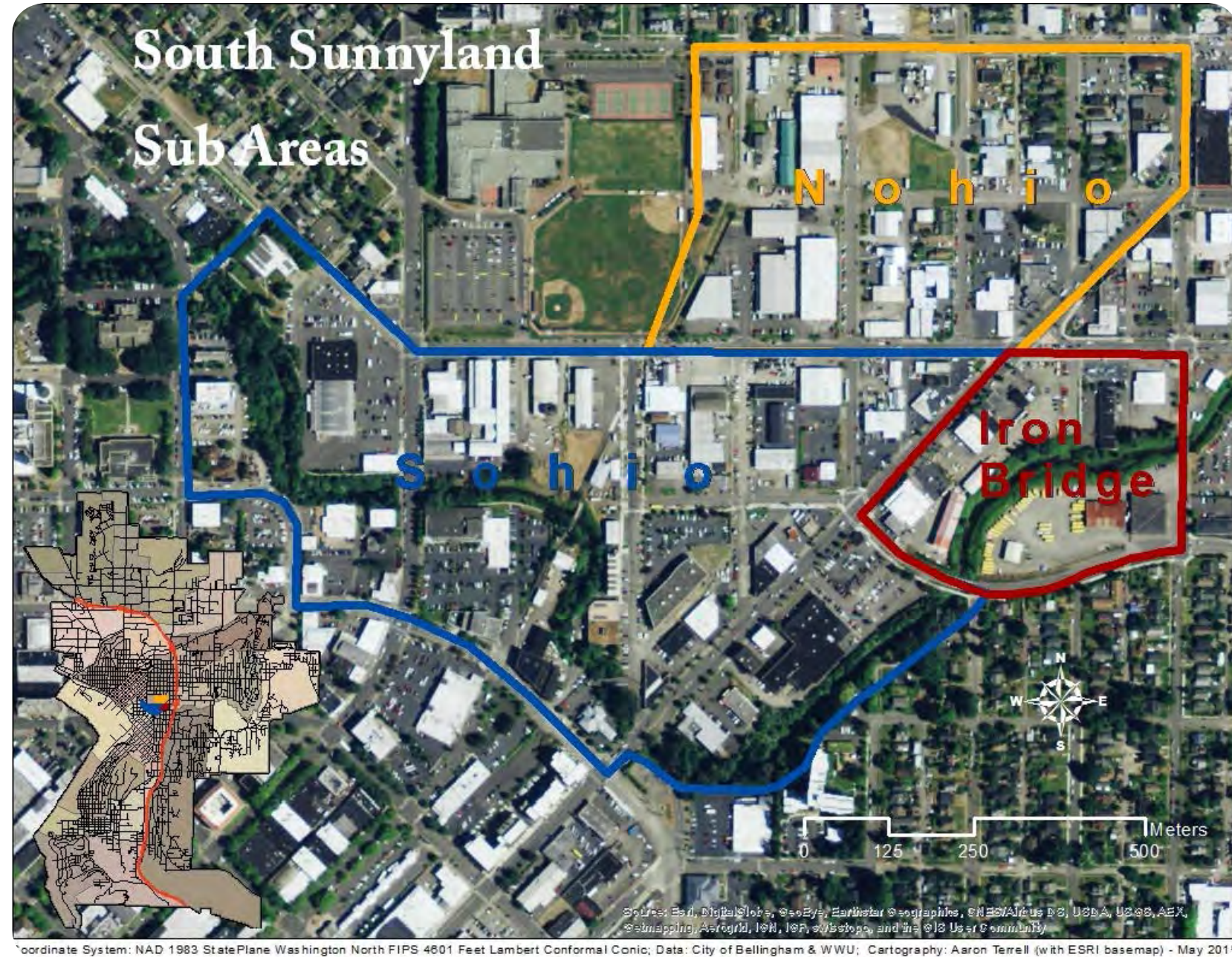
Based on the range of residential building typologies proposed, the potential for approximately 809 new residential units are projected, which can accommodate about 1,219 future residents. The number of residents per sf of space was determined based on the particular housing type. For example, 93,904 sq feet is provided for “micros housing” and assuming an average of 340 sq feet per unit, 276 micro units of housing are assumed. The townhouse units provide a total of 95,190 sq feet. Assuming an average unit of 1,440 sq feet, 66 new townhouse units are estimated. Further, assuming an occupancy of 2.1 persons per townhouse unit, this form of housing can accommodate approximately 138 new residents.

In total, 512,034 sq ft of new residential infill space is projected to accommodate about 1,219 future residents in the three planning districts.

Land Use:	Commercial	Industrial (based off 775 sq ft per job)	Residential/Live
Nohio	94,340 sq ft	26,864 sq ft	50 Units= 105 people
SOhio	177,132 sq ft		635 units=854 people
Iron Bridge	30,880 sq ft		124 units= 260 people
Total Amount of Sq. Ft./ Number of Units	302,352 sq ft		809 new units
Total Number of Jobs/ Number of New Resdients	484 New Jobs	35 New Jobs	
	519 New Jobs in Total		1,219 New Resdients in Total

SUMMARY OF DESIGN OBJECTIVES

DESIGN OBJECTIVE	PROJECTED RESULTS
1. Increase density with range of mixed land uses	841,250 sq. ft. infill capacity for mixed land uses
2. Create a strong sense of place respective of historic, industrial character	Design standards and building articulation should reflect “industrial” heritage and character
3. Emphasize important landmarks and create nodes of activity	Distinct residential, industrial, and commercial nodes of clustered land uses established
4. Ensure continuation of manufacturing and service employment	Over 500 projected jobs in industry/commercial services
5. Expand the city’s access to natural features	Creek improvements, linear park, improved access, buildings oriented to creek
6. Provide a functional / safe system for multi-modal connectivity	Improved connectivity throughout districts
7. Use of public right of ways for meeting parking requirements	Capacity for up to 2,453 on-street parking spaces encourages greater infill densities



SECTION 2: PLAN IMPLEMENTATION STRATEGIES

1.0 Overview of Plan Implementation

Implementing a plan for community infill and development is complex and multifaceted, there are many factors to consider at all stages of planning. In order to move forward past the point of simply ideas and into implementation, factors such as phasing, incentives and funding strategies, design guidelines, and regulations all were carefully considered.

2.0 Project Development Phasing

2.1 Overview - Rationale

There are numerous sites for development within Soho, Nohio, and Iron Bridge, therefore choosing the appropriate phasing was critical to ensure the healthy development of the community. It was important to consider the impact of different land use types upon the existing development in order to create community nodes and to ensure that the phasing made logical sense.

2.2 Soho Phasing Strategy

Soho is the largest district of the three, therefore it was critical to create community nodes throughout the district. This aspect was strongly considered throughout the process in order to benefit the existing communities needs and wants. As well as to have the community grow in a logical order with consideration for each development's effects on the surrounding area. Our main nodes are the Lettered Streets Urban Village as well as the Ellis Street Neighborhood Center Development.

2.2.1 Phase I

Lettered Streets Urban Village

The Lettered Streets Urban Village would be located on the corner of Cornwall Avenue and Halleck Street, across from Bellingham High School. It is within close proximity to downtown and Lettered Streets neighborhood, while sitting on the edge of the civic center district. This massive lot currently serves five businesses and is dominated by a large parking lot. This site is ideal for high density mixed use, so the proposal would be to create five multi-story buildings with a large open area in the center for residents to use. For the two buildings facing Cornwall Avenue, one will be three stories with commercial on the first and second floor, and micro apartments on the third. The other building will be four stories, the fourth story being an additional floor of micro apartments. The three other buildings along Whatcom Creek will all be three story residential buildings. The bottom floor apartments are one bedroom, and would serve as a great opportunity for housing people with disabilities because they are easily accessible, as well as serving elderly people because of the locational proximity to the senior center adjacent to the building. The second and third stories would be additional micro apartments. The buildings differ in height to accommodate the buffer requirements of the Shoreline Master Plan. This project provides for a mix of uses and incomes, while leaving room for a community space. It also corresponds to the Downtown Bellingham Plan, which encourages dense, mixed use development within this area. There is an expansive demographic mix here that creates an opportunity for a project of this scale.

Micro Apartments

A mixed use development with one ground floor of office space and two upper floors of micro apartment units will be located on the corner lot along wedged between Ellis

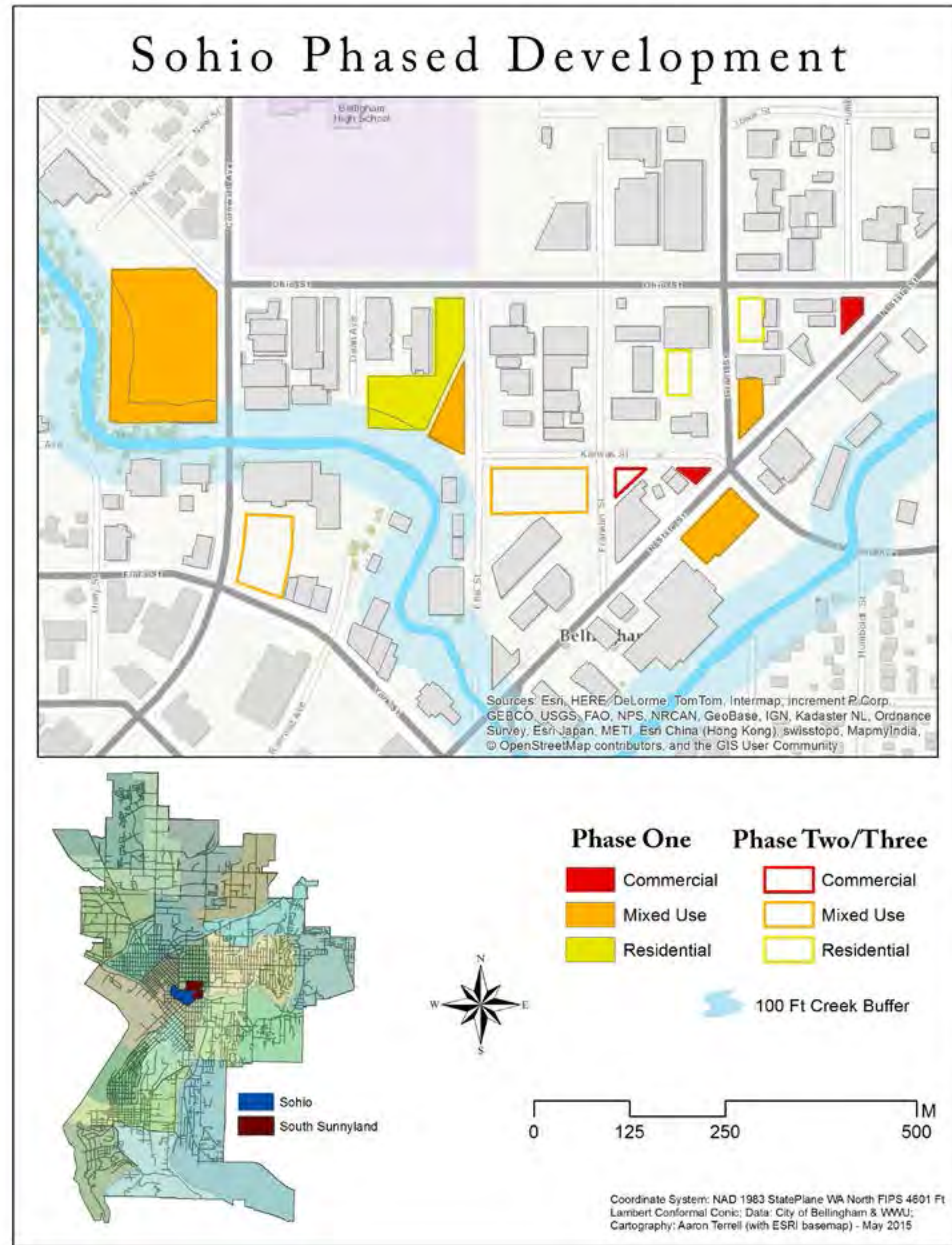
St and the Whatcom Creek Trail. The location is directly adjacent to the planned transitional housing site and would be able to provide potential housing for those who were ready to transition out of the village. The close proximity to Whatcom Creek Transitional Housing will help to create a node of activity in the heart of the Soho neighborhood.

Whatcom Creek Transitional Housing

The Whatcom Creek Transitional Housing development is village for those currently experiencing homelessness that will be located along the Whatcom Creek Trail, adjacent to Ellis Street. It was designed to incorporate the use of three vacant sites. The first site is an empty triangular lot owned by the city, the second site is an underused parking lot, and the third lot is a partially vacant lot used for minimal outdoor storage. Combining the three sites will create an adequate amount of space for a transitional housing site. A new pedestrian walkway will be implemented that connects Whatcom Creek trail with Dean Avenue. This will provide the village residents with further walkable connections to the rest of Bellingham. Most homeless individuals do not use cars as a means of transportation, making the proximity to the Whatcom Creek Trail crucial. These lots are also in close proximity to the Bellingham Food Bank. This is a vital service for the homeless community and its proximity to the village is essential.

Key Commercial Corners

Three corners are planned for commercial development during Phase 1. These include, the corner of State St & Meador Ave, the corner of State St & Kansas St and the corner of State St & Grant St. Encouraging commercial development along key intersections on State Street helps to start a corridor of development and activity leading into downtown Bellingham.



2.2.2 Phase II

Cornwall & Flora Buildings

This mixed use site sits at an active part of town close

to the Bellingham’s downtown commercial core transitioning into the South Sunnyland district. The proposed development consists of four mixed use buildings where a parking lot currently exists. The buildings would help to increase density of the area through infill while helping to enhance street life by pushing buildings entrances up to the sidewalk along Cornwall Ave. Currently, the area is almost completely lacking residential units, making this location ideal for residential infill.

Ellis Street Live/Work Units

The current live/work units located on Ellis Street are the only residential units in the area, posing a large need for residential infill. Live/work units are a medium density housing type proven to work well in the area already by providing work opportunities as well as housing.

Franklin Street Mixed Use Building

In order to build upon the growing residential needs in the neighborhood with the addition of residential housing, a mixed use building combines commercial space to provide goods and serves to residents while housing many more in the above micro units. The micro units are ideal for students, young professionals, and those moving on from transitional housing. Mixed use buildings complement the commercial core.

State Street Development

Currently, State Street is relatively auto-centric with few residential units near the road. Most are instead tucked back into nearby neighborhoods. The implementation of a mixed use development on state street would help to create a safer, more vibrant street life with commercial units on the bottom floor, while bringing more residents to the area. The development would also help shape the street by fronting buildings to the sidewalk with rear parking.

2.2.3 Phase III

Residential Buildings near Bellingham Fitness Club

In the back parking lot of Bellingham Fitness Club is the opportunity to add mixed use development. Currently, the area lacks many residential units. The building is envisioned to have office space on the ground floor and micro units on the upper floors. Not only is the building close to downtown, but it also sits next to Whatcom Creek Trail, providing the opportunity for alternative transportation.

Humboldt Street Live/Work Units

The addition of more live/work units to the Soho district reinforces the transitional nature of the area. There would be two developments on Humboldt Street almost across the street from each other. Both which would serve to add increased residential infill while helping to transition the area between downtown and the industrial feel of nearby businesses.

Ellis Street Neighborhood Center Development

The residential units in Soho have a need for a center to gather and build community roots. For this reason, the development on Kansas Street and Ellis Street would have two buildings that will serve as residential townhouse developments as well as another two buildings that should be mixed use with commercial on the bottom floor and micro units above. The development will serve a range of incomes and have a range of uses including a public plaza for the surrounding neighbors to use.

2.3 Nohio Phasing Strategy

2.3.1 Phase I

Mural Program

The mural program is envisioned to inspire the South Sunnyland community by creating a series of murals on the blank industrial walls throughout the entire study area. There are more blank industrial walls in the Nohio district, thus the mural program would be more prevalent there. Implementing the mural program in Phase I would help create a greater sense of place in the community while embracing the existing industrial character of the area. This program could help South Sunnyland become a more attractive place to live and work, as well as spur future development. Relative to the other planned projects within the study area, the mural program would be inexpensive to implement. It would be an easy way to make South Sunnyland a more desirable place to live.

Industrial Intesification

The proposed Nohio area will not only retain the existing industrial activity, but effectively increase similar light industrial uses as well. Providing incentives targeted at intensification of the already industrialized area will increase usage density. This addition of industrial opportunities may lead to increased employment opportunity as well, complementing the residential developments in the Soho and Iron Bridge regions. Concentrating these land uses provides an opportunity for residents to work near their home, reducing traffic impacts across Bellingham.

Entrepreneurial Center

Due to the highly industrial character of the Nohio District, and lack of amenities within the Nohio district, the plan calls for an entrepreneurial center on the vacant lot adjacent to the Pacific Pride fueling station. The goal of the Entrepreneurial Center is to serve a broad commu-

nity with a center that serves entrepreneurialism. The Entrepreneurial center is envisioned to be a “maker-space” where the public can access tools and technology that would empower them to create their own products; which they could sell. The center would be a private business that features computer access, work spaces, and rooms for meetings. The center would also feature private spaces for rent, which could be subsidized for low income entrepreneurs. It is also envisioned that the center could be a space where classes on technology and business practices could be conducted. The goal of the center is to foster new businesses from the ground up. The plan calls for the center to be a part of the first phase of the project to improve quality of life to the district, and give residents access to more amenities while providing a center for community life.

Bicycle/Pedestrian Trail Improvements

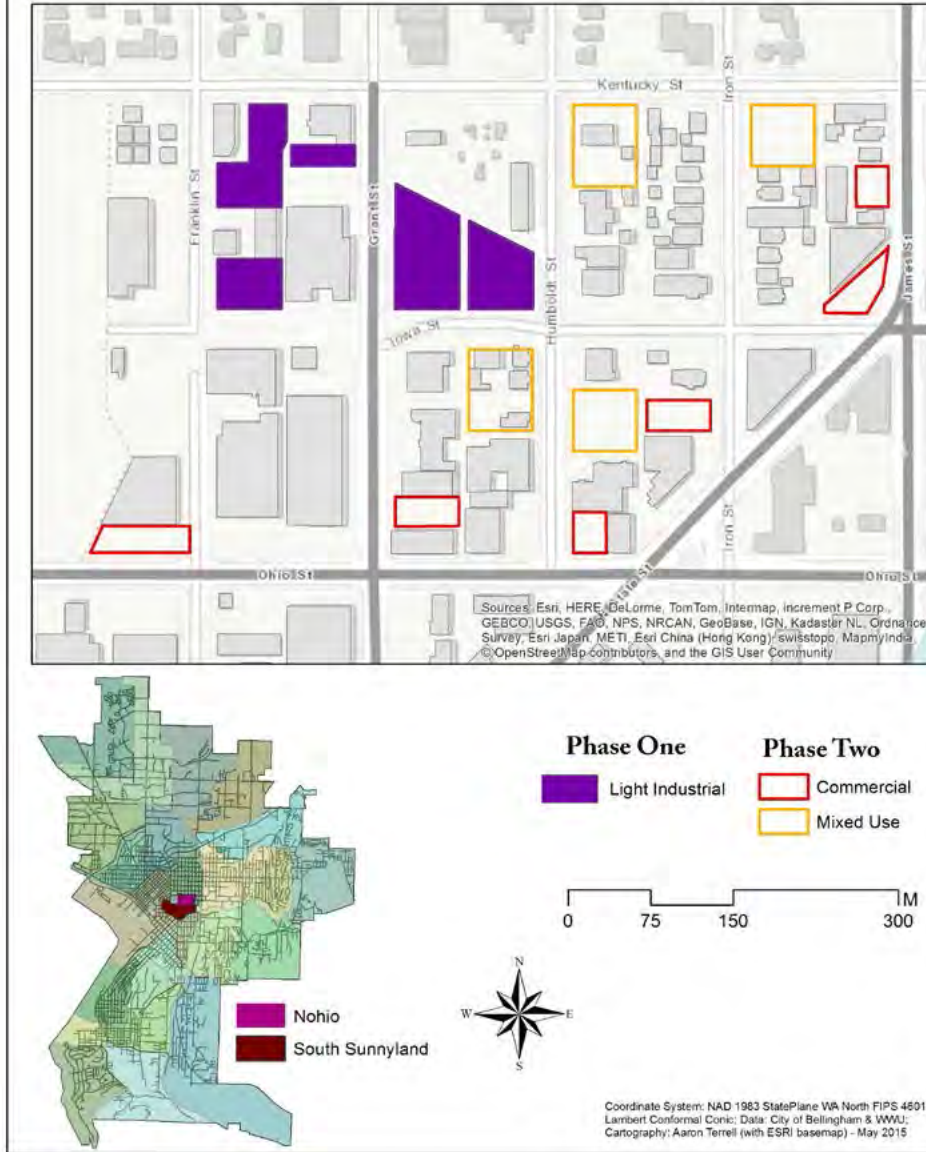
The bicycle/pedestrian trail that goes through Nohio and Soho is a direct route to the commercial core of downtown Bellingham. The trail provides a great opportunity to reduce personal vehicle trips and encourage pedestrian activity within the study area. Including the trail improvement in Phase I will provide a sustainable transportation alternative to personal vehicles for work based trips as well as recreational trips. It will also help connect downtown with the proposed bike boulevard on Grant St. which would provide greater mobility and accessibility.

2.3.2 Phase II

Live/Work Units

The plans calls for the development of live - work units within phase two of Nohio’s plan. Residential development through live - work units is being suggested in phase two instead of phase one, because quality of life needed to first be improved to support residents moving into a still active industrial area. The plan imagines that live - work units would be most attractive to employees

Nohio Phased Development



creative business practices to locate within the area. Currently the only live - work units within the City of Bellingham are within the Sohio district. This new housing form could help promote the industrial, blue collar/working class, eclectic character of the Nohio district.

Commercial Intensification

The South Sunnyland Neighborhood already provides a range of services which provide residents and visitors with the day to day services they need. The proposed development in the region will bring new commercial buildings in addition to the already existing retail stores, offices, and restaurants. To promote the development of these new commercial buildings the use of Business & Occupation (B&O) Tax reductions may be utilized. A similar reduction in the Transportation Impact Fee (TIF), which all development projects are subject to paying, may also be used to entice developers to choose a particular site. Eliminating or reducing these fees can provide an additional reason for developers to move into a specific area when comparing it another. Other non-financial incentive exist for developers. Any development, commercial included, is subject to receiving benefits such as expedited permitting, which allow faster processing of proposals without the city for fitting any tax revenue.

2.3.3 Phase III

Residential Infill

The entire build out of the area is expected to take place over a 20 year period. There are proposed residential projects in the Sohio and Iron Bridge districts throughout the Phase I and Phase II timeline respective to market demand. During this initial period, increased commercial and industrial uses are proposed in the Nohio district. This can provide increased services and employment opportunities for the entire neighborhood. With the suspected increase in residential demand, the plan proposes implementing residential development in Nohio during

Phase III development. These additional residential units could compliment the Phase I and II developments well.

2.4 Iron Bridge Phasing Strategy

The phasing order of implementation within the Iron Bridge area is essential in facilitating the neighborhoods transition and effective development. Primary attention to the creation of residential components and cultivation of environmental connections will ensure a strong foundation upon which later phasing and development will be viable.

2.4.1 Phase I

Townhomes

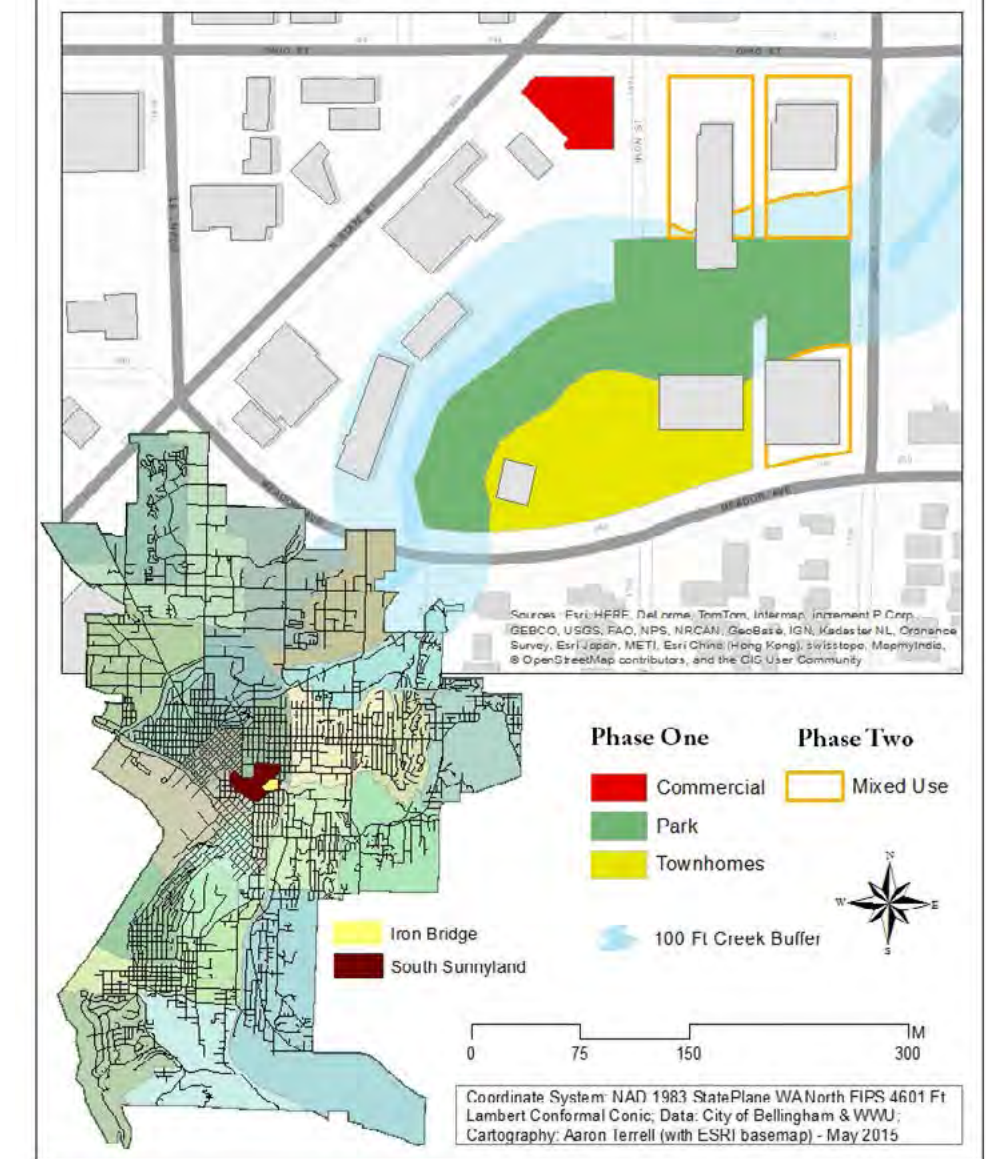
Development of the 52 townhomes units on the Bellingham Schools Bus Facility parcel is the number one priority in developing the Iron Bridge area. These homes would be the first residential development in the area and would compliment the York residential district directly to the South. Creating a residential aspect in Iron Bridge and the rest of the Sunnyland development would help establish a sense of place and encourage more trips in or around the neighborhood.

Furthermore, the townhomes would be developed near Whatcom Creek. The plan's concept is to utilize the creek as a natural community gathering and interaction zone. However, this can only be achieved with a certain amount of residents that would frequent the area. Therefore, adding these residential units would add to the attraction to the area.

Whatcom Creek Park

Part of the effort to make the creek a central community gathering point and interaction zone is to implement a park along the creek through the Iron Bridge neighbor

Iron Bridge Phased Development



who are currently commuting to work within the Nohio industrial area. This housing type also encourages more

hood. The park would incorporate the 100 foot buffer of the creek making it aesthetically appealing and an environmentally sustainable choice. A footbridge would cross the creek connecting to Iron Street on the other side, where a food truck and picnic area would be located. Considerable work would go into landscaping and getting rid of invasive species as well.

The creation of the park in Phase I of development is important because it pairs with the townhome development to create an immediate sense of place around the creek and the Iron Bridge Neighborhood. The low level development of the park would also mean it could be completed in a relatively short amount of time.

Commercial Building (Corner of Ohio and N. State Street)

The corner of Ohio and N. State is an ideal location for commercial development given its high visibility and volume of transportation through the area. The development of this parcel in Phase I is important as it combines with a joint effort between all teams to intensify development along the N. State Street corridor. Greater intensification of development in the area will encourage more walkability and thus a greater community atmosphere.

2.4.2 Phase II

Live/Work Buildings

These developments will occur on the intersections of James St. and Meador Ave. as well as James St. and Ohio St. The first floor will be provide for offices or workshops, while the top 3 stories contain residential units. These buildings will be created in Phase II because it will give time for the townhouse development to grow and create further housing and job demand in the area.

2.5 Capital Improvements Phasing Strategy

2.5.1 Phase I

Taking the projects of each area created a priority for what corridors would need to be developed first. The Phase I corridor priorities found are the Whatcom Creek Trail, Ohio Street, North State Street, Meador Avenue, Kansas Street, and the current bike trail. Below is a map showing where each Phase I project would be and how they are designated in the South Sunnyland neighborhood.

Corridor Cost Estimates

The overall cost estimates for the corridors during Phase I is \$1,285,48.28. This total cost is broken up into two sections, \$431,715.60 from street costs and \$223,297.68 for Whatcom Creek Trail.

Street Costs

The corridors in Sunnyland have several key streets for phase I. This includes North State Street, Meador Avenue, Kansas Street, Ohio Street and the current bike trail. The improvements that would incur costs are as follows: development of Meador Avenue and Ohio Street, installing a bike boulevard on Kansas Street, the addition of a median on North State Street and lights along the bike trail. The total of these improvements would total to the amount of \$1,062,186.60.

Street Costs Methodology

Using \$500,000 as the average cost to improve one block was the base used. This number was supplied from Chris Comeau, the AICP CTP Transportation Planner of the City of Bellingham. What is included in the \$500,000 is lighting, five feet of sidewalk, four feet of planting strip, 12" curb and gutter, storm water drains, and underground conveyance utilities. This does not include however street surfacing or asphalt dedicated to vehicle parking.

Because every street is different in terms of what needed to be done an average cost per foot was found.

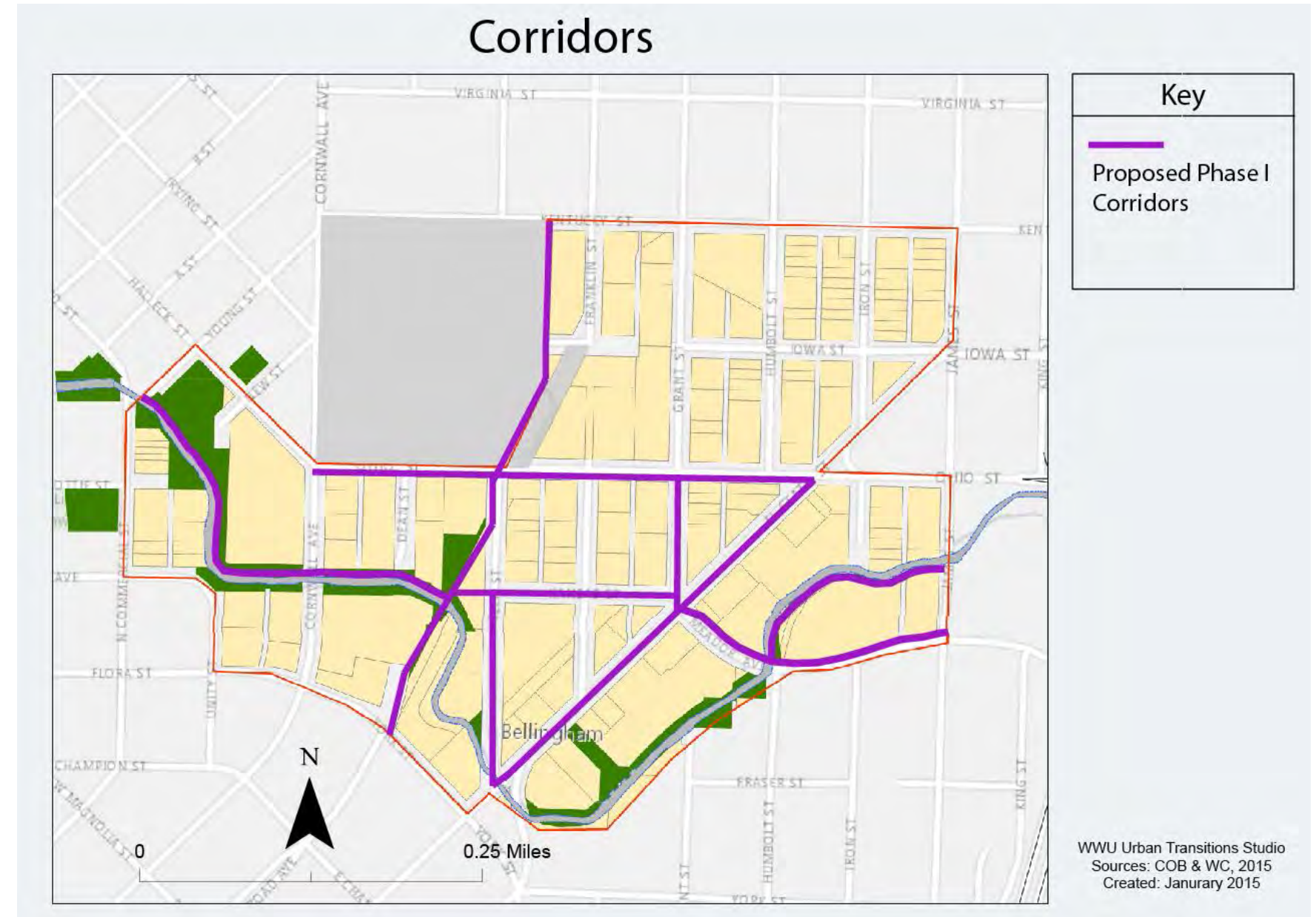
By taking the averages from three block widths and three lengths from the Sunnyland area, and dividing the \$500,000 average cost by this would give us a total average cost of \$657.90 per foot. This average cost was then be used when the majority of the corridor was being improved.

For Meador Avenue 600 feet on the North side would be developed with new sidewalk, parking, and planter-strip, so this the majority of the corridor was deemed as improved. The 600 feet was then multiplied by the \$657.90 average and an improvement cost of \$394,740 was found for Meador Avenue.

Costs for Ohio Street were provided by Chris Comeau in the Non-Motorized Transportation Projects Scheduled for TBD Funding 2015-2016 document that estimated intersection improvements and the addition of bike lanes and removing the South side parking to cost \$257,700.

Installing a bike boulevard on Kansas Street would cost \$1731.60. Using the cost of implementing a bike boulevard on Texas street from the Non-Motorized Transportation Projects Scheduled for TBD Funding 2015-2016 an average cost was found by dividing the cost of the project and dividing that by the length of the project. This gave an estimated cost of \$2.60 per foot of bike boulevard. This times 666 feet which is the length of Kansas Street gave the total estimated cost of \$1,731.60.

The current bike trail was also included as street costs for the Sunnyland area. The improvement that would be done is the installation of lights along the trail to increase the safety and nighttime use of the trail. The current trail is 1,570 feet taking that length and dividing it by the trail design standard of lights of 40 feet. This equates to 39 new lights that would be needed to provide adequate lighting on the trail. The cost of these lights was found



to be \$6,000 per light. This number was found by using the City of Redmond Right of Way Performance Bond as substitute. A total cost for the bike trail is then found by multiplying these numbers and coming to a total of \$234,000.

The implementation of planterstrips and a median on the lower half of North State Street is estimated at \$431,715. The measurement of the new median would cover 850 feet. This was multiplied then by the average cost to improve one block that was found earlier. This total cost was \$559,215. Because there are already lights on North State Street, the cost of lights can be removed from this total. Using the cost for street lights through the City of Redmond Right of Way Performance Bond, and the amount of lights in the section of development the cost to be deducted is \$127,500. The total estimated costs for North State Street are then estimated to be \$431,715.

Whatcom Creek Trail

The new area for Whatcom Creek Trail is split into two sections. The first is from Cornwall Avenue to Ellis Street along the North side of Whatcom Creek. This part is 643 feet of new trail. The second addition is 760 feet in the Iron Bridge development from Meador Avenue to James Street along the South side of Whatcom Creek. In total the new trail added in Sunnyland is 1,403 feet at a cost of \$223,297.68.

Whatcom Creek Trail Methodology

To find the costs we used material prices from the Natural Resource Specialist from the City of Bellingham Parks and Recreation. The surface is ¾” limestone gravel that costs \$22.50 per ton. To find the total amount of tons that we would need for the area we had 1,403 feet (the total length), multiplied by 10 feet (the width of the trail) and multiplied by 6” (the depth of the trail). This comes to a total of 7,015 feet of needed limestone. Taking the 7,015 feet and dividing that by 27, which is the amount of cubic feet, to find the amount of cubic yards which is 259.8 cubic yards. The cubic yards were then multi-

plied by 1.3 tons (the amount of tons in a cubic yard) and get 337.8 tons. This tonnage was then multiplied by the material cost of \$22.50 to get a total surface cost of \$7,599.58.

Along with the surface of the trail there is a required base that is another cost incurred. The base material costs \$14.50 per tons. Using the tons needed for the new trail from about (337.8 tons) and multiplying those numbers a total cost of \$4,898.10 is the estimated material cost for the base.

These two totals were then added together to get an overall cost for materials and would be \$12,497.68. This does not included signage or lights however. Basing street light costs from the City of Redmond Right of Way Performance Bond, an estimated cost of \$6,000 per light was used. Because the design standards were to have lights every 40 feet, we divided the total amount of new trail by 40 feet to get the number of new lights for Whatcom Creek trail. the number that would have to be purchased would be 35 new lights. The cost per light (\$6,000) multiplied by 35 new lights would give the total cost of new lighting, which is \$210,000.

New signage would also be beneficial to help promote the new connection added in the Whatcom Creek Trail. Basing costs from Redmond, signs were given a base rate of \$100 per sign. The amount of signs wanted were as follows. One sign at each entrance on the new addition of trail. The entrances are: Cornwall Avenue, Ellis Street, Meador Avenue, and James Street. Allowing signage along Kansas Street as well would help guide trail users to the other connections. Four signs would be able to provide enough direction until the new addition became embedded as the trails normal route. In total eight new signs are needed to help the functionality of Whatcom Creek trail and a total sign cost of \$800 is added.

Capital Phasing Strategy

Because there are limited estimated costs for the imple-

mentation of Phase I, different funding strategies can be used to fund all of the projects. For the street improvements of \$1,062,186.60, taxes would be the easiest to apply. The type of taxes would be property taxes such as the Community Revitalization Financing act mentioned below in Chapter 3.3.1. Another way to pay for these costs is to have the private investors develop the sidewalks accordingly to the design standards when the property is acquired. For Whatcom Creek Trail, funding would come from the Greenway Levy in Bellingham. These funds are primarily obtained through a property tax levy that are meant to raise funds for park development. This and other methods are explained more below in Chapter 3.3.3.

3.0 Implementing the Project: Development Incentives and Funding Strategies

3.1 Narrative Paragraph Introduction

The suggestions made in the plan for the South Sunnyland Neighborhood development is contingent on the ability for funding a variety of projects. A combination of public and private investment must be allocated to the redevelopment of sites in the study area. A variety of sources are available to provide funding to many of these projects. The key is to appropriately identify and utilize the most effective funding methods for each project. The primary source of investment will come from private development, which will be encouraged by a range of incentives through the City of Bellingham. Incentivising private investment will increase the expediency and quantity of development seen in the study area, producing results which reflect the values the plan has identified as being beneficial to the neighborhood.

South Sunnyland Urban Village Funding Methods					
	Project	Partners	Incentive	Funding Method	Description
Public Projects	Street Improvements			CRF Act	Tax increment financing/value capture
				Transportation Impact Fee	Fee imposed on developers for public transportation projects
	Transitional Housing Development	City of Bellingham, Quixote Village, Opportunity Council, Whatcom Homeless Service Center, Lydia Place, Housing Interest Pool (HIP)		WA State Department of Housing Federal CDBG	State and Federal funding methods through grants and acts
				State Homelessness & Housing/Assistance Act (state document recording fee)	
	Trail Improvements	City of Bellingham (Greenway Advisory Committee)		Greenway Levy Funds	Voter approved property tax levy initiatives for park and trail projects
		City of Bellingham, Federal Program		Land and Water Conservation Fund (LWCF)	State Assistance Program program provides 50:50 matching grant to state and local communities for parks and recreation resources
	Entrepreneurial Center	COB	Brownfield Redevelopment Opportunity Zone (ROZ)		
		Community Members + Private building owners + COB		Neighborhood Matching Fund	A City Of Bellingham fund that matches most or all of the money, materials, and labor put into a community development project that was initiated, planned and executed by community members
	Mural Project	Community Members + Private building owners + COB		Neighborhood Matching Fund	
		WA Arts Commission + COB		Cooperative Partnership Grants	Grants to support artistic and cultural development, and expand the arts participation in communities throughout WA

3.2 Table of Funding Methods

See Table to left.

3.3 Funding Strategies for Project Elements

3.3.1 Street Improvements

The Community Revitalization Financing Act (CRF) Chapter 39.89 RCW is a type of tax increment financing program that authorizes local governments to finance public improvements by using future increased revenues from local property taxes generated within a designated “increment area.”

The local government must adopt an ordinance designating an increment area (IA) and specify the proposed public improvements. The CRF program does not require state approval or rely upon state contributions. The CRF program only uses property tax as a source of revenue and does not use local sales tax.

CRF program stipulations require that an IA must include at least 75 percent of regular property taxes and that the city is allowed to use 75 percent of any increase in assessed property value. The city can then borrow against the projected future increased revenues by issuing bonds and pledging the taxes to the repayment of the bonds over time.

Generated revenues from this program can be used to finance a number of public improvements including 1) street and road construction and maintenance, 2) water and sewer system construction and improvements, 3) stormwater and drainage management systems, 4) sidewalks and streetlights, and 5) park facilities and recreational areas.

The study area measures about 76 acres, roughly about 12 percent of a square mile. The CRF program is an ideal

candidate for a public funding mechanism because it is created and administered at the local level and does not require state approval or legislative action, unlike the LIFT program. Projected future revenues from property tax will be a large portion of funding to account for public improvement projects in the study area without using revenues from sales tax.

Additional funding for the construction and improvements of transportation facilities could come from the City of Bellingham's Transportation Impact Fee (TIF). TIFs are to accommodate for the impact that new development or redevelopment has on the transportation network. The fee is applied to new developments throughout the City of Bellingham to fund public infrastructure projects regarding new arterial streets, sidewalks, bicycle lanes, and other physical improvements to the City's on-street multi-modal transportation network.

3.3.2 Transitional Housing Development

Transitional housing provides citizens with an opportunity to receive shelter while finding alternatives for permanent housing. Integrated with social services such as counseling, medical, mental, or addiction treatment, people can be provided with an opportunity to support themselves and transition to a self-sufficient lifestyle.

The transitional housing development proposed in the Sohio district is largely inspired by Quixote Village, a



Residents Moving into Quixote Village

transitional housing development in Olympia, WA within Thurston County. Quixote Village, which is self-governing and supported by the non-profit Panza, is comprised of 30 tiny cottages, a community building with a shared kitchen and living spaces, and a community garden. Quixote Village's success sets precedent for a development similar to it in Bellingham. The funding for Quixote Village was made possible through money from the Washington State Department of Commerce's Housing Trust Fund, federal Community Development Block Grant (CDBG) funding, funding from state document recording fees through the Homelessness Housing and Assistance Act, community and individual donors, and donated services from an architect and civil engineer. In addition, Thurston County leased the land for \$1 a year for \$41 years. As Quixote Village is within Washington State, many of the funds are also available to the proposed development in Sohio.

The Bellingham Housing and Community Development Fund receives money through the CDBG and the 2012 City of Bellingham Housing Levy. The Sohio Transitional Village could receive funding through this program as nonprofits are the eligible applicants and the proposal complies with the goals of the program. Applications are received by the Bellingham Department of Planning and Community Development. A portion of the land for the proposed Transitional Development in Sohio lies on publicly owned land, which Bellingham could lease to the Transitional development for a low price such as Thurston County's \$1 a year lease.

Funding for potential community garden development can be found from sources such as the Home Depot Foundation through their Community Impact Grant Program or the Fiskars Project Orange Thumb program. Many opportunities such as these are available to provide monetary support if the development includes a community garden aspect.

Again drawing from the example of Thurston Coun-

ty's Quixote Village, there is an opportunity to form a partnership between the Sohio Transitional Village and several organizations that work for the betterment of Bellingham's homeless population. The Whatcom County Coalition to end Homelessness (WCCEH) is a consortium of public and private agencies and nonprofits that work to find homes for families and individual who are homeless. Organizations in the consortium include City of Bellingham Housing and Human Services, Northwest Youth Services, Opportunity Council, and Whatcom Homeless Services Center. The Transitional Village in Sohio is proposed to lie adjacent to Whatcom Creek and Whatcom Creek Trail, as well as a few blocks down from the proposed park in the Iron Bridge district. To encourage operational sustainability of the Village, a stewardship program run by an agency or organization within the WCCEH in which Village residents act as stewards of the creek and the park would provide residents with skills training as well as potential pay as essentially Public Works employees, allowing the Village to charge a small rent if the program proves successful.

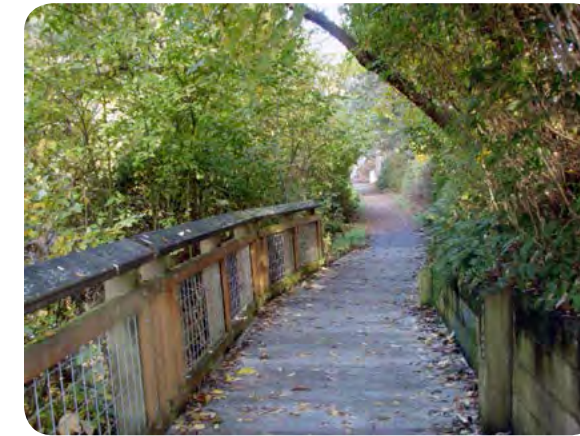
3.3.3 Trail Improvements

The proposed improvements of both the Whatcom Creek Trail and the pedestrian/bicycle trail are eligible for funding through the Greenway Levy in Bellingham. The Greenway Program was created to provide funding for parks and recreation developments through voter approved property tax levy initiatives. The trail improvements comply with the vision of the Greenway Program to connect Bellingham from its shorelines to ridgetops through parks, trails, and forests.

The Washington Wildlife Recreation Program serves as another source of funding mainly for the Whatcom Creek Trail improvement proposal. The funding is sourced from general obligation bonds and matching requirements depends on the agency applying for grants. Eligible projects include acquisition, development, and restoration. Components sought in project applicants include riparian protection and trail development, aspects of the

trail improvement projects. Applications for funding are received by the Recreation and Conservation Funding Board for consideration.

Funding for projects specifically related to stormwater management and riparian restoration in conjunction with the trail development can be found through Washington Department of Ecology Water Quality Program Funding grant. Applications are accepted for the Water



Whatcom Creek Trail

Quality Combined Funding Cycle which places the application under consideration for the Clean Water State Revolving Loan (CWSRF) loan, Centennial grants or loans, Section 319 grants, and Stormwater Financial Assistance grant program. The funding opportunities seek applicants with projects related to nonpoint source pollution mitigation and stormwater mitigation, applicable to the pedestrian/bicycle trail which plans to implement stormwater pollution mitigation practices such as bioretention facilities and pervious pavements.

The Land and Water Conservation Fund (LWCF) is a federal level program that secures funding from offshore drilling revenues to promote preservation of open lands

and parks and recreation opportunities throughout the nation. The State Assistance Program provides 50:50 matching grants to state and local communities for park development. LWCF grants exist in four categories - planning, acquisition, development/redevelopment, and a combination of acquisition and development. Bellingham has several examples of projects completed with funding from LWCF, including acquisition of Boulevard Park, Whatcom Creek acquisition and trail development, and Cornwall Park renovation. Although controversial, this funding is available for trail development in the district.

3.3.4 Entrepreneurial Center

The proposed Entrepreneurial Center would improve community engagement by giving community members and business owners a chance to increase their skill-set and economic productivity.

The main source of funding for this project would come from community and private sources, and could be increased by a Neighborhood Matching Fund implemented in Bellingham. Similar funds can be found in other urban area such as Seattle. The city would set aside money for the fund to match part, or all, of the money, materials and labor that the community puts into the project. In order to qualify to receive these funds, the project must be initiated, planned and executed by the community members themselves. The project must also benefit the health and wellbeing of the community it is proposed. Since the Entrepreneurial Center is designed to increase the wellbeing of the community members' economic vitality, this project is a perfect fit for a Neighborhood Matching Fund. If Bellingham had a fund like this, it would provide better funding for the implementation of the Entrepreneurial Center.

Due to the location of the proposed Entrepreneurial Center - in the vacant lot adjacent to the Pacific Pride Gas Station - the site could potentially be contaminated by underground gasoline storage tanks. This could

discourage the future development of this lot because of the required clean-up necessary to bring the site up to health and safety standards. To mitigate this potential development obstacle, the City of Bellingham's Brownfield Redevelopment Opportunity Zone (ROZ) program would be an asset in this situation. The City of Bellingham would provide the developer with the funds to accomplish the required clean-up efforts.

3.3.5 Mural Program

The proposed South Sunnyland Mural Program is designed to bring color and life into the area while embracing the industrial character that already exists. The program would extend throughout the study area and would primarily appear on the blank walls of the various industrial and commercial buildings. Because the Mural Program depends on the participation of local business and property owners, getting their cooperation is essential.

The Mural Program would not only bring a creative character to the South Sunnyland neighborhood, it could also increase the amount of customers retail businesses receive in the area, due to the increased foot traffic of the mural spectators. The participating business and property owners could partner with Bellingham High School, and local artists and art groups, in order to create the works of art for this program. Because the Mural Program would be increasing the amount of interacting and participation the South Sunnyland community would have with the art world, it is a perfect candidate for the Washington State Arts Commission's cooperative partnership grants. These grants aim to increase the amount of public participation in the arts in order to expand and diversify the audience of the art world. Since the Mural Program would largely be run by the local community members themselves - high school students, local business owners, and local artists - the program would also qualify for the Bellingham Neighbor-

hood Matching Fund; if such a fund existed in the city. A very similar project was funded by Seattle's Neighborhood Matching Fund; the Seattle Mural Project.

3.3.6 Multifamily and Affordable Housing

In order to promote affordable housing within the project boundaries, the project can take advantage of City of Bellingham's Multifamily Tax Exemption incentive program and Affordable Housing Funding Program.

The Multifamily Tax Exemption program is a state program which the City of Bellingham is expanding upon. The program is targeting developers to build more multi-family developments within targeted areas in Bellingham. According to the City of Bellingham target areas include, "Downtown, Old Town, Samish Way and Fountain District urban villages". The program offers an eight year property tax exemption from City of Bellingham and State taxes. The tax exemption applies to the value of new multi-family development. Developments that have taken advantage of this program include the Morse Square Condominium development, which created 374 living units. Since completed development in 2007, the development has saved \$1,260,494.00 in taxes. Desired multi development like Morse Square could be added to the study area if integrated into the City of Bellingham's target area.



*Morse Square Condominium Development
1015 Railroad Avenue, Bellingham WA 98225*

The plan also seeks to promote affordable housing throughout the project area. The Affordable Housing Funding Programs offered through the City of Bellingham could be an option in bringing affordable housing to the study area. The City of Bellingham program takes advantage of the United State's Housing and Urban Development's (HUD) Community Block Grant (CDBG) program. The CDBG program offers grant money from the federal government to developments which promote affordable housing. Affordable housing, as defined by HUD, should not cost more than 30% of a person's monthly income. Another federal funding option through HUD is the HOME program, which provides monies to local jurisdictions for affordable housing projects.

Affordable housing developments seeking to receive grant money can apply for the grant through the City of Bellingham. Applications go through a review process by the City of Bellingham. Developments seeking grant monies granted through the federal government are determined by the City of Bellingham City Council. The City of Bellingham also offers funding through local levy funding. Developments seeking funding through City of Bellingham levy monies must go through an application process with the City of Bellingham. The Community Development Advisory Board reviews projects annually, submits recommendations to the Mayor of Bellingham, who then decides on which projects to fund.

One development which has benefited from this program is Catholic Housing Services which developed 36 apartments above the commercial space within the Washington Grocery building in downtown Bellingham. The project received \$349,498.00 from the City. The project was funded by the Low Income Housing Tax Credit Program, which is a federal housing program which awards money to different jurisdictions for affordable housing projects.

3.3.7 Innovative Land Use and Infill

The plan calls for new innovative housing types being integrated into the project boundaries, as well as filling in vacant lots. These land use types include: townhouses, micro housing, and mixed use building with commercial on the bottom floor and housing or office spaces on the second and third stories. Due to the zoning changes being recommended throughout the project area, some land use types are being designated as non-conforming uses. Changes in zoning designations throughout the project area aim to encourage more intensive land use types like multifamily housing as compared to single family residences.

To promote dense development throughout the project area, the plan recommends adopting a program similar to the City of Ferndale's Downtown Core Incentive Program. To encourage phasing out non-conforming uses within Ferndale's City Center Zone, the City is waiving 100% of the administrative fees for projects which will replace non-conforming uses, or develop a vacant lot, with a conforming use. Administrative fees include: Permit fees, plan check fees, Technical Review Committee fees, storm inspection fees, water meter installation fees, and sewer hookup fees.



*Washington Grocery Building
1133 Railroad Avenue, Bellingham WA 98225*

The plan recommends that the City of Bellingham adopts a similar incentive program to the City of Ferndale's Downtown Core Incentive Program, and designates the project area as a target area for program. Developers could apply to the City of Bellingham for elimination of administrative fees if their development either fills in a vacant lot within the project area, or eliminates a non-conforming use with an innovative land use approved by the plan.

3.3.8 Iron Bridge Park

In order to help promote the linear park which the plan calls for in the Iron Bridge Townhomes development, a park dedication in lieu of the park impact fees that the developer would normally pay. The park proposed for the Iron Bridge development is within the 100 year floodplain of Whatcom Creek, and therefore cannot be developed. A greater public use for the shore setback zone is to use the area for a public space.

Instead of leaving the space blank and without use, the park impact fees could be waved for the developer if they agree to dedicate the designated land for park purposes. The park would then be maintained by the City of Bellingham, and used as a park and open space for the public and residents of the Iron Bridge Townhomes development. A similar program is being conducted in Pennsylvania, and could be used a template for the City of Bellingham if they wished to expand the program throughout the city. The program in Pennsylvania gives developers multiple options in how they are going to support parks. Developers can either dedicate land in lieu of fees, pay park impact fees, construct recreational facilities themselves, or privately reserve land for park or recreation purposes. For more information on Pennsylvania's program please refer to footnote number one.

An alternative funding strategy includes the Greenway Levy fund. One of the goals of the levy is to connect trails throughout Bellingham, which the park will fulfill by connecting to existing trails throughout the Sunnyland

neighborhood, and support greenways along Whatcom Creek.

The park could also receive funding from the City of Bellingham's Park Impact Fee. The fee is applied to new developments throughout the City of Bellingham to fund public infrastructure projects regarding comprehensive park, recreation, and trails programs. Part of these funds could be used to fund the park proposed by the Iron Bridge Townhomes development.

Additionally the park could receive funds through the Land and Water Conservation Fund, which is a national funding program operated through the National Park Service. The plan class for creek restoration next to the Iron Bridge development, and could therefore access from the Land and Water Conservation Fund. The program matches funds to jurisdictions for acquisition of recreation facilities like parks. The goal of the program is to promote more outdoor, high quality public recreation areas throughout the nation.

3.3.9 Targeted Commercial Infill

The South Sunnyland Neighborhood already provides a range of services. The proposed development in the region will bring new commercial buildings in addition to many of the existing retail stores, offices, and restaurants. To ensure the development of these new commercial buildings the use of Business & Occupation (B&O) Tax reductions. A similar reduction may also be used to entice developers which is the Transportation Impact Fee (TIF). All developments are subject to paying TIF's when constructing a new development. Eliminating or reducing these can provide an additional reason for developers to move into a specific area when comparing it another. Other non-financial incentive exist for developers. Any development, commercial included, is subject to receiving benefits such as expedited permitting, which allow faster processing of proposals without the city for fitting any tax revenue.

3.3.10 Targeted Light Industrial Infill

The project area has been historically established as an active light industrial district. The plan encourages the continued growth of light industrial uses in the designated light industrial sub districts. In order to support the continuation and growth of light industrial practices throughout the project area, the plan recommends that the City of Bellingham adopts state incentive programs. Washington State Department of Revenue offers multiple tax incentive programs, seeking to support manufacturing and light industrial practices throughout Washington State.

Three programs offered by the State which could help generate more light industrial business within the project boundaries are the Machinery and Equipment (M&E) Sales & Use Tax Exemption program, Remittance of State Sales Tax for Warehouses, Distribution Centers, Grain Elevators, Cold Storage program, and B&O Tax Exemption for Manufacturing Fresh Fruit and Vegetables, Dairy and Seafood Products program.

The Machinery and Equipment (M&E) Sales & Use Tax Exemption program is available to manufacturers who are performing research and development on various manufacturing processes. In order to qualify for the program, the manufacturer must purchase approved machinery that directly apply to manufacturing research.

The Remittance of State Sales Tax for Warehouses, Distribution Centers, Grain Elevators, Cold Storage program is available to wholesale companies or third party warehouse companies. These companies must own or operate grain elevators, warehouses, or cold storage warehouses. The program also applies to retailers who are operating distribution centers. In order to qualify for the program the above permitted businesses must construct a 200,000 square foot distribution center, warehouse, or a grain elevator with a capacity of one million bushel. The plan encourages more warehouses to be integrated into designated light industrial districts in the project

area, but grain elevators and cold storage businesses would not be appropriate within the project area. The third program offered through the state is the B&O Tax Exemption for Manufacturing Fresh Fruit and Vegetables, Dairy and Seafood Products program. The program is available to manufactures involved with fresh fruit, vegetables, dairy and seafood products. The program is separate into three separate categories: Fresh Fruit/Vegetables, Dairy Products, and Seafood Products. The plan supports companies involved with manufacturing fresh fruits and vegetables, due to low nuisances associated with these projects, but do not recommend allowing dairy and seafood processing businesses within the project area.

4.0 Fiscal Revenue Analysis

With the proposed infill development of the South Sunnyland neighborhood, there would be an expected corresponding increase in the value of the land within and around the project area. We have taken information from the Whatcom County Assessor's office to develop a quantifiable assessment methodology for projecting future possible increases of land values. Land values were found for the following land use types; retail, mixed-use, Townhomes, light industrial, and Live/work. With these proposed land values we intend to show the potential tax base revenue stream that would be generated from the proposed South Sunnyland Neighborhood development. By coming up with possible tax revenue, we can show the benefit to the city in regards to how improvements to the area could be funded.

Methodology

The methodology used for determining the values was using comparable building types, land uses, and lot sizes located in the greater Bellingham area. Ten comparable parcels for each of the five land use types were identified using the assessor's data from City IQ, 50 parcels in total were used in our assessment (Appendix#). Through the Whatcom County assessor's records we found land value and improvement values for each parcel of each land use type through the following method.

For improvement values of parcels with multiple structures or dwelling units, a sample of the structures or dwelling units on the parcels was added together and then averaged to determine the improvement value of that parcel. Once improvement values were found for each parcel they were divided by parcel square footage and then averaged for each comparable parcel of that land use type. A similar methodology was used for finding land values; these values were found by dividing the land value of each parcel by its parcel square footage and then averaged the values for each parcel of that land use type.

Townhomes as well as Live/Work housing was a unique challenge for the market analysis. With a lack of both housing types we found the closest possible comparable structures. For townhomes we found condominiums set up in a row house style and attempted to find them located in similar settings (abutting a creek/green space). Many of these properties are owned by the Bellingham Housing Authority and thus the land and improvement values skewed particularly low. To adjust for this we have included a Floor Area Ratio (FAR) multiplier to account for this fact as well as to represent that most units would have a larger FAR then the ground level square footage of the parcel. In addition to the FAR multiplier, a column has been added to show adjusted land and improvement values when the low outlier parcels that are owned by the Bellingham Housing Authority are removed from the analysis.

In the case of Live/Work units, Bellingham is home to only one set of this land use type; these are located on Ellis Street. Due to the lack of like comparables, our analysis only represents this one parcel in terms of land and improvement values.

Land Use	Land Value	Improvement Value	Adjusted Townhome Values	FAR Multiplier (200%FAR)
Mixed-Use	\$41.61 /Sq. Ft.	\$89.74 /Sq. Ft.	N/A	N/A
Retail	\$25.34 /Sq. Ft.	\$57.83 /Sq. Ft.	N/A	N/A
Light Industrial	\$10.64 /Sq. Ft.	\$13.93 /Sq. Ft.	N/A	N/A
Townhomes	\$12.45 /Sq. Ft.	\$34.36 /Sq. Ft.	Land =\$15.38 Imprv. =\$41.32	Multiply by 2
Live/Work	\$14.90 /Sq. Ft.	\$85.67 /Sq. Ft.	N/A	N/A

Phase One Valuation			
	2015	2020	Difference
Land Value	\$7,687,146.00	\$9,781,427.00	\$2,094,281.00
Improvement Value	\$7,189,755.00	\$16,980,853.00	\$9,791,098.00
Total Value	\$14,876,901.00	\$26,762,281.00	\$11,885,380.00
Tax Revenue* <small>*\$11.47 per \$1000 of property value</small>	\$170,638.00	\$179,062.00	\$8,424.00

Phase 1 valuation was determined by multiplying land use values by the developable square footage on each parcel designated for phase 1 development.

Total Valuation of Sunnyland Infill Implementation			
	Today	Total Build Out	Difference
Land Value	\$65,888,716.00	\$70,832,613.00	\$4,943,897.00
Improvement Value	\$114,999,969.00	\$150,878,652.00	\$35,878,683.00
Total Value	\$180,888,685.00	\$221,711,265.00	\$40,822,580.00
Tax Revenue* <small>*\$11.47 per \$1000 of property value</small>	\$2,074,793.00	\$2,543,028.00	\$468,235.00

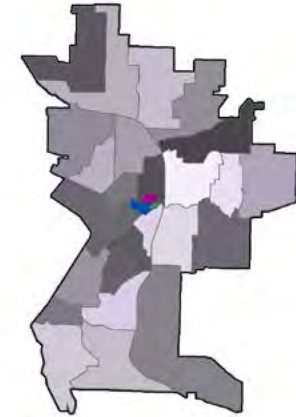
Total valuation was determined by evaluating each parcel based on allowable land uses. These figures are a rough estimation based upon valuations applied to phase 1 development plans and averaged according to zoning.

Phase One Development Opportunities

Land Use

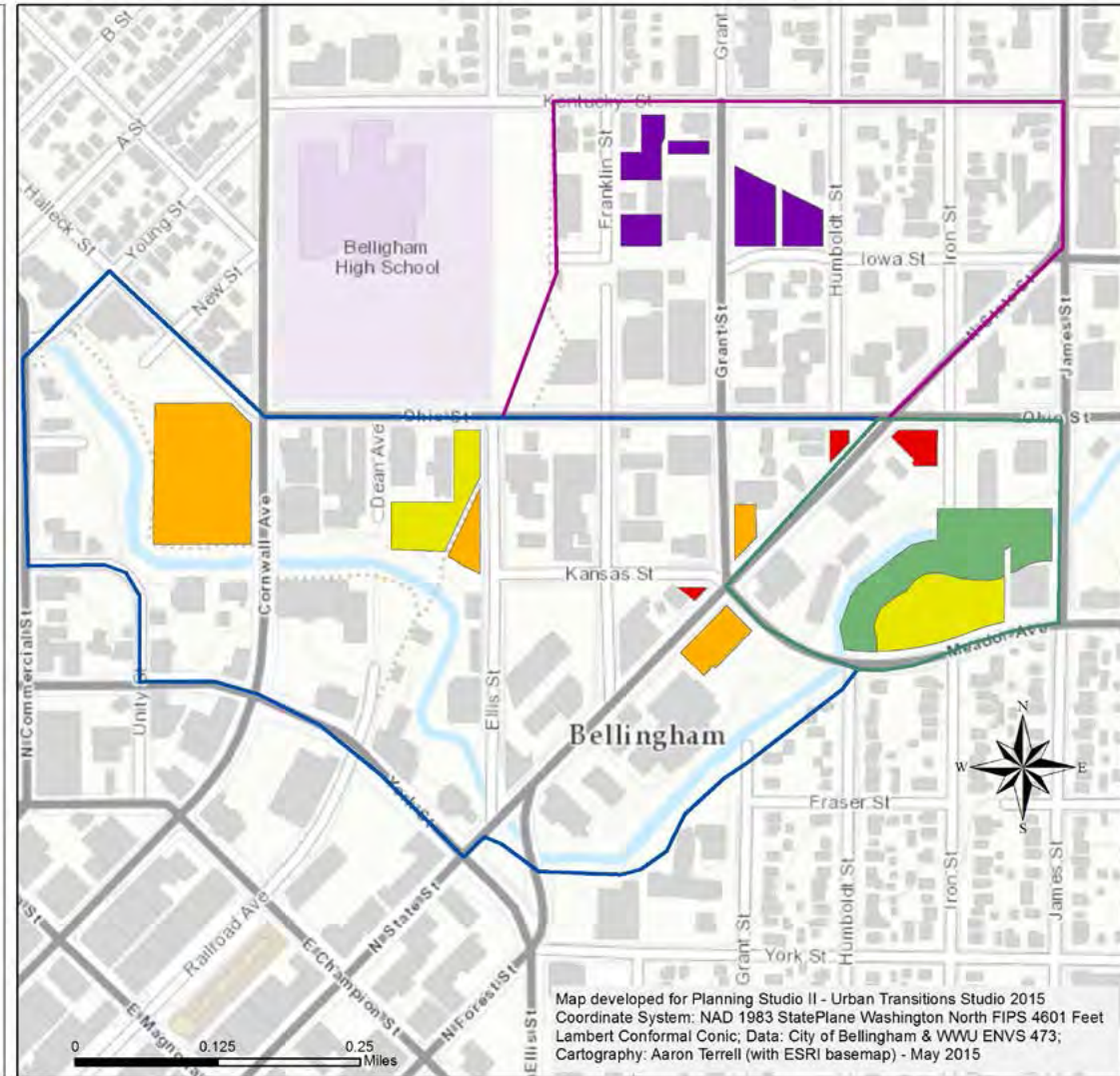
FutLandUse

- Commercial
- Light Industrial
- Mixed Use
- Park
- Residential

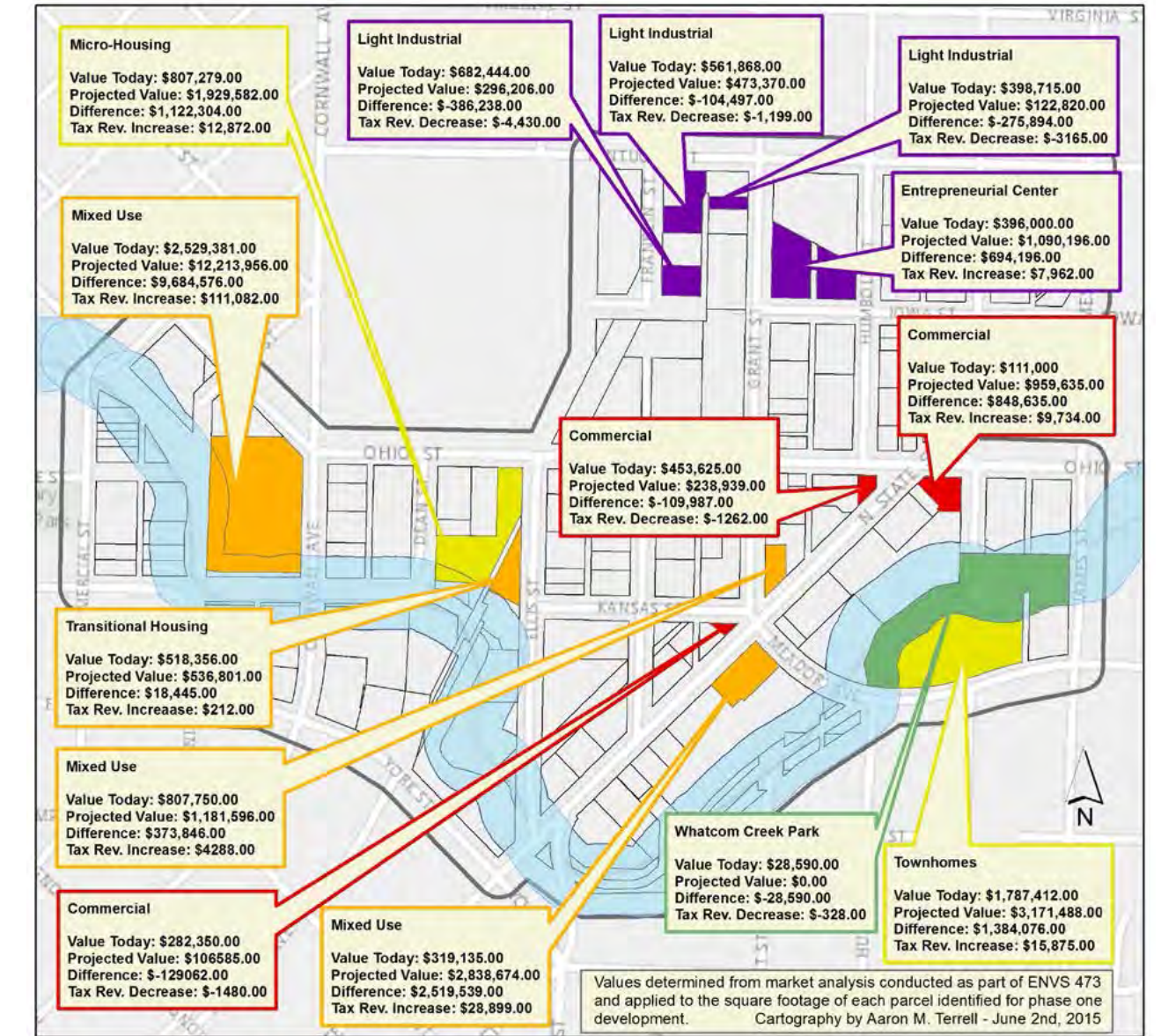


Subareas

- ◆ Iron Bridge
- ◆ Nohio
- ◆ Sohio



Phase One Improvements



Phase One Valuation







5.0 Design Guidelines

5.1 Building Guidelines

5.1.1 District-Wide Guidelines

Regulations for the district are meant to serve as guidelines for the district with the aim of cohesiveness and sense of place throughout, as illustrated in the following tables.

<p>Use of Public Right of Way</p>	<p>The public right-of-way is an opportunity for community activities to enhance the character and street presence of the district. The following uses are encouraged:</p> <ul style="list-style-type: none"> • Gardens: Either decorative or edible gardens of local flora. • Game courts: bocce ball and horseshoe courts are inexpensive to make and help bring the community together. • Bike Parking: An efficient use of space, bicycle parking makes bicycle transportation more accessible to the public. 	 
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<p>Neighborhood Gateways</p>	<p>Neighborhood Gateways serve to mark the entry into the district, creating a strong sense of place.</p> <p>Potential locations for neighborhood gateways include:</p> <ul style="list-style-type: none"> • North State St and Ellis St intersection • North State St and Ohio St intersection • Cornwall Ave and Ohio St intersection • Cornwall Ave and Kentucky St intersection • The design of the gateway signs should reflect the industrial history and/or natural features of the area. 	
<p>Natural Features</p>	<ul style="list-style-type: none"> • Whatcom Creek serves as an important natural feature to the district. • Development should be oriented towards natural features. • A primary goal of the district is restoration of natural resources. Development should be carried out with restoration as a major factor. • Whatcom Creek provides the opportunity to help connect important bike and pedestrian pathways together within a natural setting. 	

Public Art

- Unique, colorful, and artistic creations should be featured throughout.
- When possible, artwork should incorporate Sunnyland’s historic past and industrial present.
- Artwork should be funky yet functional. Some ideas for attaining this goal include:
 - Musical water pipes
 - Community chalkboard
 - Murals
 - Public hammocks



Signage

- Signs should be designed with a combination of industrial and artistic elements.
- Signs should be colorful and use industrial materials like wood and iron, and steel.



Interpretive Signs

- Where swales, rain gardens, and the creek exist, interpretive signs should tell the story of their importance to sustainable development and their specific role in the community.



5.2.1 Site and Building Design Guidelines

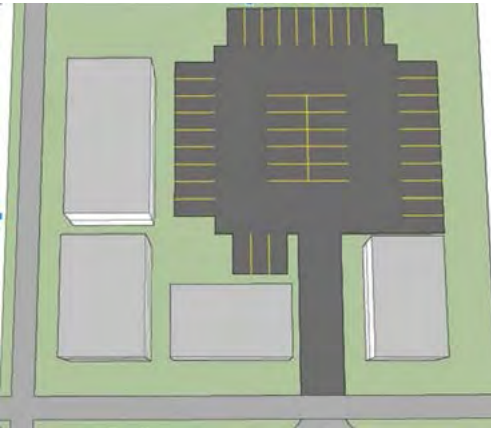
Mixed Use

Mixed use development is a land use type mostly seen in downtowns and in larger cities. However, it's efficient design characteristics make it a great option for the Sunnyland neighborhood. Although the design provides for a range of uses, a primary use will have retail or office space on the bottom floor and micro units on the upper floors. The small size of the micro-units not only help to increase density within Bellingham but also allow for a portion of the units to be easily dedicated to fill low income housing needs. It may serve as transitional housing for homeless individuals moving out of short term emergency housing, or it may provide housing for lower income individuals including college students and young single workers who may not need or desire larger living accommodations. The ground floor of these units should be reserved for commercial, retail, or office space, providing work for those who live in the units or those who live in the neighborhood. Therefore, the design should follow that of a typical mixed use building, with a mostly transparent ground floor oriented for pedestrian access, little to no setback from the street, and on a scale of three or more stories. Similarly to the Live/Work units, mixed use land use should complement the industrial neighborhood with its materials, but on a larger scale. These materials would include things such as, exposed steel framing and support beams, corrugated metal siding, or a brick facade. It should be visually obvious that the structure is sound, long lasting, and unique.

Site Guidelines

1.0 Parking

- All parking should be located behind the buildings. If space is not available, it could go along the side of the building, but it should not be placed along the road.
- Parking requirements for micro housing units may be waived when consistent with an area-wide parking plan. This provision is intended to allow on-street parking and off-site parking to meet parking requirements for this land-use.



3.0 Landscaping

- Landscaping around the building should not block views into and out of windows.
- Landscaping may be used to signify entrances.



3.0 Bike Access

- Bike parking: one spot for each employee and each resident, plus 15 extra space for guests.
- Bike racks should be innovative and artistic.
- Pathways should connect bike transit from the street network to the building entrances and bike parking.







4.0 Pedestrian Access

- Pathways should connect pedestrian transit between the street network and the building entrances. If applicable, there should also be pedestrian pathways connecting multiple building entrances.




Building Guidelines

<p>1.0 Siding Material</p>	<ul style="list-style-type: none"> • See Siding Options Below 	
<p>2.0 Roof</p>	<ul style="list-style-type: none"> • Roofs should be flat. • Roofs could be a light color, include a green roof, include solar panels, provide a rooftop terrace with tables and chairs, or a mixture of those options. 	
<p>3.0 Transparency percentages</p>	<ul style="list-style-type: none"> • First floor of buildings facades should have a minimum transparency of 60%. • Upper floors should have a minimum transparency of 40%. 	

<p>4.0 Entry</p>	<ul style="list-style-type: none"> • Entries should be large and preferably glass doors. • Entries should be marked by a slight recess of two feet and/or signage. • Entries should face the street and be welcoming for pedestrians. 	
<p>5.0 Pedestrian Overhangs</p>	<ul style="list-style-type: none"> • Awnings should be at a 90 degree angle to the building facade, and extend typically 3ft from the building except in the case that outdoor seating is being provided in which case it may extend up to a maximum of 7 ft as long as it does not extend over the sidewalk and into the road. Awnings should be made of metal and/or glass. 	

<p>6.0 Human Scale</p>	<ul style="list-style-type: none"> The building should be built to accommodate a street to building height ratio of 1:3. That would require at least 1 foot of building height for every 3 feet of street width. 	
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<p>7.0 Articulation</p>	<ul style="list-style-type: none"> Articulation of the roof and building frontage should be done with careful design in a modern and industrial fashion to add interest and depth to streetscape. 	
<p>8.0 Lighting</p>	<ul style="list-style-type: none"> Lighting should be on the sides of buildings abutting pedestrian walkways to provide visibility and safety. Lighting should be of a modern and industrial style. Integrate solar powered lighting to increase energy efficiency. 	

9.0 Blank Walls	<ul style="list-style-type: none"> • Buildings should avoid walls on the ground floor that have more than 10 linear feet without a window, door, building modulation or other architectural feature. • If this is unavoidable, blank walls should be improved by converting the wall into a green wall, participating in the Sunnyland Mural Program or adding colorful lighting. 	
Color	<ul style="list-style-type: none"> • Choose three or more colors. It is recommended to pick one main color, and use the other two choices to define building features. • See Color Options below. 	

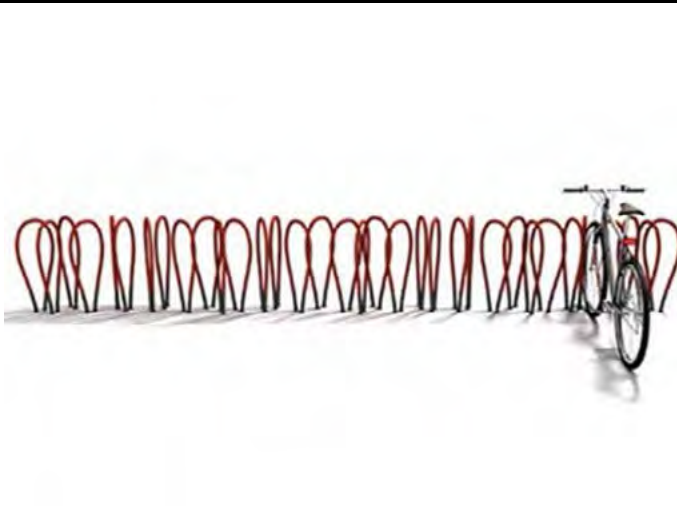

Transitional Housing for the Homeless

Transitional housing for the homeless would be more than just putting a roof over the heads of people who don't have one of their own. It aims to improve the quality of life with a strong sense of community. This type of housing is designed with micro units for individuals to live in while they get back on their feet in a safe and convenient environment. The shared space includes leisure rooms for occupational activities as well as shared bathrooms, a shared kitchen and plenty of garden space for the residents. The design of the homes as well as the communal buildings should take after the design characteristics of the rest of the Sunnyland neighborhood using bright colors, metal siding and other unique recycled materials.



Site Guidelines



1.0 Parking	<ul style="list-style-type: none"> • Parking should accommodate for one spot for 10% of all residents in the development, and an extra 5 spaces for guests. • The development should strive to be as non-reliant on cars as possible. 	
2.0 Landscaping	<ul style="list-style-type: none"> • Within the setback from the property line, native plants should fill the space as a buffer between the development and the sidewalk. • No less than 7.5% of the site should be dedicated to garden space for the residents. This may be either as personal gardens in front of each unit, or communal gardening space. 	





<p>4.0 Bike Access</p>	<ul style="list-style-type: none"> • Bike parking: one spot for each resident and 15 extra spaces should be provided for guests. • Bike racks should be innovative and artistic. • Walking path should be wide enough to provide enough space for one pedestrian and one bicyclist for better connectivity. 	
<p>5.0 Pedestrian Access</p>	<ul style="list-style-type: none"> • Multimodal pathways should be provided to connect all units to each other and to the street. • If possible, permeable surfaces should be used to create paths. 	

Building Guidelines

<p>1.0 Siding Material</p>	<ul style="list-style-type: none"> • See Siding Options below. • Each unit should be distinct from the others. • The use of unique recycled materials are also encouraged. 	 
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2.0 Roof	<ul style="list-style-type: none"> • It is encouraged to have a light color for the roof to reflect heat. • If possible, creating a green roof, adding solar panels, or establishing a roof terrace would also be encouraged 	
3.0 Transparency percentages	<ul style="list-style-type: none"> • Not Applicable 	
4.0 Entry	<ul style="list-style-type: none"> • Unit entrance should face walking pathways • Porches are encouraged 	



5.0 Lighting	<ul style="list-style-type: none"> • When the building is within 5' of a walkway, lighting should exist on the building's wall. • If possible, lighting should be provided at least every 10' along walkways • Integrate solar powered lighting to increase energy efficiency. 	
6.0 Blank Walls	<ul style="list-style-type: none"> • It is encouraged to improve blank walls with a green wall or participating in the proposed Sunnyland Mural program 	
7.0 Color	<ul style="list-style-type: none"> • Each unit should use two or more colors. • Units should vary in color. • See Color Options below. 	





Live/Work



This housing type is designed to complement the industrial character of Sunnyland, while at the same time increasing the diversity in housing types. The units are generally built at the same scale as townhomes, but include a space on the first floor for a business if the owner desires one. The first floor entrances therefore are designed in a way that distinguishes the building as a commercial space, while the siding and materials should

reflect an industrial presence. The upper floors however include housing. This housing can be used by those who run the bottom floor business or rented out separately. Either way, this eclectic land-use paves the way for a sustainable neighborhood where residents have the opportunity to live close to where they work.

Site Guidelines



<p>1.0 Parking</p>	<ul style="list-style-type: none"> • Customer parking should be located on the street, off-site. • A sidewalk should provide a buffer between the building and the parking. • Residential parking should be placed in the rear of the building. If there is no space for parking in the rear, it should be located on the side of the building, but it should not be within 10' of the street. 	
<p>3.0 Landscaping</p>	<ul style="list-style-type: none"> • Landscaping around the building should not block views into and out of windows. • Landscaping can be used to signify entrances. • Landscaping should provide a dual function of aesthetics and water filtration through use of rain gardens. 	





<p>4.0 Bike Access</p>	<ul style="list-style-type: none"> • Four covered bicycle parking spaces should be provided for each unit. • Direct access should link bicycles from the street network to any buildings on the development if applicable. 	
<p>5.0 Pedestrian Access</p>	<ul style="list-style-type: none"> • Direct access on pedestrian walkways should link the development to the street network. • Pedestrians should be provided direct access to building entrances. • When applicable, pedestrians should have direct access between buildings. 	




Building Guidelines

<p>1.0 Siding Material</p>	<ul style="list-style-type: none"> • See Siding Options below. • Material and/or color variations should coordinate with changes in the building modules and differentiate ground floors from upper floors. 	
<p>2.0 Roof</p>	<ul style="list-style-type: none"> • Roof color should be a light color to reflect heat and light. • The slope could be steep to help contribute to rainwater catchment systems. • In other instances, the incorporation of rooftop gardens and terraces is recommended. 	
<p>3.0 Transparency percentages</p>	<ul style="list-style-type: none"> • At least 60% of the first floor facade should be transparent. • At least 30% of the upper floors should be transparent. 	

<p>4.0 Entry</p>	<ul style="list-style-type: none"> • Entrances should be oriented towards the public right of way and sidewalk. • Entrances should be level with the sidewalk and should not include porches in order to contribute to the understanding that the building is a business. 	
<p>5.0 Pedestrian Overhangs</p>	<ul style="list-style-type: none"> • Awnings should be at a 90 degree angle to the building facade, and extend typically 3ft from the building. If there is outdoor seating, it may extend up to a maximum of 7'. Awnings should be made of metal and/or glass. 	

<p>6.0 Human Scale</p>	<ul style="list-style-type: none"> The building should be built to accommodate a street to building height ratio of 1:3. That would require at least 1 foot of building height for every 3 feet of street width. The units should have a five foot path in between every four units that provides access to the rear of the buildings Pedestrians should be able to comfortably walk along the front of one unit to the next without feeling lost due to breaks in the building frontage. Windows and balconies should be provided on the upper floors. Signs should be in scale for pedestrians. 	
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<p>7.0 Articulation</p>	<ul style="list-style-type: none"> Units should be set back at varying distances from the property line and/or articulated to create a sense of individuality to each unit 	
<p>8.0 Lighting</p>	<ul style="list-style-type: none"> Lighting should be on the sides of buildings abutting pedestrian walkways to provide visibility and safety. Along pedestrian paths, there should be lighting every 10' minimum. Light should also be provided at 10' minimum along the sidewalks that connect to the street. Lighting should be of a modern and industrial style. Integrate solar powered lighting to increase energy efficiency. 	



9.0 Blank Walls	<ul style="list-style-type: none"> • Blank walls that lack windows, entrances or balconies and continue for more than 10 linear feet are discouraged. • If this is unavoidable, blank walls should be improved by converting the wall into a green wall, participating in the Sunnyland Mural Program, or adding colorful lighting. 	
Color	<ul style="list-style-type: none"> • One color should be chosen as the main color for each individual unit. • Trim and detail may be in another color. • Units should vary in color. • See Color Options below. 	

Townhomes

Townhomes provide dense residential living for single families. Dense housing decreases the amount of land change needed for buildings, as well as restores a sense of a close-knit community to the residents. Not only will these homes contribute to the mixed use of this area and mixed income, but also provide liveliness during the night. Each home should be 2-3 stories, and be similar in scale to surrounding homes. The architectural form and design should be compatible with neighboring homes,

and provide adequate neighborhood connection as well. A dynamic facade and altering the coloring of the homes will contribute to the eclectic feel of the area, as well as using materials such as metal, steel, or brick to reflect the industrial character. These homes will also bring safety to the area by designing the fronts to face towards the road to have eyes on the street day and night.



Site Guidelines


1.0 Parking	<ul style="list-style-type: none"> • Parking available behind homes, accessible through alleyway (both outdoor parking and garages). • if there isn't space behind the buildings, parking may be on side of building, but it should not be within 10' of a street • Break large parking lots into small ones in a way that provides easy access for pedestrians. • Share driveways with adjacent property owners when possible. 	
2.0 Landscaping	<ul style="list-style-type: none"> • Provide landscaping that compliments the function of the space. • Provide buffers between windows and road with native plants. 	







3.0 Bike Access	<ul style="list-style-type: none"> • Pathways should connect bike paths between the home and the streets • One bike locker should be provided for every unit. 	
4.0 Pedestrian Access	<ul style="list-style-type: none"> • Connection between public sidewalk and entryway for continuity of pathway. • Walkways should connect building entrances to the street network. 	

Building Guidelines

1.0 Siding Material	<ul style="list-style-type: none"> • Each unit should be distinct from the others. • See Siding Options below. 	
2.0 Roof	<ul style="list-style-type: none"> • Roofs could be a light color, include a green roof, include solar panels, provide a rooftop terrace with tables and chairs, or a mixture of those options. 	
3.0 Transparency percentages	<ul style="list-style-type: none"> • There should be a minimum transparency of 15% 	

<p>4.0 Entry</p>	<ul style="list-style-type: none"> Entrances should provide porches Entrances should face the street Entry should be slightly elevated to provide residents with privacy from the street activities. 	
<p>5.0 Pedestrian Overhangs</p>	<ul style="list-style-type: none"> Awnings should be at a 90 degree angle to the building facade, and extend typically 3ft from the building. If there is outdoor seating, it may extend up to a maximum of 7'. Awnings should be made of metal and/or glass. 	

<p>6.0 Human Scale</p>	<ul style="list-style-type: none"> A combination of architectural elements that break down the facade of the homes is encouraged. Examples include balconies, bay windows, porches and trellises. 	
<p>7.0 Articulation</p>	<ul style="list-style-type: none"> Buildings should have staggered fronts for a dynamic facade. Should use architectural elements of the homes, such as primary siding material, decks, windows and entry designs to articulate each unit Decorative details such as columns, bay windows, dormers, multi-lite windows, trim or moldings should articulate the building façade. 	
<p>8.0 Lighting</p>	<ul style="list-style-type: none"> Lighting should be on the sides of buildings abutting pedestrian walkways to provide visibility and safety. Along pedestrian paths, there should be lighting every 10' minimum. Light should also be provided at 10' minimum along the sidewalks that connect to the street. Lighting should be of a modern and industrial style. Integrating solar powered lighting to increase energy efficiency is encouraged 	



9.0 Blank Walls	<ul style="list-style-type: none"> • Blank walls that lack windows, entrances or balconies and continue for more than 10 linear feet are discouraged. • If this is unavoidable, blank walls should be improved by converting the wall into a green wall, participating in the Sunnyland Mural Program, or adding colorful lighting. 	
10.0 Color	<ul style="list-style-type: none"> • One main color should be chosen for each unit. • Trim and detail may be in another color. • Units should vary in color. • See Color Options below. 	

Commercial Eatery/Commercial Retail



The Commercial-Eatery and Commercial-Retail design are both quite similar in design with the exception of a few minor elements. Both have a FAR of 2.0 to encourage density. The first floor of the buildings that faces the street should have large windows providing transparency to enhance the connectivity to the sidewalk. In the case of a Commercial-Eatery, sidewalk tables and chairs are encouraged to enhance street life. The distinct character of the buildings will be defined by bright colors, the use of corrugated metal siding, and brick masonry. This design helps to accomplish the goal of creating an eclectic character while creating a neighborhood on a human scale.



Site Guidelines



1.0 Parking	<ul style="list-style-type: none"> • All parking should be in the rear of buildings. If there isn't enough space there, it could go along the side of the building facade, but it should not be within 10' of the street. • One parking space should be provided for every 500 square feet of building. 	
3.0 Landscaping	<ul style="list-style-type: none"> • Native plants should be used as a buffer between restaurant seating and the sidewalk when appropriate. • Potted plants are encouraged in front of buildings to enhance street life. • Vertical landscaping such as green walls are encouraged. 	







<p>4.0 Bike Access</p>	<ul style="list-style-type: none"> • Bicycle parking should account for one spot for half of the number of employees as well as one spot per 250 square feet of building. • Bicycle racks should strive to be artistic, industrial, and colorful. 	
<p>5.0 Pedestrian Access</p>	<ul style="list-style-type: none"> • Pedestrians should have direct access between the building entrance and the street network. • When relevant, pedestrians should have direct access between buildings. 	

Building Guidelines

<p>1.0 Siding Material</p>	<ul style="list-style-type: none"> • See Siding Options below. 	
<p>2.0 Roof</p>	<ul style="list-style-type: none"> • Roofs could be a light color, include a green roof, include solar panels, provide a rooftop terrace with tables and chairs, or a mixture of those options. 	
<p>3.0 Transparency percentages</p>	<ul style="list-style-type: none"> • The front facade of the buildings should have a minimum of 60% transparency on the ground floor. • Upper floors should have a minimum transparency of 30%. 	




<p>4.0 Entry</p>	<ul style="list-style-type: none"> Entrances into buildings should be marked with a small awning or slight recess of 2' The entrance should be facing the street. 	
<p>5.0 Pedestrian Overhangs</p>	<ul style="list-style-type: none"> Awnings should be at a 90 degree angle to the building facade, and extend typically 3ft from the building. If there is outdoor seating, it may extend up to a maximum of 7'. Awnings should be made of metal and/or glass. 	

<p>6.0 Human Scale</p>	<ul style="list-style-type: none"> Encourage a combination of architectural elements that give buildings a human scale. Examples include balconies, bay windows, roof decks, trellises landscaping, art concepts, and plazas outside of retail spaces. The building should be built to accommodate a street to building height ratio of 1:3. That would require at least 1 foot of building height for every 3 feet of street width. 	
<p>7.0 Articulation</p>	<ul style="list-style-type: none"> Break up long continuous walls with a combination of horizontal building modulation, change in fenestration, and/or change in building materials. 	

<p>8.0 Lighting</p>	<ul style="list-style-type: none"> • Lighting should be on the sides of buildings abutting pedestrian walkways to provide visibility and safety. • Along pedestrian paths, there should be lighting every 10' minimum. • Light should also be provided at 10' minimum along the sidewalks that connect to the street. • Lighting should be of a modern and industrial style. • Integrate solar powered lighting to increase energy efficiency. • Lighting should be used to highlight the nature of the building as an eatery or retail establishment • Some lighting should remain on even when the store is closed. 	
<p>9.0 Blank Walls</p>	<ul style="list-style-type: none"> • Blank walls that lack windows, entrances or balconies and continue for more than 10 linear feet are discouraged. • If this is unavoidable, blank walls should be improved by converting the wall into a green wall, participating in the Sunnyland Mural Program, or adding colorful lighting. 	
<p>Color</p>	<ul style="list-style-type: none"> • At least two colors should be incorporated. • See Color Options below. 	



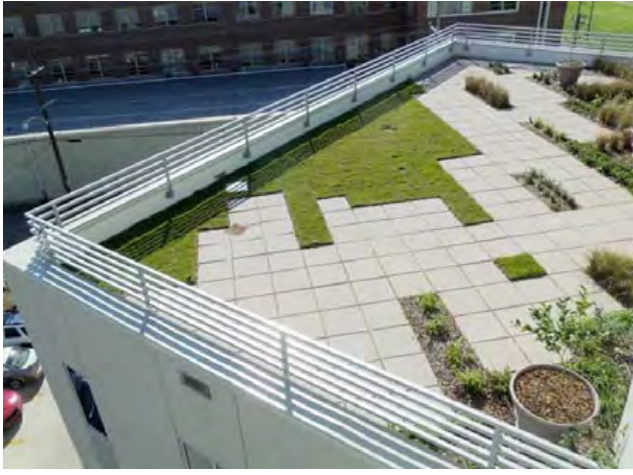
Commercial Office
 This land use type allows for commercial retail on the first floor. All floors above that will provide offices available for rent for users such as lawyers, dentists, realty companies, medical practices, and insurance agencies. In this way, office buildings that have historically been placed in separate office parks can become a part of a vibrant neighborhood by providing a mix of uses within a single building. The design should be loosely based on the industrial character of the neighborhood, but be distinguished enough that it is clearly an office building.

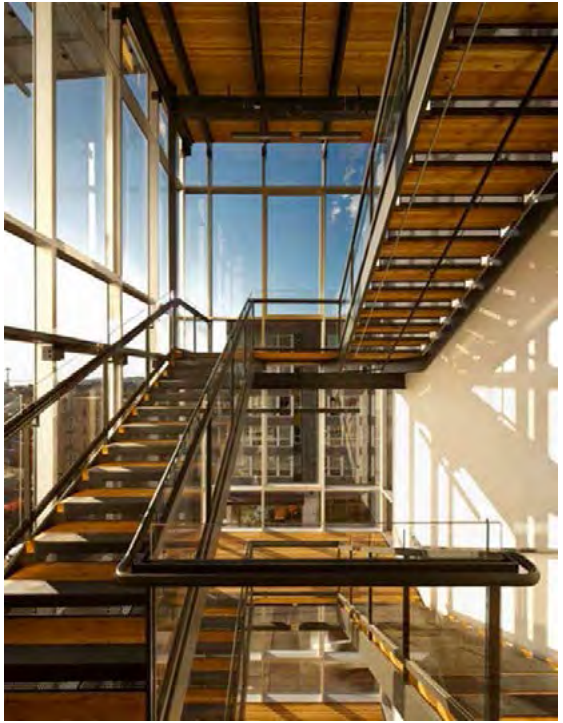

<p>Site Guidelines</p>		
<p>1.0 Parking</p>	<ul style="list-style-type: none"> • Parking should be provided on the back side of the building, away from the main roads, or on the side of the building if there is not enough space. If it is on the side of the building, it should not be within 10'. 	
<p>2.0 Landscaping</p>	<ul style="list-style-type: none"> • It is encouraged to provide foliage near building entrances, and hanging flowers or planted flowers in front of the front building facade. 	
<p>3.0 Bike Access</p>	<ul style="list-style-type: none"> • One bike parking spot should be provided for 2/3rds of employees within the building. 	






4.0 Pedestrian Access	<ul style="list-style-type: none"> • Pedestrians should have direct access between the building entrances and the street network. • When relevant, pedestrians should have direct access between buildings. 	
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Building Guidelines



1.0 Siding Material	<ul style="list-style-type: none"> • See Siding Options below. 	
2.0 Roof	<ul style="list-style-type: none"> • Buildings with flat roofs should make passive use of these spaces possible, for decks, gardens and other similar uses. • Roof should be a light color to reflect heat. 	

3.0 Transparency percentages	<ul style="list-style-type: none"> • It is encouraged to place staircases and elevators so that they are completely transparent to those outside of the building. • The front facade of the bottom floor of the building should have 70% transparency • The upper floors should have at least 40% transparency. • Transparency should be placed in a way to best allow the public to have visual access, and to allow the best usage of natural sunlight within the buildings. • It is recommended that all windows are able to be opened to allow air circulation. 	 
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4.0 Entry	<ul style="list-style-type: none"> Entrances should be provided along the building facade with a maximum distance of 70 feet apart. It is recommended that entrances are provided as close as 30 feet apart. Entrances should be oriented with the building towards the street. 	
5.0 Pedestrian Overhangs	<ul style="list-style-type: none"> Awnings should be at a 90 degree angle to the building facade, and extend typically 3ft from the building. If there is outdoor seating, it may extend up to a maximum of 7'. Awnings should be made of metal and/or glass. 	
6.0 Human Scale	<ul style="list-style-type: none"> Encourage a combination of architectural elements that give buildings a human scale. Examples include balconies, bay windows, roof decks, trellises landscaping, art concepts, and plazas outside of office spaces. If three stories or more, provide balconies on the higher floors. At least two sets of tables and chairs should be provided along the sidewalk that runs along the building facade, if the sidewalk width permits it. The building should be built to accommodate a street to building height ratio of 1:3. That would require at least 1 foot of building height for every 3 feet of street width. 	



7.0 Articulation	<ul style="list-style-type: none"> Break up long continuous walls with a combination of horizontal building modulation, change in fenestration, and/or change in building materials. 	
8.0 Lighting	<ul style="list-style-type: none"> Lighting should be on the sides of buildings abutting pedestrian walkways to provide visibility and safety. Along pedestrian paths, there should be lighting every 10' minimum. Light should also be provided at 10' minimum along the sidewalks that connect to the street. Lighting should be of a modern and industrial style. Integrate solar powered lighting to increase energy efficiency. 	



<p>9.0 Blank Walls</p>	<ul style="list-style-type: none"> • Buildings should avoid designs with walls that contain a surface area of more than 400 square feet, having both a length and a width of at least 10 feet, that do not contain a window, door, building or other architectural feature. • Buildings should avoid designs with walls at the ground floor that have more than 15 linear feet without a window, door, building <u>modulation</u> or other architectural feature. • If this is unavoidable, blank walls should be improved by converting the wall into a green wall, participating in the Sunnyland Mural Program or adding colorful lighting.
<p>Color</p>	<ul style="list-style-type: none"> • Choose one main color, and two complementing colors. • See Color Options below.



Light Industrial



Industrial buildings have historically been known for being windowless, large, and bland. South Sunnyland hopes to make the industrial nature of the area the appeal and focus of the neighborhood, giving a new definition to industry. The goal is to bring the industrial activities taking place within these buildings into the light. The streetscape can become dynamic and interesting for the pedestrian by adding windows, light, and design to industrial buildings. Providing more natural sunlight and airflow is also a way to improve working conditions for those who spend time working in industrial buildings. In this way the economic value these uses bring to the area can be appreciated directly by those who occupy and visit the neighborhood.

Site Guidelines

<p>1.0 Parking</p>	<ul style="list-style-type: none"> • Parking lots should be located behind the building. They could be located on the side of the building as well if it is not along a main road. If it is located on the side, it should not be within 10' of the street. • A sidewalk should be in between the parking and the building facade.
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<p>2.0 Landscaping</p>	<ul style="list-style-type: none"> • A rain garden should be placed along sidewalks. 	
<p>3.0 Bike Access</p>	<ul style="list-style-type: none"> • If a business, one bike parking spot should be provided for 2/3rds of employees of the building. 	

<p>4.0 Pedestrian Access</p>	<ul style="list-style-type: none"> • Pedestrians should be provided direct access to building entrances. • When relevant, pedestrians should have direct access between buildings. 	
<p>5.0 Fences</p>	<ul style="list-style-type: none"> • Materials such as chain link or barbed wire (cyclone) fences are strongly discouraged. 	

Building Guidelines

1.0 Siding Material





- See Siding Options below.
- Architecturally integrate exposed industrial systems and equipment as a design option where practical.
- Avoid the use of highly reflective building materials and finishes that direct heat and glare onto nearby buildings.








2.0 Roof

- Roof should be white to reflect heat and made out of sheet metal.
- Skylights should be included, refer to transparency percentages.
- Roof should incorporate a green roof, include solar panels, provide a rooftop terrace with tables and chairs, or a mixture of those options.






<p>3.0 Transparency percentages</p>	<ul style="list-style-type: none"> • Garage doors located along street frontages should be completely transparent. • The building walls should have at least 30% transparency, especially along walkways at pedestrian height. A higher transparency is recommended when able. • Recommend maximum transparency to allow natural sunlight within the buildings. • It is recommended that all windows are able to be opened to allow air circulation. 	   
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<p>4.0 Entry</p>	<ul style="list-style-type: none"> • Entrances should be provided along the building facade with a maximum distance of 70 feet apart. It is recommended that entrances are provided as close as 30 feet apart. • Organize massing to emphasize certain parts of the building such as entries, corners, and the organization of showroom or office spaces. 	
<p>5.0 Pedestrian Overhangs</p>	<ul style="list-style-type: none"> • Awnings should be at a 90 degree angle to the building facade, and extend typically 3ft from the building. If there is outdoor seating, it may extend up to a maximum of 7'. Awnings should be made of metal and/or glass. 	
<p>6.0 Human Scale</p>	<ul style="list-style-type: none"> • The building should be built to accommodate a street to building height ratio of 1:3. That would require at least 1 foot of building height for every 3 feet of street width. 	

<p>7.0 Articulation</p>	<ul style="list-style-type: none"> Where the building mass cannot be broken up due to unique use constraints, i.e. manufacturing or warehouse space, building walls should be articulated through the use of texture, color, material changes, shadow lines, and other façade treatments. 	
<p>8.0 Lighting</p>	<ul style="list-style-type: none"> Along pedestrian paths, there should be lighting every 10' minimum. Light should also be provided at 10' minimum along the sidewalks that connect to the street. Lighting should be of a modern and industrial style. Utilize adequate, uniform, and glare-free lighting, such as dark-sky compliant fixtures, to avoid uneven light distribution, harsh shadows, and light spillage onto adjacent properties. Integrate solar powered lighting to increase energy efficiency. 	





<p>9.0 Blank Walls</p>	<ul style="list-style-type: none"> Buildings should avoid designs with walls that contain a surface area of more than 400 square feet, having both a length and a width of at least 10 feet, that do not contain a window, door, building or other architectural feature. If this is unavoidable, blank walls should be improved by converting the wall into a green wall, participating in the Sunnyland Mural Program or adding colorful lighting. 	 
<p>Color</p>	<ul style="list-style-type: none"> One main color should be chosen, with the option of using one other color for details. See Color Options below. Brighter colors are recommended for this building type. 	




Public Spaces

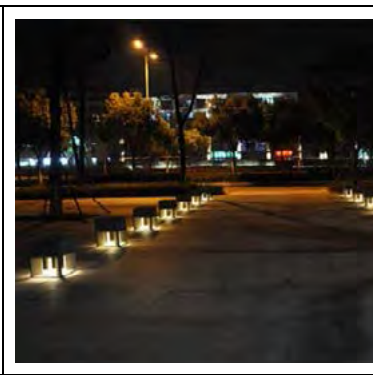

Public spaces provide an area for community gathering, an essential function of healthy communities. Public spaces provide a place to escape, connect, and partake in leisure activities. The public space within this zone would reflect the historical and industrial character of the area. This should be done by incorporating artistic elements, such as art pieces, tables, and seating that complement the character of the area. Public spaces should be designed with sustainability in mind. This should be accomplished by landscaping using only planting native plants and incorporating storm-water filtration through rain gardens and other mechanisms. Safety is also an important design feature of public space, and the design requirements provide elements to ensure a feeling of safety throughout. This includes eyes on the street and lighting every 10 feet.

Site Guidelines

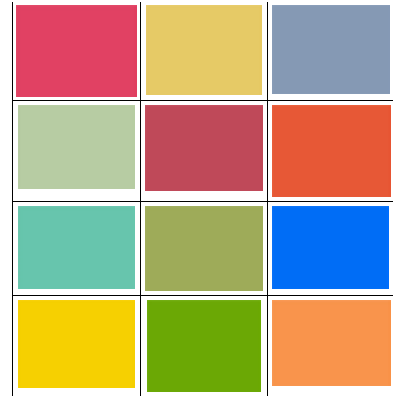
<p>1.0 Pedestrian Accessibility</p>	<ul style="list-style-type: none"> • The site should have functional pedestrian connections to existing neighborhoods, public walkways and trails. • Pedestrian pathways should connect landmarks and attractions. 	
<p>2.0 Bike Accessibility</p>	<ul style="list-style-type: none"> • The site should have functional bicycle connections to existing neighborhoods, public walkways and trails. • Bicycle pathways should connect landmarks and attractions. • Bike racks should exist in mass. One bike parking spot per 1000 square feet of public space 	

<p>3.0 Parking</p>	<ul style="list-style-type: none"> • Only on street parking should be provided for public spaces 	
<p>4.0 Landscaping</p>	<ul style="list-style-type: none"> • The use of native flora is strongly encouraged to enhance the surrounding area and existing flora 	
<p>5.0 Outdoor furniture</p>	<ul style="list-style-type: none"> • Public spaces should have picnic tables, trash cans, and benches throughout. • Seating and tables should have a modern or industrial design with wood or metal. 	

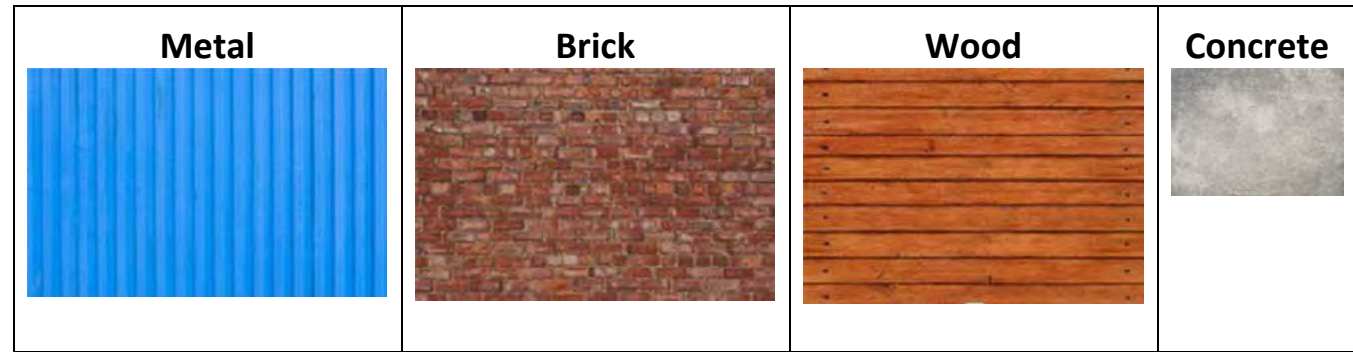


6.0 Lighting	<ul style="list-style-type: none"> • Lighting should exist on all pathways every 10' minimum • Design of lighting features should reflect the industrial and eclectic character of the area. • Integration of solar powered lighting to increase energy efficiency is encouraged 	
7.0 Public Art	<ul style="list-style-type: none"> • Art pieces every 300 feet are encouraged and can serve as landmarks. 	

- Trees should be used to shade the parking lot and help reduce heat island effect.
- Landscaping beds should be installed in and around parking lots and along the building frontage, for aesthetic purposes.
- All landscaping should also provide a water filtration function. This could be done through the creation of swales and raingardens.
- When possible, permeable paving should be used for parking.
- Pedestrian walkways should be provided through parking lots
- Connect any adjoining parking lots.



Recommended color pallet



Recommended siding types



5.2 Streets and Public Improvements Guidelines

5.2.1 Street Typology

In the South Sunnyland area there are many different styles of streets. By creating a street designation for the types of street, it makes it easier to set design standards for the different corridors.

From the research done in the previous project, the following map shows the corridor map of the South Sunnyland neighborhood.

5.2.2 Design Standards

Through the street type designation a design standard for each corridor type is created. Because each street can accommodate different needs, modifications and exemptions can be made to better suit different corridors. They must however still follow the design guidelines that have been given in the matrix below.

Because of the unusually wide right of ways in the South Sunnyland district, we have assigned the streets in our Phase 1 plan a street type but have modified some of the widths.

Type A-1

Type A-1 streets are the designated name for arterial streets in the South Sunnyland area. The purpose of this type of street is to accommodate high traffic volumes and provide an easy, quick route through areas and to major destinations. Simultaneously, the sidewalk, green space, and lighting standards would make A-1 streets comfortable and pleasant for pedestrians to use.

Type A-1 streets will have two driving lanes in each direction and a center turn lane that are all a minimum of 10 feet wide. Wider driving lanes could easily be appropriate

depending on the type and amount of traffic the street receives, i.e. commercial trucks. Because of high automobile traffic, there will be no bicycle infrastructure on these streets, and bicyclists would be encouraged to use other routes.

Type A-2

Type A-2 streets are very similar to A-1 streets with additional features intended to enhance the aesthetic element of the street and improve the pedestrian experience, all while maintaining traffic flow. The center turn lane would feature a green median with shrubs or trees and limited breaks to allow for left turns where appropriate. These left turns would provide access to intersecting side streets, but not to driveways on the opposite side of the street. This limitation would provide more space for the green median and create the feeling of a narrower street, inherently leading to cars driving slower. A-2 streets would be ideal for gateways into commercial and industrial districts because they provide a welcoming experience while handling high traffic volumes at a safer speed.

Type B-1

Type B-1 streets have a medium amount of traffic flow and connect traffic from arterial streets to other street types. Characteristics of type B-1 streets consist of one driving lane in each direction and a center turn lane. There is also space within the right of way to have bicycle lanes on both sides and provide space for parallel parking on one side. Required green space on both sides will provide a buffer between pedestrians on the sidewalks and automobile traffic.

Type B-2

Type B-2 streets support a medium amount of traffic, but has no center turn lane. 10 foot driving lanes are accompanied by a bicycle lane on either side and space for parallel parking on one side. This will typically lead to

a 40 foot curb to curb space that provides more area for sidewalk and planter strip space in the right of way.

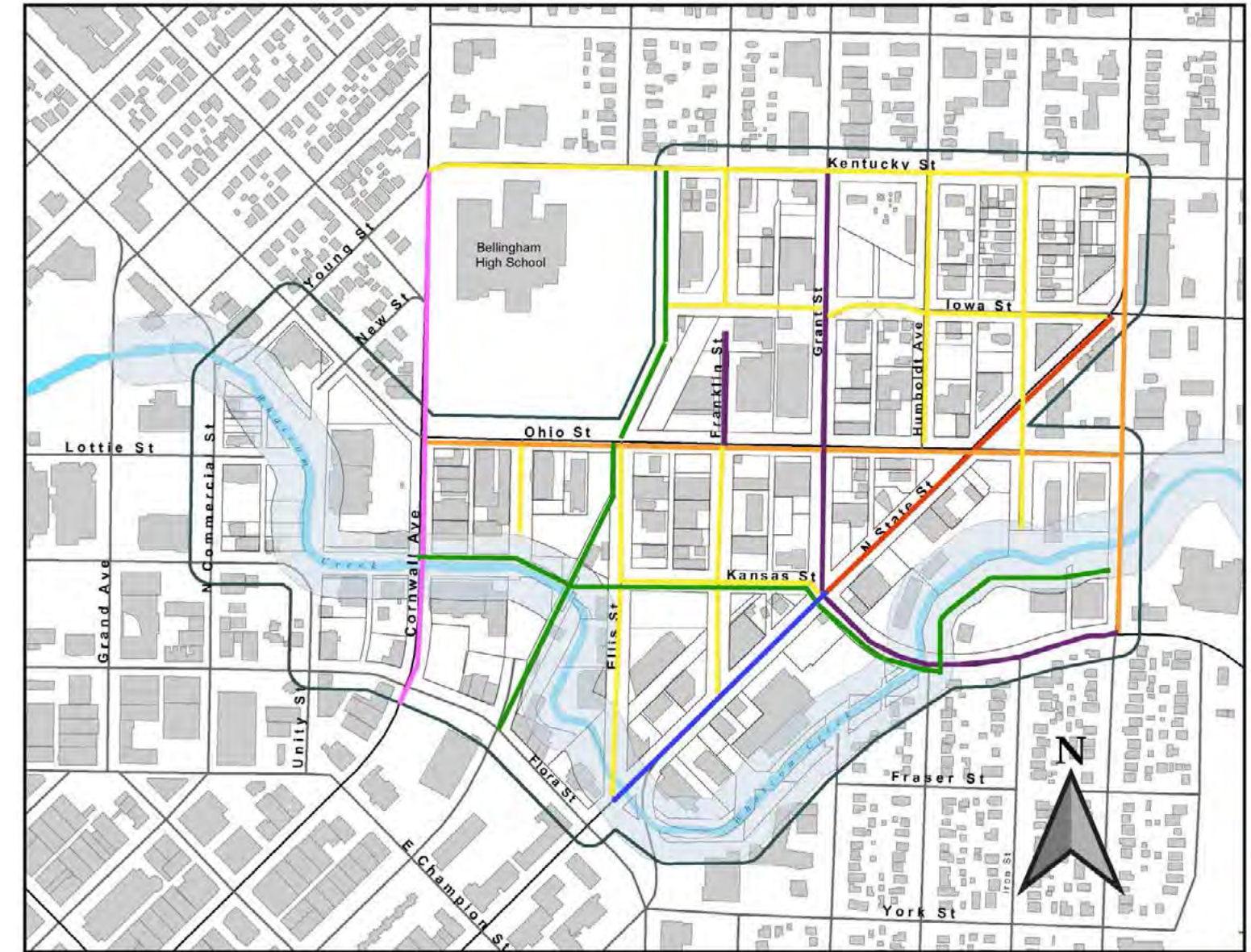
Type C

Type C streets are the designated typology for “collector” streets in the Sunnyland area. The primary use of these streets are to collect and distribute traffic from Type A and Type B streets in the subdistrict area. With that being said, there are several general characteristics of collector streets that are worth mentioning.

Collector streets include a minimum of nine foot wide driving lanes without a median separating the two lanes. Sidewalk width is at least five feet on both sides of the street. A five foot minimum green space can be installed in conjunction with sidewalks as well, since the 80 foot right of way allows for it. Bike lanes are not required, however if a select corridor fits the jurisdiction’s bicycle master plan then bike lanes or boulevards may be installed. With respect to parking, there can be any of the parking types implemented. The most effective types would be 60 or 90 degree parking but, if the right of way does not allow for it, parallel parking would be implemented.

Type T

Type T pathways in the South Sunnyland neighborhood would be the Whatcom Creek Trail and the bike trail, which currently exist only in fragments or lack full infrastructure. There are several general characteristics of Type T pathways that are relevant to the Sunnyland area. Trails can be of varying widths and, depending on location and application, crushed limestone or pavement may be used as the surface. There is a minimum of five feet of green space on both sides of the trail, except where this is impossible due to buildings directly abutting the trail. Lighting should be spatially planned out in which six foot tall light poles are placed every 40 feet. Also, pedestrian signage would be required at every



Sunnyland Corridor Street Typology

Legend

- = Type A-1
- = Type A-2
- = Type B-1
- = Type B-2
- = Type C
- = Type T
- = Type R

spot where the trail intersects a street. On the subject of pedestrian safety and connectivity, crosswalks would be placed at every intersection where the street meets the trail. This would be articulated by using a variety of infrastructural styles, such as bulb outs, raised crossing, and flashing lights.

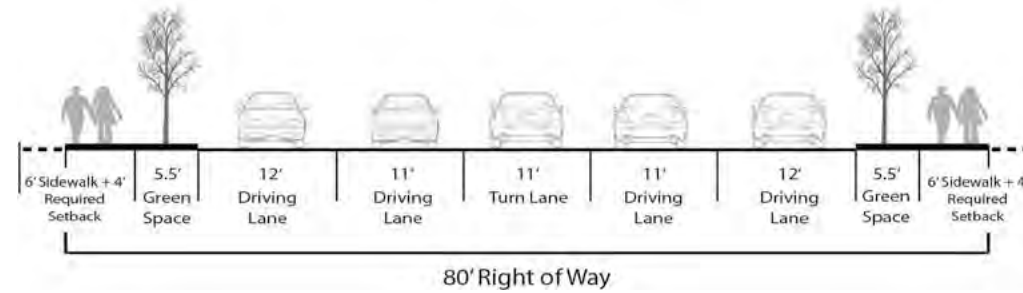
As for landscaping, trees would be planted every 15 feet, 10 feet away from the trail edge. In addition to this, low shrubs are to be planted lining the trail approximately five feet away from the trail edge. Grass in the buffer zone between the trail edge and trees should be maintained by the city and/or private organizations who have a vested interest in the upkeep of Whatcom Creek Trail.

Type R

Type R streets are residential streets and are intended for low-volume, low-traffic residential areas only. Type R streets are defined by a 14 foot traffic lane to accommodate through traffic. This larger lane and parking on both sides creates a slower speed for auto traffic because drivers will have to negotiate who travels first in the lane. The type of parking is typically parallel, but if there is a larger curb to curb area then 60 or 90 degree parking should be implemented. Type R streets do not contain medians, and sidewalks would have a 5 foot minimum width on both sides.

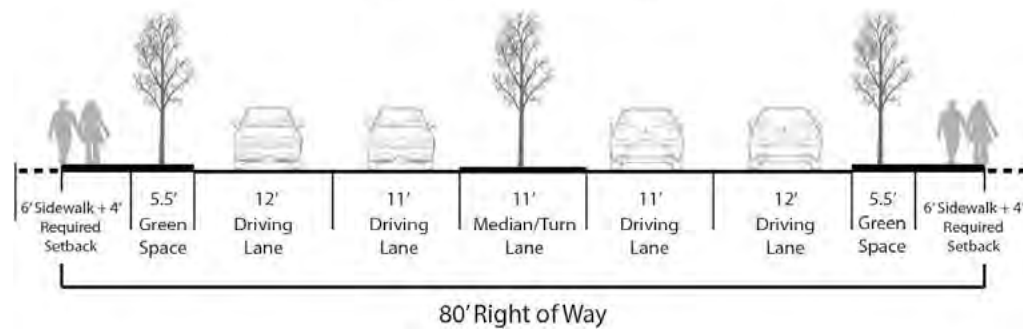


State Street
Type A-1 with Modifications



Type A-1 street with modifications

State Street
Type A-2 with Modifications

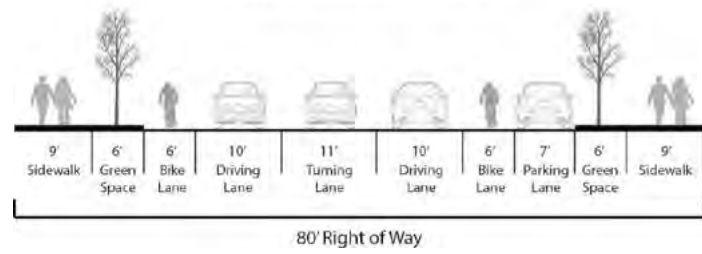


Type A-2 street with modifications

<u>Street Types Standards</u>	Type A-1	Type A-2	Type B-1	Type B-2	Type C	Type R	Type T
<u>Number of Lanes</u>	Five (including center turn lane)	Five (including center turn lane)	Three (including center turn lane)	Two	Two	One (wide, used in both directions)	N/A
<u>Lane Width</u>	10 feet minimum	10 feet minimum	10 feet minimum	10 feet minimum	9 feet minimum	14 feet lane	10 feet minimum width made of crushed limestone or pavement
<u>Center Turn Lane/Median</u>	11 foot center turn lane	11 foot center turn lane and green space combination	11 foot center turn lane	No turn lane or median	No turn lane or median	No median	N/A
<u>Sidewalk</u>	Minimum 5 feet on both sides of street	Minimum 5 feet on both sides of street	Minimum 5 feet on both sides of street	Minimum 5 feet on both sides of street	Minimum 5 feet on both sides of street	Minimum 5 feet on both sides of street	N/A
<u>Setback</u>	4 feet required from property line	4 feet required from property line	Not Required	Not Required	Not Required	N/A	100 foot buffer to creek when applicable
<u>Green Space</u>	Minimum 4 feet on both sides	Minimum 4 feet on both sides	Minimum 5 feet on both sides	Minimum 5 feet on both sides	Minimum 5 feet on both sides	4 feet minimum on both sides	Minimum 5 feet each side
<u>Lighting</u>	18 foot tall poles every 120 feet	18 foot tall poles every 120 feet	18 foot tall poles every 120 feet	18 foot tall poles every 120 feet	18 foot tall poles every 120 feet	18 foot tall poles every 120 feet	6 foot tall poles every 40 feet.
<u>Pedestrian Signage</u>	Required for every crossing intersection	Required for every crossing intersection	Required for every crossing intersection	Required for every crossing intersection	Required for every crossing intersection	Not required	Required for every crossing intersection
<u>Tree and Shrub Landscaping</u>	Trees every 20 feet, 15 feet from the corners to increase visibility of traffic.	Trees every 20 feet, 15 feet from the corners to increase visibility of traffic.	Trees every 20 feet, 15 feet from the corners to increase visibility of traffic.	Trees every 20 feet, 15 feet from the corners to increase visibility of traffic.	Trees every 20 feet, 15 feet from the corners to increase visibility of traffic.	Trees or shrubs in required green space. No trees on immediate corners.	Trees every 15 feet, 10 feet from trail edge. Low shrubs lining trail, five feet from trail edge.
<u>Cross Walk</u>	Marked crosswalks at every intersection with crossing signal	Marked crosswalks at every intersection with crossing signals	Marked crosswalks at every intersection with crossing signals	Marked crosswalks at every intersection with crossing signals	Marked crosswalks at every intersection with crossing signals	Marked crosswalks at intersections	Marked crosswalks at connections with city streets
<u>Bike Lane (5 Feet Min.)</u>	Not required	Not required	Required on both sides	Required on at least one side	If it fits the master bike plan	N/A	N/A
<u>Bike Boulevard</u>	Not required	Not required	N/A	N/A	If it fits the master bike plan	If it fits in the master bike plan	N/A
<u>On Street Parking</u>	Parallel if ROW allows.	Parallel if ROW allows.	Parallel on at least one side of ROW	Parallel on at least one side of ROW	Parallel, 60 degree, or 90 degree parking on at least one side of the ROW depending on the street width.	Parallel unless there is a larger curb to curb area. Then 60 or 90 degree parking becomes the standard.	N/A

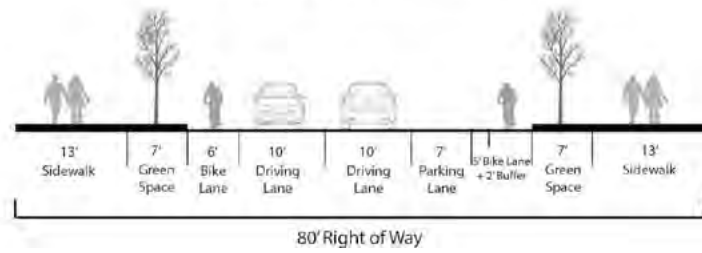


Cornwall Avenue Type B-1 with Modifications



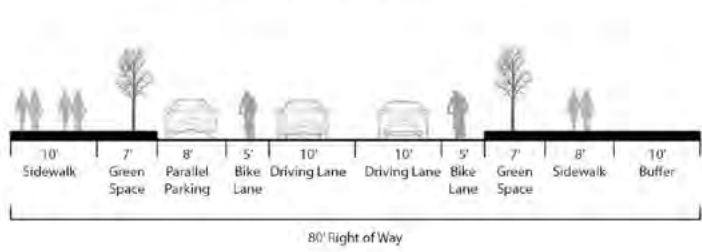
Type B-1 street with modifications

Ohio Street Type B-2 with Modifications



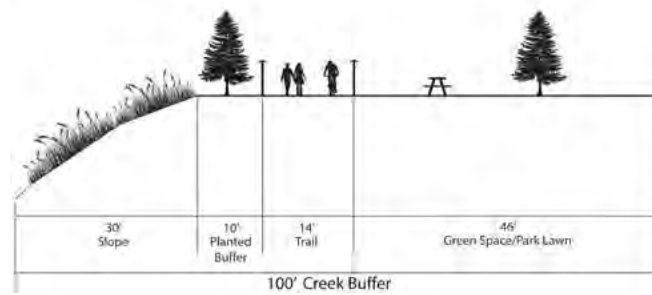
Type B-2 street with modifications

Meador Avenue Type C with Modifications



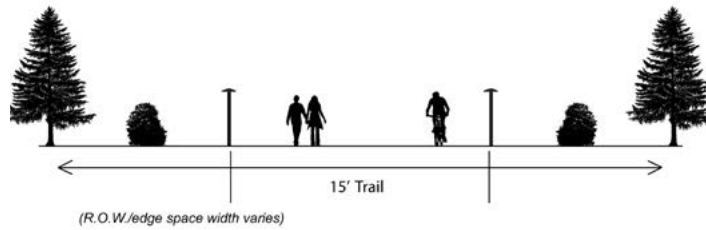
Type C Street

Whatcom Creek Trail



Whatcom Creek Trail with 100-foot buffer in Iron Bridge area

Bike and Pedestrian Trail



(R.O.W./edge space width varies)

Current bike trail with added lights

6.0 Development Regulations

Mixed Use

A. Description

Micro housing is apartment style housing on a small scale of typically 250 square feet. The housing type provides opportunities for low income housing, single workers and college students.

B. Site Requirements and Setbacks

1. Lot Size/Density: 50 residential units per acre
2. Commercial spaces shall not exceed 5,000 sf
3. Residential units shall consist of the following:
 - 40%: 150-250 sf
 - 20%: 250-400 sf
 - 20%: 400-600 sf
 - 20%: 600-1000 sf
4. Setbacks: 0 feet

C. Bulk and Massing (min/max, max attached for town-homes if necessary)

1. Floor Area Ratio: 2.0
2. Height: 35 feet

D. Open Space (public/private)

There is no open space requirement.

E. Parking

Parking requirements for micro housing units may be waived when consistent with an area-wide parking plan. This provision is intended to allow on-street parking and off-site parking to meet parking requirements for this land-use.

Light Industrial

A. Description

Nohio's light industrial zone is an area that focuses on manufacturing, distribution, and warehousing, that does not result in a significant amount of noise, smoke, odors or other objectionable nuisances that could be harmful to the surround areas.

B. Site Requirements and Setbacks

1. Lot size: No minimum lot size requirement, but there is a maximum of 90,000 square feet.
2. Setback: No setback requirement.

C. Bulk and Massing (min/max, max attached for town-homes if necessary)

1. Floor Area Ratio: 2.0
2. Minimum Height: 25 feet

D. Open Space (public/private)

There is no open space requirement.

E. Parking

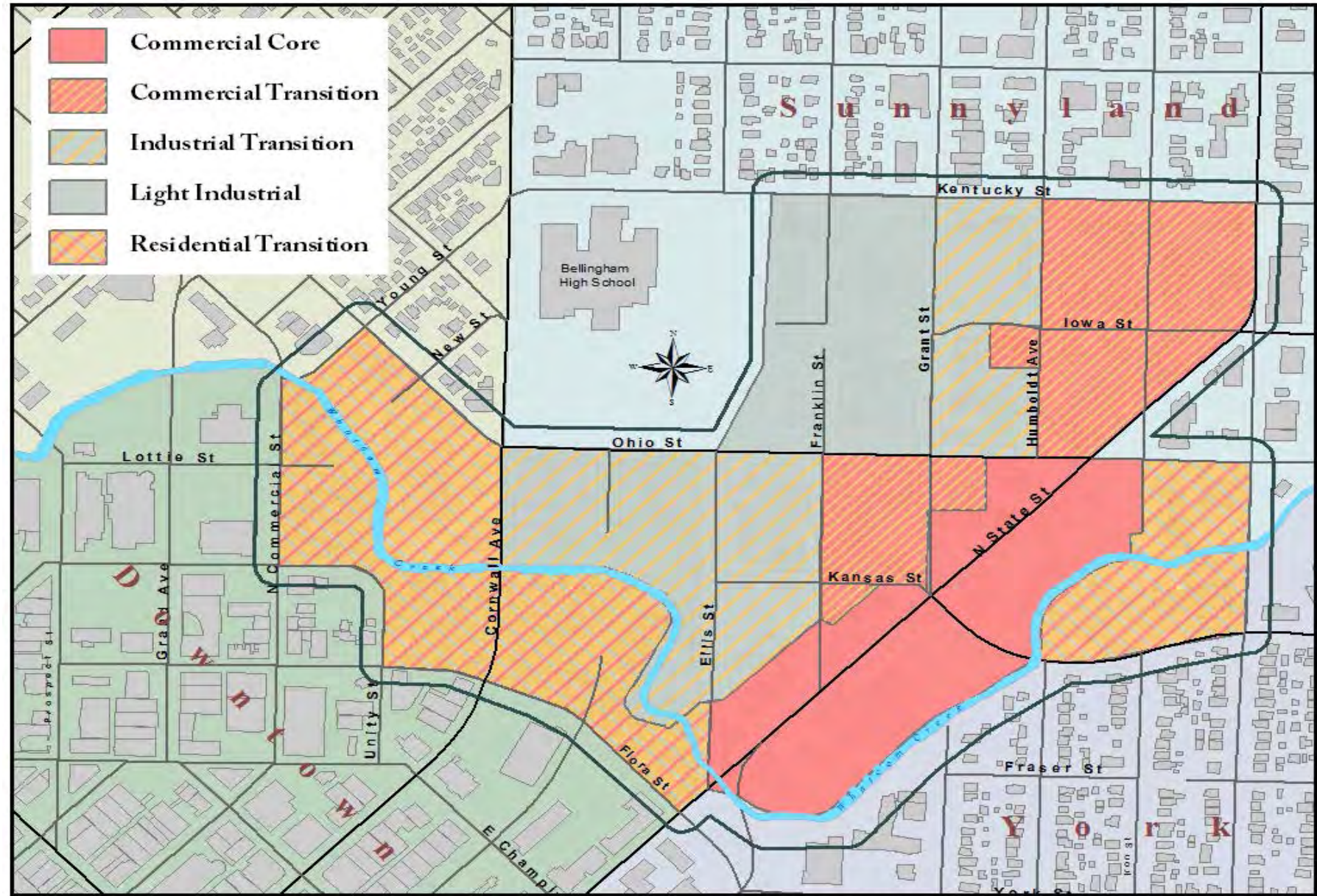
1. Manufacturing: One parking space per 5,000 square feet.
2. Distribution/Warehouse: One parking space per 20,000 square feet.

Homeless/Transitional Housing

A. Description

Transitional Housing for those experiencing homelessness is a stepping stone for those currently without sufficient housing. It consists of micro units for residents as well as communal living areas for bathrooms, showers, laundry, kitchen, and living space.

Land Use Classification	Area				
	Commercial Core	Commercial Transition	Industrial Transition	Light Industrial	Residential Transition
Commercial (Retail)	Y	Y	Y		
Infill: Townhomes	Y	Y			Y
Light Industrial			Y	Y	
Live/Work	Y	Y	Y		Y
Mixed Use		Y	Y		Y



Recommended Zoning



B. Site Requirements and Setbacks

1. Lot Size/Density: 40 units/acre
2. Setbacks: 5' setback from sidewalk. 11.5' side setback

C. Bulk and Massing (min/max, max attached for townhomes if necessary)

1. FAR: 0.5
2. Height: Maximum 13'

D. Open Space (public/private)

No less than 7.5% of the site must be set aside for gardening space for the residents. An additional 200 square feet per unit should serve as open space. It is not required to be continuous and may be split up. This area may be either private or communal.

E. Parking

Parking should accommodate for one spot for 10% of all residents in the development, and an extra 5 spaces for guests.

Townhomes

A. Description

A townhouse is one of a row of homes sharing common walls, each with its own front and rear access to the outside.

B. Site Requirements and Setbacks

1. Lot size/Density: No minimum lot size. Minimum 12 units per acre.
2. Setback: Minimum front setback five (5) feet. Maximum front setback 10 feet. Minimum side setback five (5) feet.

- a. Unit fronts should be offset by a minimum of 2 feet per attached unit in order to emphasize building articulation.
- b. Zero side setbacks

C. Bulk and Massing

1. Floor Area Ratio: Minimum FAR 0.5.
 - a. Iron Bridge Townhomes need to be a minimum of 1.0 FAR ratio.
2. Minimum Height: 30 feet.

D. Open Space

Each unit shall have at least 200 square feet of open space.

E. Parking

1. One parking space per unit.
 - a. Iron Bridge Townhomes
 - i. Single family townhomes require a one car garage.
 - ii. Multi family townhomes require one parking spot for every two multi family unit. (On street parking being provided; at least 20 spots on Meador St.; additional 20 parking spots located in ally)
 - iii. Micro townhome units have no dedicated parking, these units are intended to be for car-less occupants.

Live/Work

A. Description

Live/Work is an integrated residence and work space (located on the ground floor), occupied and utilized by a single household. Units are arranged side by side, similar to Townhomes.

B. Site Requirements and Setbacks

1. Lot Size/Density: 800-2000 s.f. range
2. Setbacks: 0 feet.

C. Bulk and Massing

1. Height: 25 feet minimum height requirement
- Units on major arterial roads need to be 35 feet minimum

D. Open Space (public/private)

No open space required

E. Parking

At least 2 per unit, one for resident and one customer

Commercial Eatery/Office/Retail

A. Description

Commercial structures support a wide range of uses, including offices, restaurants, and retail establishments.

B. Site Requirements and Setbacks

1. Density: Maximum density of 5,000 square feet per commercial unit.
2. Setback: Minimum front setback of five (5) feet from curb.

C. Bulk and Massing

1. Floor Area Ratio: Minimum FAR 2.0
2. Minimum Height: 25 feet

D. Open Space

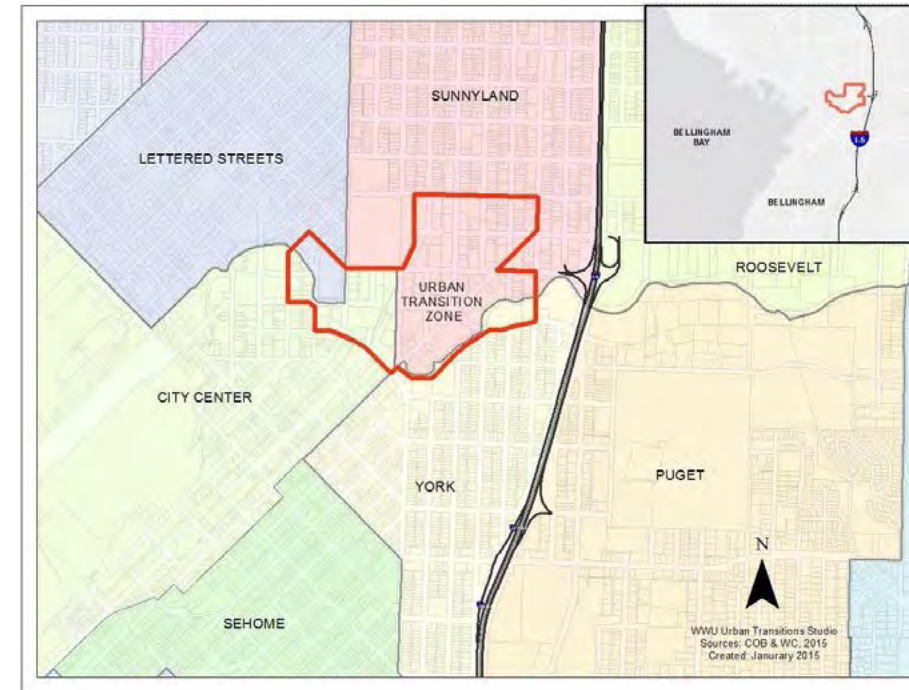
There is no requirement of open space *at commercial establishments.*

E. Parking

All parking should be located in the back of the building. One parking spot for each unit.



SECTION 3: LEED NEIGHBORHOOD DEVELOPMENT STRATEGIES



Assessment Report and Illustration of Sustainable Building Practices

Urban Transitions Studio
Live | Work Urban Village
South Sunnyland Neighborhood

PROJECT CHECKLIST

	Possible Points	Points Earned	Conditional Points
Smart Location and Linkage			
Prerequisite 1 – Smart Location	Required	X	
Prerequisite 2 – Imperiled Species / Ecological Communities	Required		X
Prerequisite 3 – Wetland and Water Body Conservation	Required	X	
Prerequisite 4 – Agricultural Land Conservation	Required	X	
Prerequisite 5 – Floodplain Avoidance	Required	X	
Credit 1: Preferred Location	10	10	
Credit 2: Brownfield Redevelopment	2	2	
Credit 3: Locations with Reduced Auto Dependence	7		2
Credit 4: Bicycle Network and Storage	1		1
Credit 5: Housing and Job Proximity	3	3	
Credit 6: Steep Slope Protection	1		1
Credit 7: Site Design for Habitat or Wetland	1		1
Credit 8: Restoration of Habitat or Wetland	1		1
Credit 9: Long term Conservation Management	1		1
Neighborhood Pattern and Development			
Prerequisite 1 Walkable Streets	Required		X
Prerequisite 2	Required	X	
Prerequisite 3	Required	X	
Credit 1: Walkable Streets	12		12
Credit 2: Compact Development	6	5	
Credit 3: Mixed Use Neighborhood Centers	4	4	
Credit 4: Mixed Income Diverse Communities	7	6	
Credit 5: Reduced Parking Footprint	1		1
Credit 6: Street Network	2	2	
Credit 7: Transit Facilities	1		1
Credit 8: Transportation Demand Management	2		2
Credit 9: Access to Civic and Public Spaces	1	1	
Credit 10: Access to Recreation Facilities	1	1	
Credit 11: Visitability and Universal Design	1		1
Credit 12: Community Outreach and Involvement	2		2
Credit 13: Local Food Production	1		1
Credit 14: Tree Lined and Shaded Streets	2		2
Credit 15: Neighborhood Schools	1	1	
Green Infrastructure and Buildings			
Prerequisite 1: Certified Green Building	Required	X	
Prerequisite 2: Minimum Building Energy Efficiency	Required		X
Prerequisite 3: Minimum Building Water Efficiency	Required		X
Prerequisite 4: Construction Activity Pollution Prevention	Required		X
Credit 1: Certified Green Buildings	5	2	
Credit 2: Building Energy Efficiency	2	2	
Credit 3: Building Water Efficiency	1		1
Credit 4: Water-Efficient Landscaping	1		1
Credit 5: Existing Building Reuse	1	1	
Credit 6: Historic Resource Preservation and Adaptive Use	1		1
Credit 7: Minimized Site Disturbance	1	0	
Credit 8: Stormwater Management	4		3
Credit 9: Heat Island Reduction	1		1
Credit 10: Solar Orientation	1		0
Credit 11: On-Site Renewable Energy Sources	3		3
Credit 12: District Heating and Cooling	2		0
Credit 13: Infrastructure Energy Efficiency	1		1
Credit 14: Wastewater Management	2		2
Credit 15: Recycled Content in Infrastructure	1		1
Credit 16: Solid Waste Management Infrastructure	1		0
Credit 17: Light Pollution Reduction	1		1
TOTAL POINTS	100	36	48

Chapter 1 Smart Location and Linkage

Prerequisite 1 - Smart Location

Meets Standard: Yes
Conditionally Meets Standard: NA

Requirements: Locate the project on a site served by existing water and wastewater infrastructure. Locate the project on an infill site.

Evidence:
This site is located on an area already developed and served by existing water and wastewater infrastructure. Below is a map from CityIQ, showing where the water and wastewater lines are located in our area. The Blue lines indicate Water Utility Lines the Green lines indicate Sewage Utility Lines.



figure: map of city water and sewage lines

Prerequisite 2 - Imperiled Species and Ecological Communities

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: to conserve imperiled species and ecological communities in the project planning site.

Requirements:
Consult with State departments and agencies (such as the state Natural Heritage Program and state fish and wildlife agencies) to determine if there are species listed as threatened or endangered under the federal Endangered Species Act, the state's endangered species act, or species or ecological communities classified by NatureServe as GH (possibly extinct), G1 (critically imperiled), or G2 (imperiled) have been or are likely to be found on the project site because of the presence of suitable habitat and nearby occurrences. If none are found, the prerequisite is satisfied. If species or habitat is found, there has to be a Habitat Conservation Plan made for each identified species or ecological community with the help of a certified biologist or local agency.

Evidence: Not yet met. There are several species of fish found in Whatcom Creek that are listed as protected species (under NOAA) on the West Coast and therefore protected under the Endangered Species Act. The species found are Coho Salmon, Fall Chinook Salmon, Fall Chum Salmon, Sockeye Salmon, Winter Steelhead Trout and Bull Trout. There is also suitable habitat found for all of these species in the creek.

Conditions for Achieving Credit
Several key species have been identified that are located in the creek that fall under the ESA. However, a qualified biologist needs to be hired to perform a biological survey using accepted methodologies during appropriate seasons to determine whether additional species or communities occur (or are likely to occur) in the site. After this, an approved Habitat Conservation Plan (or the equivalent) needs to be put in place with help from an appropriate state, regional, or local agency for each species or ecological community.

Prerequisite 3: Wetland and Water Body Conservation

Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To preserve water quality, natural hydrology, habitat, and biodiversity through conservation of wetlands and water bodies.

Requirements:

Sites with no Wetlands, Water Bodies, Land within 50 Feet of Wetlands, or Land within 100 Feet of Water Bodies- Prerequisite is satisfied. For sites with Wetlands, Water Bodies, Land within 50 Feet of Wetlands, or Land within 100 Feet of Water Bodies you must locate the project such that pre-project wetlands, water bodies, land within 50 feet of wetlands, and land within 100 feet of water bodies is not affected by new development, unless the development is minor improvements or is on previously developed land.

All Projects must comply with all local, state and federal regulations pertaining to wetlands and water body conservation (such as the Shoreline Management Act which requires a 100 foot buffer land that cannot be developed near waterways).

Evidence:

According to the LEED ND 2009 manual the following features are not considered wetlands, water bodies, or buffer land that must be protected for the purposes of this prerequisite: (*italic is what applies to our location*).

- a. *Previously developed land.*
- b. Man-made water bodies (such as industrial mining pits, concrete-lined canals, or stormwater retention ponds) that lack natural edges and floors or native ecological communities in the water and along the edge.
- c. *Man-made linear wetlands that result from the interruption of natural drainages by existing rights-of-way.*
- d. Wetlands that were man-made incidentally and have been rated “poor” for all measured wetland functions.

As seen below the green lines indicate wetland areas. However, they are both on previously developed land and are also man-made wetlands used for drainage. This means that though there are technically wetlands present in the area, for the sake of this prerequisite they are not considered wetlands.



figure: existing wetlands in project boundary

Prerequisite 4: Farmland Conservation

Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To preserve irreplaceable agricultural resources by protecting prime and unique soils on farmland and forestland from development.

Requirements:

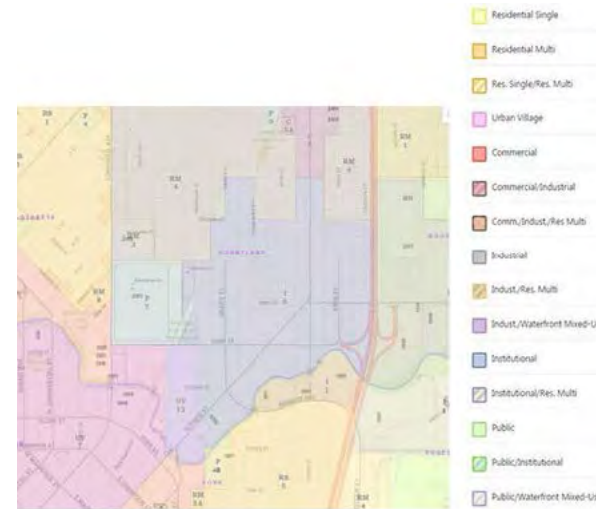
Locate the project on a site that is not within a state or locally designated agricultural preservation district, unless any changes made to the site conform to the requirements for development within the district (as used in this requirement, district does not equate to land-use zoning).

AND

Locate the project on an *infill site*.

Evidence:

The Sunnyland Neighborhood is not intended for agricultural uses.



Prerequisite 5: Floodplain Avoidance

Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To protect life and property, promote open space and habitat conservation, and enhance water quality and natural hydrological systems.

Requirement:

OPTION 1. Sites without Floodplains
 Locate on a site that does not contain any land within a 100-year high- or moderate-risk floodplain as defined and mapped by the Federal Emergency Management Agency (FEMA) (or a local equivalent for projects outside the U.S.) or a state or local floodplain management agency, whichever is more recent.

Evidence:

No new development is proposed within the FEMA 100-year floodplain. The white/gray development is existing and the colored development is proposed (see Figure X). The only previous developments within the floodplain are two buildings on the south end of the Ellis St. One building (Sustainable Connections) was built in 1929



prior to flood regulations or NFIP requirements. The other building (live/work units) was developed meeting elevation requirements and designed with wet flood-proofing techniques for the garage/basement.

Credit 1: Preferred Location

Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To encourage development within existing cities, suburbs, and towns to reduce adverse environmental and public health effects associated with sprawl. To conserve natural and financial resources required for construction and maintenance of infrastructure.

Requirements:

There are three options available for achieving a maximum of 10 points for this credit.

- OPTION 1: up to 5 points for a building on a previously developed site.
- OPTION 2: “Connectivity” of the neighborhood within ½ mile of the project boundary

Intersections per square mile	Points
≥ 200 and < 250	1
≥ 250 and < 300	2
≥ 300 and < 350	3
≥ 350 and < 400	4
≥ 400	5

OPTION 3: 3 points by achieving at least 2 points under the NPD Credit 4 and locating the project under one of the following high-priority redevelopment areas: EPA National Priorities List, Federal Empowerment Zone, Federal Enterprise Community, Federal Renewal Community, Department of Justice Weed and Seed Strategy Community, Department of the Treasury Community Development Financial Institutions Fund Qualified Low-Income Community (a subset of the New Markets Tax Credit Program), or the U.S. Department of Housing and Urban Development’s Qualified Census Tract (QCT) or Difficult Development Area (DDA).*

OPTION 1: 5 points. As a previously developed site that will also include infill that increases the density of both

living and working buildings, we achieve the full 5 points.

OPTION 2: 3 points. Below is an image of a ½ miles buffer (green) around the project boundary (blue). The credit allows for site area calculation to disregard water, slopes steeper than 15%, public facility campuses, and parkland greater than ½ acre. The area left is about 1.5 square miles. The total number of intersections (marked in red) equals 487 total. This equals 325 intersections per square mile and so the site earns 3 points.

OPTION 3: 2 points* The proof for the points achieved in this option can be found in NPD Credit 4 and in SLL Credit 2

Recommendations:

Though the maximum points for SLL Credit 1 have been achieved, there is potential for increased connectivity in the areas circled in pink that have particularly low intersection density. These spaces are mostly industrial and in various stages of disuse. As these spaces are developed in turn after the proposed project has been completed, new alleyways or roads should be constructed in the outlined areas to shorten block lengths in increase connectivity.



*SLL Credit 1 offers a potential of 13 points, but has a cap at 10 points. Technically this project achieves 11, but it can only count 10, so we must disregard 1 available point.



Credit 2: Brownfield Redevelopment Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To encourage the reuse of land by developing sites that are complicated by environmental contamination, thereby reducing pressure on undeveloped land.

Requirements:
 OPTION 1: 1 point. Locate the project on a site, part or all of which is documented as contaminated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment or a local Voluntary Cleanup Program), or on a site defined as a *brownfield* by a local, state, or federal government agency.

OPTION 2: 1 additional point by achieving Option 1 AND locating the project in one of the following high-priority redevelopment areas: EPA National Priorities List, Federal Empowerment Zone, Federal Enterprise Community, Federal Renewal Community, Department of Justice Weed and Seed Strategy Community, Department of the Treasury Community Development Financial Institutions

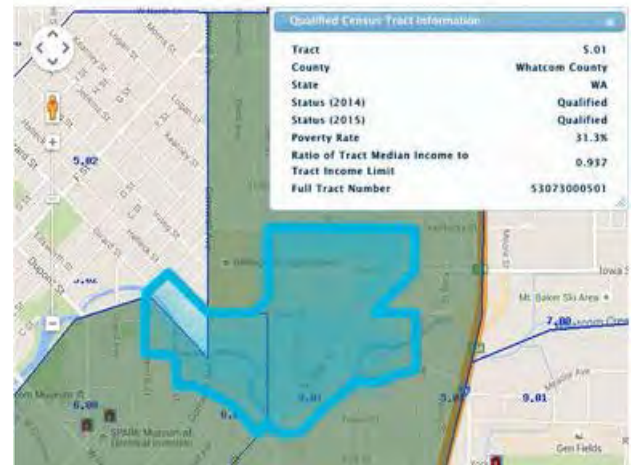


figure: HUD Qualified Census Tract

Fund Qualified Low-Income Community, or the U.S. Department of Housing and Urban Development’s

Qualified Census Tract (QCT) or Difficult Development Area (DDA).

OPTION 1: 1 point. The below sites all fall into the project boundaries and are declared contaminated sites according to the Washington Department of Ecology that still have cleanup plans required or in process (*note that the below company/building names are as listed by the DOE website, not necessarily the current management*):

- Union Foundry - 1900 Grant St.
- Mr. Cabinet - 1701 Ellis St.
- Cornwall Building - 1616 Cornwall Ave. (participating in Voluntary Cleanup Program)



figure: DOE declared contaminant sites

Option 2: 1 additional point achieved because we fall into the Department of the Treasury Community Development Financial Institutions Fund Qualified Low-Income Community, and partially into the U.S.



figure: Dept. of Treasury Qualified low income community

Department of Housing and Urban Development’s Qualified Census Tract (QCT) or Difficult Development Area (DDA)(Figure 2). The green background outlines the spaces that qualify for high-priority development with both figures.

Credit 3: Reduced Automobile Dependency Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To encourage development in locations shown to have multimodal transportation choices or otherwise reduced motor vehicle use, thereby reducing greenhouse gas emissions, air pollution, and other adverse environmental and public health effects associated with motor vehicle use.

Requirements:
 OPTION 1: Up to 7 points by having existing bus routes within ¼ mile of 50% of dwellings within boundaries that offer weekday and weekend (with both Saturday and Sunday trips). The below chart shows the point breakdown on the total number of trips required by the available bus routes. The neighborhood must achieve both the weekday and weekend minimums to attain the corresponding points. There are no other forms of public transportation running through the area, so this credit evaluation can disregard other calculable types of trips.

Weekday trips	Weekend trips	Points
60	40	1
76	50	2
100	65	3
132	85	4
180	130	5
246	150	6
320	200	7

OPTION 2: Locate the project within a region served by a metropolitan planning organization (MPO) and within a transportation analysis zone (TAZ) where either a) the current annual home-based vehicle miles traveled (VMT) per capita (if TAZ is 100% residential) or b) the annual non-home-based VMT per employee (if TAZ is 100% nonresidential) does not exceed 90% of the average of the equivalent metropolitan region value. *

Status: All residents live within ¼ mile of a bus station, but currently as bus 331 is the only line with Sunday trips, the site can only count having 50 weekday trips and 24 weekend trips. This is below the minimum trip number for any points.
 *Because the proposal is for mixed-use development and accordingly neither 100% residential nor 100% non-residential, Option 2 can be disregarded.

Conditions for Achieving Credit
 A few points can be achieved in this credit by manipulating existing bus routes in various ways. By adding Sunday trips for buses 3 and 4 that mirror their respective Saturday trips, the site would have a total of 75 weekday trips and 42 weekend trips, which awards 1 point to the project. Buses 49, 70X, 72X currently run through the proposal boundaries but do not stop for pick up. If Sunday trips are added to these buses in the same fashion as the 3 and 4 and a pick up station was established within the project boundaries, the site bus trips would increase to 92 weekday trips and 51* weekend trips, which awards 2 points. This credit is skewed in favor of highly dense metropolis areas, so it is unlikely that this project will achieve more points than 2 or 3 short of adding entirely new lines to the area. If new lines are added, it is the recommendation of this consultant that the line run along the northern project boundary on Kentucky St. to better serve the residents in that area that are currently underserved.

*Bus 70X currently has neither Saturday nor Sunday routes, but both the 49 and the 72X have 3 Saturday routes. 51 trips was calculated by assuming all three bus lines would adopt 3 Saturday and 3 Sunday routes.



figure: bus routes through Sunnyland

Credit 4: Bicycle Network and Storage

Meets Standard: No

Conditionally Meets Standard: Yes

Intent: To promote bicycling and transportation efficiency, including reduced *vehicle miles traveled* (VMT). To support public health by encouraging utilitarian and recreational physical activity.

Requirements:

Bicycle Network: Design and/or locate the *project* to meet the requirement of an *existing bicycle network* of at least 5 continuous miles in length is within 1/4 –mile bicycling distance of the *project boundary*.



Bicycle Storage: Provide bicycle parking and storage capacity to new buildings as follows:

- a. Multiunit residential. Provide at least one secure, enclosed bicycle storage space per occupant for 30% of the *planned occupancy* but no fewer than one per unit. Provide secure visitor bicycle racks on-site, with at least one bicycle space per ten *dwelling units* but no fewer than four spaces per project site.
- b. Retail. Provide at least one secure, enclosed bicycling storage space per new retail worker for 10% of retail worker planning occupancy. Provide visitor or customer bicycle racks on-site, with at last on bicycle space per 5,000 square feet of retail space, but no fewer than one bicycle space per business or four bicycle spaces per project site, whichever is greater. Provide at

least one on-site shower with changing facility for any development with 100 or more new workers and at least one additional on-site shower with changing facility for every 150 new workers thereafter.

- c. Nonresidential other than retail. Provide at least one secure, enclosed bicycle storage space per new occupant for 10% of planned occupancy. Provide visitor bicycle racks on-site with at least one bicycle space per 10,000 square feet of new commercial nonretail space but not fewer than four bicycle spaces per building. Provide at least one on-site shower with changing facility for every 150 new workers thereafter.

Conditions for Achieving Credit

The bicycle networks that runs through and adjacent to the project boundary connects for more than 5 continuous miles in length with designated in-street bike lanes, bicycle/pedestrian trails and paths, and low-speed traffic zones. CityIQ shows the in-street designated lanes as black lines, low speed traffic routes as blue, and trails as green.

The bicycle storage component of this credit details requirements for new buildings. In order to achieve this point the proposed developments must include bicycle storage according to the LEED ND manual. For example, the bicycle storage requirement for multiunit residential (consisting of four or more residential units sharing a common entry) applies to the proposals in the Sohio district, which includes micro housing and single bedroom apartments. The new buildings will need to calculate how many storage spaces need to be implemented according to the metrics outlined in the manual. An estimate of required storage spaces based on estimate of square footage of multiunit residential:

Micro

- 93,902 SF
- 276 DU
- 276 residents (PO = 1/DU)
- 276 secure, enclosed bicycle storage spaces
- 27 secure visitor bicycle racks on-site

Single bedroom apts.

- 153,322 SF
 - 225 DU
 - 337.5 residents (PO = 1.5/DU)
 - 225 secure, enclosed bicycle storage spaces
 - 22 secure visitor bicycle racks on-site
- Storage requirements for retail and nonresidential other than retail would be made upon development as they are contingent upon how many individual businesses occupy the proposed square footage.

Credit 5: Housing and Jobs Proximity

Meets Standard: Yes

Conditionally Meets Standard: NA

Intent: To encourage balanced communities with a diversity of uses and employment opportunities.

Requirement:

OPTION 1. Project with Affordable Residential Component
Include a residential component equaling at least 30% of the project’s total building floor area (exclusive of parking structures), and locate and/or design the project such that the geographic center is within 1/2-mile walk distance of existing full time-equivalent jobs whose number is equal to or greater than the number of dwelling units in the project; and satisfy the requirements necessary to earn at least one point under NPD Credit 4, Mixed-Income Diverse Communities, Option 2, Affordable Housing.

Evidence:

The total planning site area calculated through GIS measures 76.23 acres. This is roughly 12 percent of a square mile. There are 18 existing parcels with residential uses measuring about 2.24 acres. The plan proposes 26 parcels with residential uses measuring a total of 20.7 acres. The total residential acres existing and proposed in the plan measures 22.94 acres. Dividing 22.94 acres by 76.23 acres just meets the requirement of at least 30 percent residential component, totaling 30.1 percent for one point.

The geographic center of the entire study area is roughly at the Ohio and Grant St. intersection. Figure XX shows that a ½-mile radius fully encompasses the study area. Chapter 1 of plan identifies 1,165 existing full time jobs within the study area as of 2008 (p.6). There are currently around 20 existing single-family residential units within the area and the plan also proposes 809 additional dwelling units, which is about 830 planned dwelling units. The requirement that the number of existing full time jobs within a ½ mile walking distance from the geographic center is greater than the number of dwelling units in the project is met: 1,165 jobs > 830 planned dwelling units for one point.

See NPD Credit 4, Mixed-Income Diverse Communities, Option 2 Affordable Housing for meeting one point under that option.



Credit 6: Steep Slope Protection

Meets Standard: No

Conditionally Meets Standard: Yes

Intent: To minimize erosion to protect habitat and reduce stress on natural water systems by preserving steep slopes in a natural, vegetated state.

Requirements:

OPTION 1. Locate on a site that has no existing slopes greater than 15%, or avoid disturbing portions of the site that have existing slopes greater than 15%.

OPTION 2. On portions of *previously developed sites* with existing slopes greater than 15%, restore the slope area with *native plants* or noninvasive *adapted plants* according to Table 1.

Table 1. Required restoration area of slope

Slope	Restoration
<15% to 25%	40%
26% to 40%	60%
>40%	100%

In addition, develop *covenants, conditions, and restrictions* (CC&R); development agreements; or other binding documents that will protect the specified steep slope areas in perpetuity.

Conditions for Achieving Credit

Pursuant to the Shoreline Management Act plan for the area, the only space steeper than 15%, the banks for Whatcom Creek, will have a development buffer prohibiting development within 100 feet of the stream. Additionally, development proposals already include reestablishing the creek banks by restoring riparian zone native plants.

Note: The map is partially topography lines and partially LIDAR data, making the data represented somewhat inconsistent. The yellow lines mark 5-foot intervals in elevation change, so where there are two topography lines are closer than 33 feet, this indicates a slope greater than 15%. The only consistent instance of this is in the southwest corner of the map, outside the project boundaries.



figure: topography map at 5 foot intervals

Credit 7: Site Design for Habitat or Wetlands Conservation

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To conserve native plants, wildlife habitat, wetlands and water bodies.

Requirements:

To meet the requirements for credit 7, 100% of all water bodies plus a 100 ft. buffer as well as a 50 ft. buffer around all wetlands needs to be conserved. Ongoing commitment to management activities and assess water quality maintenance and habitat protection is also required.

Conditions for Achieving Credit

100% of the water bodies in the area are already conserved as well as 100 ft. buffers that are already in place along Whatcom Creek. The only difference between what is needed to obtain the point and what is currently in place is that although the current Shoreline Management Act protects the bodies of water and buffers, some parts are still technically privately owned. The commitment plan above is also met later by completing Credit 9, the long-term conservation management of wetlands and water bodies so to complete this credit, all the plan has to incorporate further is to buy the private property within the buffers or offer compensation to make the land legally public. Below is a map of the areas owned by the city and the sections in between along the stream that are not green or yellow shaded are the areas should be acquired into public ownership.



Credit 8: Restoration of Habitat or Wetlands

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To restore native plants, wildlife habitat, wetlands, and water bodies that have been harmed by previous human activities.

Requirements:

To meet this credit's requirements, only native plants can be used to restore predevelopment native ecological communities, water bodies, or wetlands on the project site in an area equal to or greater than 10% of the development footprint. Through the plan, these areas will be protected in perpetuity by donating or selling the land or a conservation easement on the land, to an accredited land trust or relevant public agency. The plan can further meet the ongoing management activities requirement by earning Credit 9, Long-Term Conservation Management, which it will do.

Conditions for Achieving Credit

10% of the whole development footprint we calculated to come to 1.8 acres. The goal is to restore the entire bounds of Whatcom Creek within the designated project area eventually, which totals 21 acres in all - well above the needed 1.8 acres to achieve the credit. The shorter-term goal is to restore the area shown below along the blue line. This section of the creek alone is 4.35 acres, which would also meet the point requirements.



Credit 9: Conservation Management of Habitat or Wetlands

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To conserve native plants, wildlife habitat, wetlands, and water bodies.

Requirements:

Create and commit to implementing a long-term (at least ten-year) management plan for new or existing onsite native habitats, water bodies, and/or wetlands and their buffers, and create a guaranteed funding source for management. Involve a qualified biologist or a professional from a natural resources agency or natural resources consulting firm in writing the management plan and conducting or evaluating the ongoing management. The plan must include biological objectives consistent with habitat and/or water resource conservation, and it must identify (1) procedures, including personnel to carry them out, for maintaining the conservation areas; (2) estimated implementation costs and funding sources; and (3) threats that the project poses for habitat and/or water resources within conservation areas and measures to substantially reduce those threats.

Conditions for Achieving Credit

While there is no plan present in the planning area, there have been management plans in place in the upper part of the creek (where the 1999 pipeline explosion occurred). In order to satisfy this requirement the proposed development project will be looking at the area where town houses are being developed as our model site for ideal conservation management of Whatcom Creek (see below). The conservation management plan that was put in place in the northern part of the creek will serve as a model, as well as conservation management in Squalicum creek.

Some components of the plans looked at to be included in the proposed model includes: removing invasive species (and monitoring the area so they don't return), reintegrating large woody debris, monitoring vegetation,

fish recovery in the creek (by using live traps), riparian and terrestrial wildlife communities (again with live traps), hydrology, instream habitat and water quality as well as document the use of the restoration area by other species. The management plan will also remove any man-made banks and make them more natural. The p plan will also be adding native species to the area to provide shade and nutrients to the creek. Potential sources of long term funding, and personnel to monitor the area, include the department of Ecology and the Whatcom Land Trust.



figure: examples of previous Whatcom Creek restoration

Squalicum Creek restoration. Left is before. Right is after with the introduction of large woody debris and removal of invasive species (native species to be planted later).

This is an example of a creek with man-made banks (similar to Whatcom Creek) and the restoration efforts to make the bank more natural. This is similar to what we plan to do with the creek in our planning area.

Planning Area:

Yellow highlighted area is the proposed townhouse location. The creek that is along the townhouses is the site proposed for a model of conservation management.

Resources:

To look at different techniques for monitoring species and recovery it would be wise to use the Conservation Management Plan from the 1999 pipeline explosion, which can be found here:

<http://www.cob.org/documents/pw/environment/restoration/2009-wc-restoration-report.pdf>

Additional resources on creek restoration projects can be found at the below websites:

<http://www.cob.org/services/environment/restoration/links.aspx>

<http://www.cob.org/services/environment/restoration/squalicum-creek.aspx>



Chapter 2 Neighborhood Pattern and Development

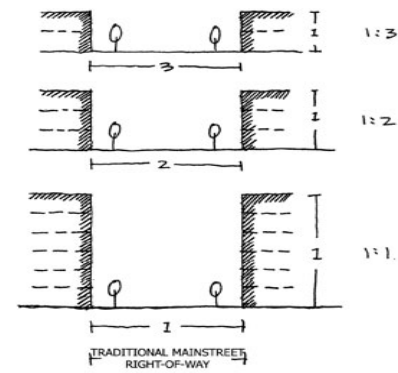
Prerequisite 1: Walkable Streets
Meets Standard: No
Conditionally Meets Standard: Yes

Requirements:

In order to achieve this prerequisite, there are several recommendations that would need to be met. To meet the requirement, 90% of streets need to have sidewalks on both sides. Currently, only 85% of streets within the project have sidewalks on both sides. Streets that lack sidewalks on both sides are Kansas, Meador, James, Grant St, Ellis st, and Unity st. In the future, new sidewalks must be at least 8 feet wide on retail or mixed use blocks and at least 4 feet wide on all other blocks. New building frontage should also have a functional front facade facing a public space. Streets like N State St, Cornwall, and York street have smaller building height than they should for the road width. The total linear feet of the street frontage is 21,285 feet.

Conditions for Achieving Credit

To meet the requirement, 15% of the street frontage should have a street width to building height ratio of 1:3, which would be 3,192 feet. This requirement would be met by requiring a building height of at least 35 feet on numerous streets.



Prerequisite 2: Compact Development
Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To conserve land. To promote livability, walkability, and transportation efficiency, including reduced *vehicle miles traveled* (VMT). To leverage and support transit investments. To reduce public health risks by encouraging daily physical activity associated with walking and bicycling.

Requirements:

- 12 or more DU per acre of buildable land located within ¼ mile of transit services
- 7 or more DU per acre of buildable land located outside ¼ mile of transit services
- .80 FAR or greater of buildable land for nonresidential uses located within ¼ mile of transit services
- .50 FAR or greater of buildable land for nonresidential uses located outside ¼ mile of transit services

Option 2

Build any residential components of the project at a density of 7 dwelling units per acre of buildable land available for residential uses.

Build any nonresidential components of the project at a density of 0.50 FAR or greater of buildable land available for nonresidential uses.

Evidence:

According to the final report from the 2015 Urban Transition Studies, there are a total of 809 dwelling units proposed in the project area to be infilled into an area of 20.7 Acres (see below table). When divided, this comes out to a density of 39 dwelling units per acre, which is well above the 7 dwelling units per acre that this prerequisite requires.

Land Use:	Commercial	Industrial (based off 775 sq ft per job)	Residential/Live
Nohio	94,340 sq ft	26,864 sq ft	50 Units= 105 people
SOHio	177,132 sq ft		635 units=854 people
Iron Bridge	30,880 sq ft		124 units= 260 people
Total Amount of Sq. Ft./ Number of Units	302,352 sq ft		809 new units
Total Number of Jobs/ Number of New Residents	484 New Jobs	35 New Jobs	
	519 New Jobs in Total		1,219 New Residents in Total

To meet the nonresidential requirement there would need to be a building ordinance enacted. Builders of nonresidential buildings would be required to build so that the floor area ratio of a building is at 50 percent of the lot size or greater.

Depending on if credit 3 from the SLL group meets the 2-point threshold we could also meet the more stringent option 1. This option is dependent on if the dwelling units/ nonresidential units are within a quarter mile of a transit service.

Option 1: projects in Transit Corridors

For projects with existing and/or planned transit service that meets or exceeds the 2-point threshold in SLL Credit 3, Locations with Reduced Automobile Dependence, Option 1, build at the following densities, based on the walk distances to the transit service specified in SLL

Credit 3:

- For residential components located within the walk distances: 12 or more dwelling units per acre of building land available for residential users.
- For residential components falling outside the walk distances: 7 or more dwelling units per acre of buildable land available for residential uses.
- For nonresidential components located within the walk distances: 0.80 floor area ratio (FAR) or greater of buildable land available for nonresidential uses.
- For nonresidential components falling outside the walk distances: 0..50 FAR or greater or buildable land available for nonresidential uses.

Prerequisite 3: Connected and Open Community
Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To promote projects that have high levels of internal connectivity and are well connected to the community at large. To encourage development within existing communities that promote transportation efficiency through multimodal transportation. To improve public health by encouraging daily physical activity.

Requirements:

Internal connectivity is at least 140 intersections per square mile and at least one non-motorized right-of-way or through-street.

Evidence:

In order to meet this prerequisite, LEED ND calls for at least 140 intersections per square mile and at least one non-motorized right-of-way. There are 640 acres per sq. mile so to meet the credit the required number of intersections is 73 in our work region, which is 76.63 acres big. There are also plenty of non-motorized right-of-ways in our work area with all the different bicycle paths and pedestrian walkways.



The last item can be achieved by having no more than 10% of at grade crossings with driveways along the length of sidewalks within the project. Over 2,128 feet of sidewalk must be at grade driveways out of the total 21,285 feet of streets, in order to go over this limit. The largest streets within the project boundary include N State, Cornwall, York, Ohio, and Iowa street. Those streets combined represent a quarter of the streets within the project boundary, and have less than 500 feet of at grade crossings with driveways. Based on this calculation, it appears that the project boundary does not have more than 10% at grade crossings with driveways along the length of sidewalks within the project, achieving this item.

Achievable Points

Items Achieved	Points
2-3	1
4-5	2
6-7	3
8-9	4
10	7
11	8
12	9
13	10
14	11
15-16	12

Credit 2: Compact Development

Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To encourage development in existing areas to conserve land and protect farmland and wildlife habitat. To promote livability, walkability, and transportation efficiency, including reduced vehicle miles traveled (VMT). To improve public health encouraging daily physical activity associated with alternative modes of transportation and compact development.

Requirements:

Design and build the project such that residential and nonresidential components achieve the densities per acre of buildable land listed in the following table.

Residential density (DU/acre)	Nonresidential density (FAR)	Points
> 10 and ≤ 13	> 0.75 and ≤ 1.0	1
> 13 and ≤ 18	> 1.0 and ≤ 1.25	2
> 18 and ≤ 25	> 1.25 and ≤ 1.75	3
> 25 and ≤ 38	> 1.75 and ≤ 2.25	4
> 38 and ≤ 63	> 2.25 and ≤ 3.0	5
> 63	> 3.0	6

DU = dwelling unit; FAR = floor area ratio.

Evidence:

According to the final report from the 2015 Urban Transition Studies, there are a total of 809 dwelling units proposed in the project area to be infilled into an area of 20.7 Acres (Table #). When divided this comes to a density of 39 dwelling units per acre which qualifies us for 5 points according to residential densities.

For nonresidential densities, a building ordinance would need to be enacted. The requirement could be for a floor area ratio of greater than 2.25 to 3.0 to achieve 5 points or a less restrictive floor area ratio of greater than 1.75 to 2.25 to achieve 4 points for this credit.

Credit 3: Diversity of Uses

Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To cluster diverse land uses in accessible neighborhood and regional centers to encourage daily walking, biking, and transit use, reduce *vehicle miles traveled* (VMT) and automobile dependence, and support car-free living.

Requirements:

(For Projects 40 Acres or Greater) Have a diversity of uses upwards to 19 different uses in the region of work. We had over 50 various uses. Also there had to over 9 different uses in a 300-foot circle, which means we got full credit.

Evidence:

The credit has been met for all four points possible. This credit requires that an area larger than 40 acres, ours is 76.63 acres, has at least 19 different uses in it. There were easily over 40 various uses among our region (see Appendix I). The other requirement is within a 300 ft circle there has to be at least 9 different uses. We were able to meet this credit by having a wide variety of uses in our work area. The map below shows a small section of our work area in the Sohio district on Ohio St and Central St. Where there is multiple different uses that are located on one block. Just in that 300 foot circle their Sun Mar Studio, Leavitt Group, Forget Me Not Salon and Spa, Jogo Crossfit Bellingham, The Dance Studio, Cosign Northwest, Wander Brewery, Hammer Studies, Afloat, plus some others that are all located in that block.



Credit 4: Mixed-Income Diverse Communities

Meets Standard: Yes
Conditionally Meets Standard: NA

Requirements:

Option 1: Diversity of Housing Types - Include a sufficient variety of housing sizes and types in the project such that the total variety of planned and existing housing within the project achieves a Simpson Diversity Index score greater than 0.5 to earn 1 to 3 points according to the following table.

Simpson Diversity Index score	Points
> 0.5 to < 0.6	1
≥ 0.6 to < 0.7	2
≥ 0.7	3

Option 2: Affordable Housing - Include a proportion of new rental and/or for-sale dwelling units priced for households earning below the area median income. Rental units must be maintained at affordable levels for a minimum of 15 years. 1 to 3 additional points may be earned according to the following table.

Rental dwelling units				For-sale dwelling units			
Priced up to 60% AMI		Priced up to 80% AMI		Priced up to 100% AMI		Priced up to 120% AMI	
Percentage of total rental units	Points	Percentage of total rental units	Points	Percentage of total for-sale units	Points	Percentage of total for-sale units	Points
5	1	10	1	5	1	8	1
10	2	15	2	10	2	12	2
15	3	25	3	15	3	--	--

AMI = area median income.

Option 3: Mixed-Income Diverse Communities - A project may earn 1 additional point by earning at least 2 points in Option 1 and at least 2 points in Option 2.

Evidence:

Option 1: Diversity of Housing Type - When our housing types are placed into the Simpson Diversity Index equation we fall under the 3-point category. The following table shows how.

Housing Type	Number of Units	Simpson Equation	Ratio
Townhomes	104	$1 - \sqrt{(104/809)^2}$.98
Live/work	45	$1 - \sqrt{(45/809)^2}$.99
Multi-unit	595	$1 - \sqrt{(595/809)^2}$.45
Detached	65	$1 - \sqrt{(65/809)^2}$.99
Average			.85

Option 2: Affordable Housing

To achieve points for option 2 there must be an ordinance enacted to require landlords to provide affordable housing at a specific level. We propose that we strive to achieve 2 point under the Rental Dwelling units category, this requires that 10% of rental units be priced no hire than 60% of the Area Median Income. This would be easily achievable as 10% of the 809 proposed units are 81 units. For this specific project there are 65 units of homeless housing proposed for low to no income individuals. There would then need to be an addition 16 units in other proposed housing to reach 81 units priced up to 60% of the Area Median Income

Option 3: Mixed-Income Diverse Communities - By achieving 3 points in Option 1 and 2 points in Option 2 we would be awarded a bonus 1 point in Option 3.

Credit 5: Reduced Parking Footprint

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To increase the pedestrian orientation of the project area, encourage human-scale activities such as walking and bicycling, and to reduce the adverse environmental effects of parking facilities.

In order to achieve this credit several conditions must be met, including:

- All new off-street parking lots must not be placed at street fronts and use no more than 20% of new development.
- All new multi unit residential buildings must provide secure, enclosed bicycle storage for no less than 30% of planned occupancy and visitor bicycle storage for no less than 10% of occupancy.
- All new retail buildings must provide secure, enclosed bicycle storage for no less than 10% of planned worker occupancy and no less than one visitor bicycle parking space per 5,000 sq feet of retail space.
- All new non-residential sites other than retail must provide secure, enclosed bicycle storage space for no less than 10% of planned worker occupancy and no less than one visitor bicycle space per 10,000 sq ft of new development.
- All new nonresidential and mixed-use buildings must provide carpool spaces for no less than 10% of total automobile parking.



Credit 6: Street Network

Meets Standard: Yes

Conditionally Meets Standard: NA

Intent: to promote projects that have high levels of internal connectivity and are well connected to the community at large. This also encourages development within existing communities, thereby conserving land and promoting multimodal transportation. Also to improve public health by encouraging daily physical activity and reducing the negative effects of motor vehicle emissions.

Requirements:

That there is an intersection on the project boundary every 400 feet, and That 90% of every new culs-de-sacs have a pedestrian or bicycle through way, unless a physical boundary or previous construction prevent it. That the project is located so its internal connectivity has at least 300-400 intersections per sq mile (one point) or over 400 intersections per square mile (2 points).

Evidence:

An intersection does occur every 400 ft of the project boundary. All exceptions to this are due to existing construction or physical boundaries. We are also not building all new culs-de-sacs, which enables us to have adequate internal connectivity. Before any added intersections from the project, we have adequate internal connectivity, with 73 intersections in 76 acres. This gives us over 500 intersections per square mile, giving us enough connectivity (over 400 intersections per square mile) to satisfy the full two points of this credit. See map below for verification.



Credit 7: Transit Facilities

Meets Standard: No

Conditionally Meets Standard: Yes

Intent: To encourage transit use and reduce driving by providing safe, convenient, and comfortable transit waiting areas and safe and secure bicycle storage facilities for transit users.

Requirements:

There are three main requirements for this credit, each one focuses on providing accommodations that will hopefully encourage transit use in the area.

Requirement number one is to work with the transit agency or agencies serving the project to identify transit stop locations within and/or bordering the project boundary where transit agency-approved shelters and any other agency-required improvements, including bicycle racks, will be installed no later than construction of 50% of total project square footage. At those locations, install approved shelters and any required improvements, or provide funding to the transit agency for their installation. Shelters must be covered, be at least partially enclosed to buffer wind and rain, and have seating and illumination. Any required bicycle racks must have a two-point support system for locking the frame and wheels and be securely affixed to the ground or a building.

Requirement number two is to work with the transit agency or agencies serving the project to identify locations within and bordering the project boundary where the agency determines that transit stops will be warranted within two years of project completion, either because of increased ridership on existing service resulting from the project or because of planned future transit. At those locations, reserve space for transit shelters and any required improvements, including bicycle racks. In lieu of or in addition to new stops, this requirement can be satisfied with a commitment from the transit agency to provide increased service to the transit stops that will have been installed at the time of 50% build-out.

Requirement number three is to work with the transit agency or agencies serving the project to provide kiosks, bulletin boards, and/or signs that display transit schedules and route information at each public transit stop within and bordering the project.

Conditions for Achieving Credit

The first requirement for this credit is not met. There are many bus stops located within the project boundary but none of them provide bicycle parking. In addition, of the 13 bus stops within the area, 10 of them do not have shelters or seating. The second requirement for this credit is met, because transit service will be increased to the area in order to satisfy credit 8 Transportation Demand Management. The third requirement is also met because schedules and information are installed at each bus stop.

Insert picture: Bus Station in study area with a shelter, seating, and schedules posted.

The main recommendation for achieving this credit would be to replace 10 bus stops with bus shelters. In addition, all the bus shelters and stops in the area need to provide bicycle parking.

Credit 8: Transportation Demand Management

Meets Standard: No

Conditionally Meets Standard: Yes

Intent: To reduce energy consumption, pollution from motor vehicles, and adverse public health effects by encouraging multimodal travel.

Requirements:

To achieve this credit we need to have a variety of different plans in place. All of these options only apply to new construction and completing two options gets you a point. Four must be completed to achieve full credit.

OPTION 1. TDM Program - A program to encourage use of transit, or non motorized transit.

OPTION 2. Transit Passes - Offering passes at a discounted rate for at least a year to encourage transit use.

OPTION 3. Developer-Sponsored Transit - the developer provides transit to major destinations.

OPTION 4. Vehicle Sharing - depending on dwelling units, certain percentages of access must be met to reduce car trips.

OPTION 5. Unbundling of Parking - 90% of multi unit residential units and/or nonresidential square footage, the associated parking spaces are rented/sold separately from the dwelling units and/or nonresidential square footage.

Conditions for Achieving Credit

To satisfy option one: To create a program, partnering with smart trips and safe routes to school to encourage use of non-motorized transit in the area. The program would be benefited by having an partnership with the community bike shop the hub to provide education and

support to the area. The entrepreneurial center will also provide some tool use for bike repair and have a bike pump for public use.

To satisfy option two: We will partner with WTA to provide discounted passes (at at least 50% discount) to residences for a year. This will encourage residents to ride the bus and utilize the main bus station that is located within walking area to our project area.

Satisfying option three was considered redundant and unnecessary with current transit service to the area.

To satisfy option four: We will have vehicle-sharing options stationed no less than 1/4th a mile from each residential development. This would be easily satisfied by having each development area (Sohio, Nohio, and Ironbridge) have their own parking for vehicle sharing (such as zipcars). Sohio has 635 residence units so we would need at least 6 parking spaces for vehicle shares. Nohio has 50 units, so it needs just one parking space for vehicle share. Ironbridge has 124 units so it would need two parking spaces for vehicle shares. Centralizing the vehicle share would not encourage as frequent use of them, having them at the developments would make it more convenient and provide more use of the vehicle share.

To satisfy option five all parking spaces in multiunit dwellings will be rented at apart from the rent of the residence. This would allow local businesses to have parklets or utilize the space for their businesses. This would allow residents to customize their need of parking as well as encourage residents to not own a car.



Credit 9: Access to Civic and Public Space

Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To improve health and social capital by providing a variety of open spaces close to work and home to facilitate social networking, civic engagement, physical activity, and time spent outdoors.

Requirements:
 Design civic or passive-use space at least ¼ acre in area that lies within ¼ mile walking distance of 90% of planned and existing dwelling units. Spaces less than 1 acre cannot be narrower than 1 unit of width to 4 units of length. Projects larger than 7 acres must be located or designed such that the median size of civic or passive-use spaces within and/or contiguous to the project is at least ½ acre.

Evidence:
 The proposed park development along Whatcom Creek in the Iron Bridge district would be accessible within a ¼ mile walk distance of the entire project area. In addition, the park is an estimated 2 acres in size.



Credit 10: Access to Recreation Facilities

Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To improve physical and mental health and social capital by providing a variety of recreational facilities close to work and home to facilitate physical activity and social networking.

Requirements:
 Locate or design a publicly accessible recreation facility that is more than 1 acre and lies within a half-mile walk distance of 90% of project developments. These facilities must also include physical improvements.

Evidence:
 Bellingham High School's 7 acres of recreational facilities are open to the public and include a baseball diamond, a soccer field and multiple tennis courts. Although not directly in the project area, these facilities are within a half-mile walking distance of all planned development.



Credit 11: Visitability and Universal Design

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To enable the widest spectrum of people, regardless of age or ability, to more easily participate in community life by increasing the proportion of areas usable by people of diverse abilities.

Requirements:
 Option 1: Projects With Dwelling Units

For each new project dwelling unit of the following residential building types, design to the applicable requirements specified.

Multi Unit buildings with four or more dwelling units.
 This category includes mixed-use buildings with dwelling units. Design a minimum of 20% of the dwelling units (and not less than one) to incorporate the universal design requirements stated below, or complies with Option 2. Choose at least one of the following three strategies for universal design:

a. Throughout the home, include at least five of the following universal design features to facilitate universal function, access, and user ability:

- Easy-to-grip cabinet and drawer loop handles.
- Easy-to-grip locking mechanisms on doors and windows.
- Easy-to-grip single-lever faucet handles.
- Easy-touch rocker or hands-free switches.
- Motion-detector lighting at entrance, in hallways and stairwells, and in closets, and motion-detector light switches in garages, utility spaces, and basements.
- Large, high-contrast print for controls, signals, and the house or unit numbers.
- A built-in shelf, bench, or table with knee space below, located outside the entry door with weather protection overhead, such as porch or stoop with roof, awning, or other overhead

- covering.
- A minimum 32-inch clear door opening width for all doorways.

Status: Since residential buildings in the South Sunnyland neighborhood were not built recently, it is safe to assume that most if not all of them are not built in accordance with current universal design standards.

Conditions for Achieving Credit
 Universally designed buildings will be achieved through incorporation of design standards to the proposed micro housing units.

The five design features from Option 1 that will be utilized

- Easy-to-grip lever door handles.
- Easy-to-grip locking mechanisms on doors and windows.
- Easy-touch rocker or hands-free switches.
- Easy-to-grip cabinet and drawer loop handles.
- A minimum 32-inch clear door opening width for all doorways.



Credit 12- Community Outreach and Involvement

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To encourage responsiveness to community needs by involving the people who live or work in the community in project design and planning and in decisions about how it should be improved or how it should change over time.

Requirements:

- Solicit the input of adjacent property owners, residents, business owners, planning and community development officials on project
 - Prior to commencing a design
 - Throughout the design process
- Additional point- use a design charrette

Status: As a student led project rather than a formal city planning process it has not properly met the requirements for Credit 12.

Conditions for Achieving Credit
 To meet both the requirements for this credit, as well as receive an additional point for incorporating a design charrette, the following conditions for development should apply in the area:

Before any new development projects or changes to existing development and/or zoning can occur in the Sunnyland Neighborhood, proposals must go through a community review process. This review process will occur in conjunction with the Sunnyland Neighborhood Association (reachable at P.O. Box 2515, Bellingham WA 98225 or <http://www.sunnyland.org/about/>), Sunnyland Neighborhood bylaws and the City of Bellingham's municipal code governing Type II land uses, planned development (BMC 21.10.040). The procedure for these meetings can be found in Appendix II and a list of parcels and people to receive notice about meetings can be found in Appendix III along with a visual representation of the extent of contact for meetings.

Credit 13: Local Food Production

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To promote community-based food production, improve nutrition through increased access to fresh produce, support preservation of small farms producing a wide variety of crops, reduce the negative environmental effects of large-scale industrialized agriculture, and support local economic development that increases the economic value and production of farmlands and community gardens.

Requirements:

- Establish CC&Rs that do not prohibit the growing of produce within the project boundary.
- Purchase shares in a CSA program
 - For 80% of dwelling units within the project, for 2 years
 - Within 150 miles of project site, drop off within ½ mile of center
 - At least twice per a month, at least four months of the year

Status: There is no established CC&R for the development, and the established farmers market is not within ½ mile of geographic center of project that would qualify it for the point.

Options
 Option 3 is not met for this credit, as the center of the project development site is more than ½ mile from an existing farmers market. Whether or not Option 1 would be satisfied remains to be seen and is partially dependent on decisions made later in the class regarding the size of urban farming projects to be put into place. Therefore, to complete this credit, the city should comply with the requirements from Option 2 in the following manner unless it is later determined that the credit could be obtained sufficiently by meeting Option 1-Neighborhood Farms and Gardens:

Conditions for Achieving Credit
 To meet the requirement for this point, the following

Covenants Conditions and will apply to all properties proposed for rezoning within the project boundary.

THIS DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS is made by the South Sunnyland Neighborhood Association of Bellingham.

Recitals

A. The Declarant is the law making body with jurisdiction within this subsection of the Sunnyland Neighborhood, Bellingham, Washington.

B. All owners of lots, their successors, heirs and assigns identified in this Declaration shall have the right to enforce these covenants, conditions and restrictions.

C. The Declarant has adopted, imposed and subjected the property hereinafter described to certain covenants, conditions and restrictions for the purpose of:

- 1) The promotion of community-based food production
- 2) The improvement of nutrition through increased access to fresh produce
- 3) The reduction of negative environmental effects of large-scale industrialized agriculture
- 4) Supporting local economic development that increases economic value and production of farmlands and community gardens

NOW, THEREFORE, the Declarant does hereby establish and impose upon the properties of the South Sunnyland Neighborhood, the covenants for the benefit of those by whom it shall be observed and enforced.

Covenants

1. The growing of produce shall not be prohibited within the project boundaries.
 - a) This is to include greenhouses, any portion of residential front, rear, and side yards
 - b) This is to include balconies, patios, and rooftops
2. Greenhouses are prohibited in front yards that face the street
 - a) This is not to include gardens, raised-bed or otherwise
3. The establishment of community gardens and rooftop gardens within the project boundaries shall be strongly encouraged.

As part of the adoption of LEED ND in the development of the South Sunnyland Neighborhood, the City of Bellingham shall buy shares in community supported agriculture programs (CSAs) for 80% of residents in newly planned dwellings (including both residences, live-work, and mixed-use), amounting to 647 residences (80% of the 809 new units proposed). These shares will be given out via a lottery system and shall last for a period of two years. The shares shall be delivered on the second and fourth Saturday's of every month from June through October to the parking lot of Bellingham High School (less than 1/2 mile from the project's geographic center at the intersection of Ohio and Grant Streets).

These shares shall be purchased in CSAs located within 150 miles of the South Sunnyland Neighborhood. The COB shall buy shares in several different CSAs in order to best support local agriculture. A list of potential programs can be found below.

List of possible CSA's for Credit

- 1) The Grubbs Family, bellinghamcountrygardens.com
- 2) Mike and Kimberly Finger, www.cedarvillefarm.com
- 3) Billy Tate and Nicole Brown, billyandnicole@moondancefarm.net
- 4) Jay Dennison 3, growingwashington.org

*A complete list of Whatcom County Farms that participate in CSA programs can be found at: <http://www.communityfood.coop/coop/wp-content/uploads/2011/05/2014-CSA-Farm-List-.pdf>

Credit 14: Tree Lined and Shaded Streets

Meets Standard: No
Conditionally Meets Standard: Yes

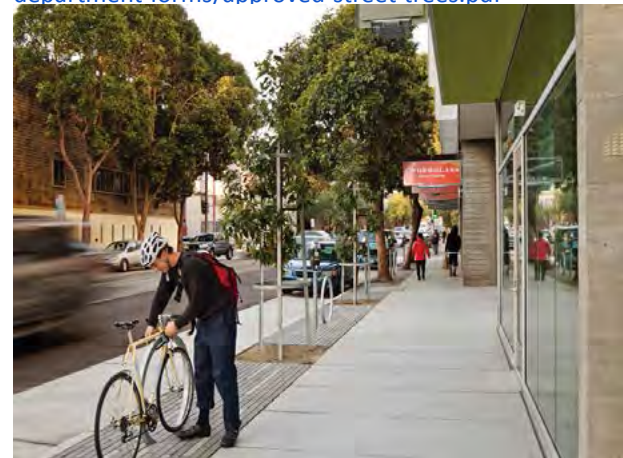
Intent: To encourage walking and bicycling while discouraging excessive motoring speeds. This credit intends to reduce the heat island effect, improve air quality, and reduce cooling loads in buildings.

Requirements:
Provide trees between the street and walkway for at least 60% of new and existing streets at intervals of no more than 40 feet. Trees or other structures must provide shade over at least 40% of the length of sidewalks. All plantings must be confirmed by a registered landscape architect.

Conditions for Achieving Credit

In order to achieve this credit and beyond the streets within the site area must be lined with shade trees approved by the City of Bellingham for street planting for at least 70% of the site area at intervals of no more than 35 feet.

*Street Trees approved by COB: <http://www.cob.org/documents/planning/applications-forms/misc-department-forms/approved-street-trees.pdf>



Credit 15: Neighborhood Schools Meets Standard: YES

Conditionally Meets Standard: NA

Intent: To promote community interaction and engagement by integrating schools into the neighborhood. To support students' health by encouraging walking and bicycling to school.

- Requirements:**
- At least 30% of the project's square footage must be residential, at least 50% of units must be within 1/2 mile of an elementary or middle school or within 1 mile of a high school.
 - Streets leading to the school must have a complete network of sidewalks and either bike lanes or traffic control/calming.
 - Acreage must not exceed...
 - High School: 15 acres

Status: The residential component of project is just above the 30% of total project area required, and all dwelling units are within a mile of an existing high school. Since school is pre-existing to the development, size requirements do not apply but Bellingham High School's 2.9 acres are well within the 15-acre limit for high schools under this credit.

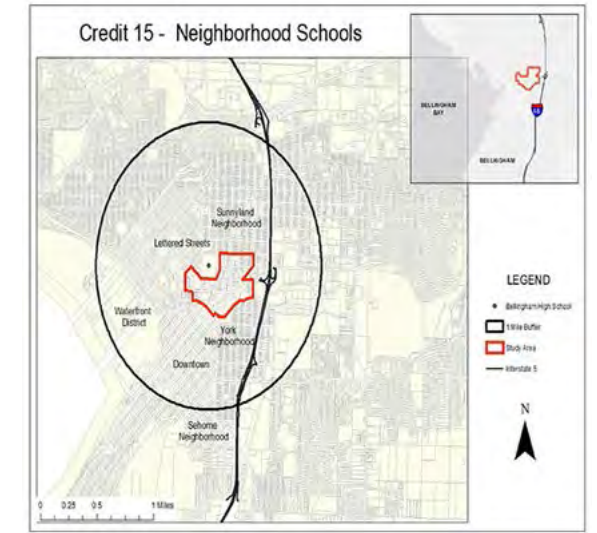
Evidence:
Residential Component
The residential component of the project site must constitute at least 30% of project's total area. The table below shows both the current and planned residential components of the project site and the calculations prove that the current residential component is just .07 over the 22.87 acres required to total 30% residential. Total acreage (76.23) x .30 residential= 22.87 acres must be residential, 22.94 are residential.

Walking distance to school
The total project site is well within a mile radius of Bellingham and Options High Schools as the map below shows. In fact the whole project site is well within the mile radius. Bellingham High School appears as a green dot on the map below and the mile radius around it is shown in black.

Residential/Mixed Use Acreage		
Current	Parcel Count	Acres
Residential/Mixed-Use	18	2.24
Total	169	76.23
Proposed	Parcel Count	Acres
Residential/Mixed-Use	26	20.7
Total	169	76.23

Total acreage (76.23) x .30 residential= 22.87 acres must be residential, 22.94 are residential.

Walking distance to school
The total project site is well within a mile radius of Bellingham and Options High Schools as the map below shows. In fact the whole project site is well within the mile radius. Bellingham High School appears as a green dot on the map below and the mile radius around it is shown in black.



Bordering Streets
As per WWU's 2015 UTS report, the project will include, "Improving sidewalks around [Bellingham High School's] perimeter. This vision includes improving the Iowa Street corridor east of the Bellingham High School campus in order to facilitate access to the envisioned community center in Nohio. This is an opportunity for students as well as area residents to derive greater safety and benefit from an improved public amenity such as the high school" (Section 3.7, p. 12). In addition to this, the COB is in the process of adding bike lanes to Ohio Street, directly adjacent to Bellingham High School as the map below shows. This satisfies the requirement that the school be well served by both a network sidewalks and by bicycle lanes.



(see <http://www.cob.org/government/departments/pw/projects/ohio-bike-ped-es-0491.aspx> for details)

Chapter 3 Green Infrastructure and Buildings

Prerequisite 1: Certified Green Building
Meets Standard: Yes
Conditionally Meets Standard: NA

Intent: To encourage the design, construction, and retrofit of buildings that utilizes green building practices.

Requirements:
Design, construct, or retrofit one whole building within the project to be certified through LEED for New Construction, LEED for Existing Buildings or through a green building rating system requiring review by independent, impartial, third-party certifying bodies that have either been accredited by an IAF accreditation body to, or could demonstrate compliance to, ISO 17021 or ISO/IEC Guide 65, and, when subsequently available, ISO/IEC 17065.

** Point of Clarification: initially I thought that Built Green <http://www.builtgreen.net> and Living Building Challenge <http://living-future.org/lbc> or Living Community Challenge <http://living-future.org/lcc> were approved bodies but their certifications are completely separate. I have an email in to leedinfo@usgbc.org to ask for a list since when I phoned the institute directly at 800.795.1746 they could not answer the question and directed me to send my question via email.*

Evidence:
Since each of our 5 groups in class are required to design and specify at least 1 certified green building, the project assume fulfillment of this prerequisite.

Prerequisite 2: Minimum Building Energy Efficiency
Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To encourage the design and construction of energy-efficient buildings that reduce air, water, and land pollution and adverse environmental effects from energy production and consumption

Requirements:
1. Applies to 90% of the building floor area of all nonresidential buildings, mixed-use buildings, and multiunit residential buildings four stories or more. Applies to only proposed construction and mayor renovations within the project area. New buildings must demonstrate an average 10% improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007, and buildings undergoing major renovations must demonstrate an average 5% improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007.

The proposed developments and renovations occurring within the project are must apply with the below energy baselines based upon ANSI/ASHRAE/IESNA standards.

- ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 (office occupancy buildings less than 20,000 square feet).
- ASHRAE Advanced Energy Design Guide for Small Retail Buildings 2006 (retail occupancy buildings less than 20,000 square feet).
- ASHRAE Advanced Energy Design Guide for Small Warehouses and Self-Storage Buildings 2008 (warehouse or self-storage occupancy less than 50,000 square feet).
- ASHRAE Advanced Energy Design Guide for K–12 School Buildings (K–12 school occupancy less than 200,000 square feet)



2. Applies to 90% of the building floor area of all new single-family residential buildings and new multiunit residential buildings three stories or fewer. These buildings must comply with ENERGY STAR criteria, or meet requirements for Builder Option Package, or Home Energy Rating System index.

Conditions for Achieving Credit

Within the entire project area there is only one building which is going to be more than four stories in height. For this building we are recommending that it be built so that it is net zero energy. Every other building being proposed within the project area will be three stories or less, which falls under requirement number two. Requirement number two only applies to new single-family residential buildings and new multiunit residential buildings. It does not apply to non-residential buildings. No single-family homes are being proposed within the project area. In order to meet the pre-requisite the one four story building being proposed needs to meet the ANSI/ASHRAE/IESNA standards, which is being fulfilled by aiming to be a net zero energy home. Also, all new multifamily residential buildings must meet the ENERGY STAR criteria, which can be achieved through the use of energy efficient applications approved by ENERGY STAR.

Prerequisite 3: Minimum Building Water Efficiency

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To reduce effects on natural water resources and reduce burdens on community water supply and wastewater systems.

Requirements:

1. For nonresidential buildings, mixed-use buildings, and multifamily residential buildings four stories or more. Indoor water usage in new buildings and buildings undergoing major renovations as part of the *project* must be an average 20% less than in baseline buildings.

National Efficiency Baselines:

Commercial

<u>Commercial fixtures, fittings, or appliances</u>	<u>Baseline water usage</u>
<i>Commercial toilet</i>	1.6 gallons per flush
<i>Commercial urinal</i>	1 gallon per flush
<i>Commercial restroom faucet</i>	2.2 gallons per minute at 60psi – private applications (hotel/motel, hospital)
	0.5 gallons per minute at 60 psi squared – all other except private
<i>Commercial prerinse spray valve (food service applications)</i>	Less than or equal to 1.6 gallons per a minute

Residential

<u>Residential Fixture, Fittings, and Appliances</u>	<u>Baseline water usage</u>
<i>Residential Toilet</i>	1.6 gallons per flush cubed
<i>Residential bathroom faucet</i>	2.2 gallons per minute at 60 psi
<i>Residential kitchen faucet</i>	2.2 gallons per minute at 60 psi
<i>Residential showerhead</i>	2.5 gallons per minute at 80 psi per shower stall

The following fixtures, fittings, and appliances are outside the scope of the water use reduction calculation:

- Commercial steam cookers.
- Commercial dishwashers.
- Automatic commercial ice makers.
- Commercial (family-sized) clothes washers.
- Residential clothes washers.
- Standard and compact residential dishwashers.

2. For new *single-family residential* buildings and new *multiunit residential* buildings three stories or fewer. 90% of buildings must use a combination of fixtures that would earn 3 points under LEED for Homes 2008 WE Credit 3, Indoor Water Use.

<u>Water Efficiency (WE)</u>		<u>Max Points Available</u>
<i>Minimum of 3 WE Points Required</i>		
1. Water Reuse	1.1 Rainwater Harvesting System	4
	1.2 Greywater Reuse System	1
	1.3 Use of Municipal Recycled Water System	3
2. Irrigation System	2.1 High Efficiency Irrigation System	3
	2.2 Third Party Inspection	1
	2.3 Reduce Overall Irrigation Demand by at Least 45%	4
3. Indoor Water Use	3.1 High - Efficiency Fixtures and Fittings	3
	3.2 Very High Efficiency Fixtures and Fittings	6

Conditions for Achieving Credit

All of the requirements apply to new development, and therefore can easily be met. Since there will only be one building within the project area that is high than four stories, the criteria under number one will only apply to that one building. All of the other new buildings being constructed must apply with the criteria under number two. For this LEED recommends using ENERGY STAR approved appliances for the indoor water use.

Prerequisite 4: Construction Activity Pollution Prevention

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To reduce pollution from construction activities by controlling soil erosion, waterway sedimentation, and airborne dust.

Requirements:

Create and implement an erosion and sedimentation control plan for all construction activities associated with the project. The plan must conform to the erosion and sedimentation requirements of the 2003 EPA Construction General Permit OR local standards and codes, whichever is more stringent.

The plan must describe the measures implemented to accomplish the following objectives:

- To *prevent loss of soil* during construction by storm water runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.
- To *prevent sedimentation* of storm sewers or receiving streams.
- To *prevent pollution* of the air with dust and particulate matter.

The plan *must* incorporate practices such as phasing, seeding, grading, mulching, filter socks, stabilized site entrances, preservation of existing vegetation, and other best management practices (BMPs) to control erosion and sedimentation in runoff from the entire project site during construction. The plan must list the BMPs employed and describe how they accomplish the following objectives:

1. Prevent loss of soil during construction by runoff and/or wind erosion, including but not limited to stockpiling of topsoil for reuse.
2. Prevent sedimentation of any affected storm water conveyance systems or receiving streams.
3. Prevent polluting the air with dust and particulate matter.

The erosion and sedimentation control plan must describe how the project team will do the following:

1. Preserve vegetation and mark clearing limits.
2. Establish and delineate construction access.
3. Control flow rates.
4. Install sediment controls.
5. Stabilize soils.
6. Protect slopes.
7. Protect drain inlets.
8. Stabilize channels and outlets.
9. Control pollutants.
10. Control dewatering.
11. Maintain the BMPs.
12. Manage the erosion and sedimentation control plan.

Conditions for Achieving Credit

Following the City of Bellingham Storm Water Permit requirements and Stormwater Pollution Prevention Plan (SWPPP) will require all new developments meet the 2003 EPA Construction General Permit requirements. Acquire Stormwater report by licensed civil engineer to confirm all developments meet the Construction Activity Pollution Prevention requirements.

Credit 1: Certified Green Building

Meets Standard: Yes
Conditionally Meets Standard: NA

Intent
To encourage the design, construction, and retrofit of buildings that utilize green building practices

Requirements
OPTION 2. Projects of All Sizes
Design, construct, or retrofit a percentage of the total project building square footage, beyond the prerequisite requirement, to be certified under one of the LEED green building rating systems listed above or through a green building rating system requiring review by independent, impartial, third-party certifying bodies that have either been accredited by an IAF accreditation body to, or could demonstrate compliance to, ISO 17021 or ISO/IEC Guide 65, and, when subsequently available, ISO/IEC 17065.

FOR ALL PROJECTS
Detached *accessory dwelling units* must be counted as separate buildings. Accessory dwellings attached to a main building are not counted separately.

Evidence
According to GIS data, as shown in the graphic above, 96% of the total square footage of buildings in our project area were built before 2010. Upon further investigation, all but 11,052 sq. ft. of buildings were built before 2010. The two duplex structures that account for the 11,052 sq. ft. do have PV solar panels on the roof and other environmentally friendly building practices but have not been certified by LEED or any other applicable certifying body.

The only square footage of buildings that will count towards receiving these points are the new buildings that are being proposed in this project plan. The current proposed amount of new development is 329,216 sq. ft. which is 25% of the total square footage and will qualify for 2 credits once LEED certification is complete.

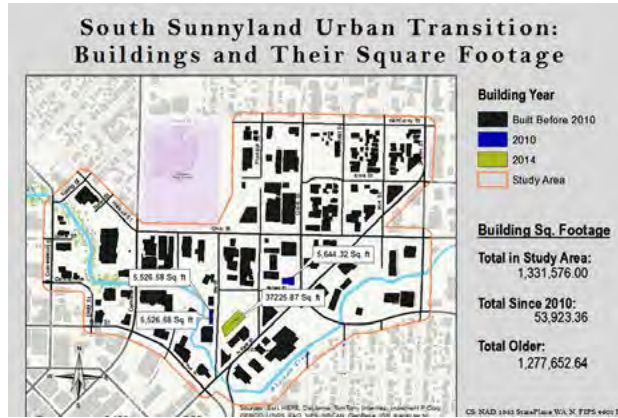


Table 1. Points for green building certification

Percentage of square footage certified	LEED Points	Our Sq Ft Requirement	Proposed Project Sq. Ft
≥ 10% and < 20%	1	133,158	
≥ 20% and < 30%	2	266,315	329,216
≥ 30% and < 40%	3	399,473	
≥ 40% and < 50%	4	532,630	
≥ 50%	5	665,788	
Total Sq Ft in Study Area		1,331,576	

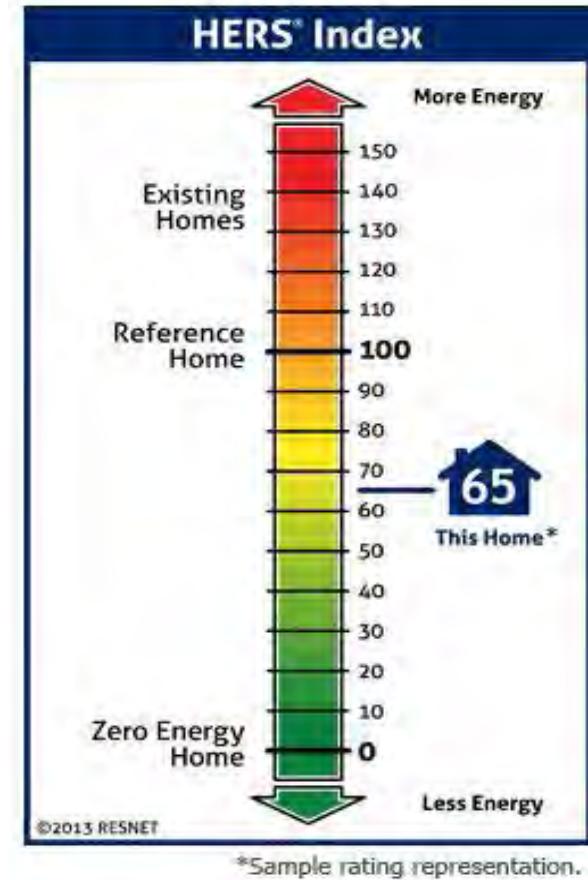
Credit 2: Building Energy Efficiency

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To encourage the design and construction of energy-efficient buildings that reduce air, water, and land pollution and adverse environmental effects from energy production and consumption.

Requirements:
The language to meet the requirements for this credit are the exact same as the Prerequisite Number Two. The only difference is that all nonresidential buildings, mixed-use buildings, and multiunit residential buildings four stories or more must demonstrate an average 18% (1 point) or 26% (2 points) improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007 (compared to 10% for the prerequisite). Also, buildings undergoing major renovations as part of the project must demonstrate an average 14% (1 point) or 22% (2 points) improvement over ANSI/ASHRAE/IESNA (compared to 5% for the prerequisite) Standard 90.1–2007. Also, that for new single family residential, and multiunit residential three stories or fewer need to meet a Home Energy Rating System index score of at least 75.

Conditions for Achieving Credit
With the only one building in the project area with four stories or more, in order to meet the requirements for this credit, we only need to focus on new multifamily residential buildings. In order to meet the credit the developers need to install even more energy efficient ENERGY STAR appliances.



Credit 3 - Building Water Efficiency

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To reduce effects on natural water resources and reduce burdens on community water supply and wastewater systems.

Requirements:
The language to meet the requirements for this credit is the same as Prerequisite Number Three. The only difference is that for nonresidential buildings, mixed-use buildings, and multifamily residential buildings four stories or more: Indoor water usage in new buildings and buildings undergoing major renovations as part of the project must be an average 40% less than in baseline buildings (compared to the 20% for the prerequisite). Also, For new single-family residential buildings and new multiunit residential buildings three stories or fewer, 90% of buildings must use a combination of fixtures that would earn 5 points under LEED for Homes 2008 WE Credit 3, Indoor Water Use (Compared to 3 for the prerequisite).

Conditions for Achieving Credit
Recommendations for meeting this credit are the same as recommendations for Prerequisite Number Three. The only difference is that developers need to install even more water efficient appliances. LEED recommends using ENERGY STAR appliances for this credit as well. Also, using more strategies under the LEED for Homes 2008 manual for meeting the water efficiency credit.

Credit 4: Water-Efficient Landscaping

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To limit or eliminate the use of *potable water* and other natural surface or subsurface water resources on *project sites*, for landscape irrigation.

Requirements:
Reduce water consumption for outdoor landscape irrigation by 50% from a calculated midsummer baseline case.

Conditions for Achieving Credit
By proposing a water efficient landscaping plan we automatically meet this credit. LEED Recommends using the below strategies for meeting this credit:

- Plant species, plant density, and microclimate factor.
- Irrigation efficiency.
- Use of captured rainwater.
- Use of recycled wastewater.
- Use of water treated and conveyed by a public agency specifically for non-potable uses.
- Use of other non-potable water sources, such as storm water, air-conditioning condensate, and foundation drain water.

Credit 5: Existing Building Reuse

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To extend the life cycle of *existing* building stock to conserve resources, reduce waste, and reduce adverse environmental effects of new buildings related to materials manufacturing and transport.

Requirements:
 Reuse the existing *habitable building* stock, achieving the greater of the following two benchmarks (based on surface area):

- a. 50% of one existing building structure (including structural floor and roof decking) and envelope (including exterior skin and framing but excluding window assemblies and nonstructural roofing material).
- b. 20% of the total existing building stock (including structure and envelope, as defined above). Hazardous materials that are remediated as a part of the *project* scope must be excluded from the calculations.

AND
 FOR ALL PROJECTS
 Do not demolish any *historic buildings*, or portions thereof, or alter any *cultural landscapes* as part of the project.

An exception is granted only if such action has been approved by an appropriate review body. For buildings listed locally, approval must be granted by the local historic preservation review board, or equivalent. For buildings listed in a state register or in the National Register of Historic Places, approval must appear in a programmatic agreement with the State Historic Preservation Office.

Conditions for Achieving Credit

All new developments in the South Sunnyland Urban Village, should reuse recycled materials from either the building they are replacing, or material from the Re-Store. If every new buildings reuses as much material as they can, then we will meet the required 20% of the total existing building stock.



Credit 6: Historic Resource Preservation and Adaptive Use

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To encourage the preservation and adaptive use of *historic buildings* and *cultural landscapes* that represent significant embodied energy and cultural value, in a manner that preserves historic materials and character-defining features.

Requirements:
 To achieve this credit, at least one historic building or cultural landscape must be present on the *project* site. Do not demolish any historic buildings, or portions thereof, or alter any cultural landscapes as part of the project.

An exception is granted only if such action has been approved by an appropriate review body. For buildings or landscapes listed locally, approval must be granted by the local historic preservation review board, or equivalent. For buildings or landscapes listed in a state register or in the National Register of Historic Places, approval must appear in a programmatic agreement with the State Historic Preservation Office. If any historic building in the project site is to be rehabilitated, rehabilitate in accordance with local review or federal standards for rehabilitation, whichever is more restrictive, using one of the following approaches:

- a. Obtain approval, in the form of a “certificate of appropriateness,” from a locally appointed historic preservation commission or architectural review board for any exterior alterations or additions.
- b. If federal funds are used for the project, obtain confirmation from a state historic preservation office or the National Park Service that the rehabilitation satisfies the Secretary of the Interior’s Standards for Rehabilitation.
- c. If a building or site is listed in or determined eligible for the National Register of Historic Places but is not subject to federal or local

review board review, include on the project team a preservation professional who meets the federal qualifications for historic architect and attests to conformance to the Secretary of the Interior’s Standards for the Treatment of Historic Properties.

Conditions for Achieving Credit

The South Sunnyland Urban Village does not currently have any Federal or State recognized historical sites or cultural landscapes. There are two properties however, that meet all of the federal and state requirements but have not applied for recognition. If the property owners apply for recognition, we will meet this credit because we do not plan on demolishing either of these properties.



Credit 7 - Minimized Site Disturbance in Design and Construction

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To preserve existing noninvasive trees, native plants, and pervious surfaces.

Requirements:
 OPTION 1. Development Footprint on Previously Developed Land
 Locate 100% of the development footprint on areas that are previously developed and for which 100% of the construction impact zone is previously developed.

OR
 OPTION 2. Undeveloped Portion of Project Left Undisturbed
 Depending on the density of the project, do not develop or disturb a portion of the land that has not been previously developed on the site, exclusive of any land preserved by codified law or a prerequisite of LEED for Neighborhood Development; or exempt areas designated as non-buildable in land-use comprehensive plans and stipulate in covenants, conditions, and restrictions (CC&R) or other binding documents that the undisturbed area will be protected from development in perpetuity. Densities and minimum percentages are as follows (mixed-use projects must use the lowest applicable density or calculate a weighted average per the methodology in NPD Credit 2, Compact Development):

Residential density (DU/acre)	Residential density (DU/hectare)	Nonresidential density (FAR)	Minimum area left undisturbed
< 15	< 37	< .50	20%
15 – 21	37 – 52	.50 – 1.0	15%
> 21	> 52	> 1.0	10%
<i>DU = dwelling unit; FAR = floor-area ratio.</i>			

For portions of the site that are *not* previously developed, identify construction impact zones that limit disturbance to a minimum of 40 feet (12 meters) beyond the building perimeter; 10 feet (3 meters) beyond surface walkways, patios, surface parking and utilities less than 12 inches (300 millimeters) in diameter; 15 feet (4.5 meters) beyond street curbs and main utility branch trenches; and 25 feet (8 meters) beyond constructed areas with permeable surfaces (such as pervious paving areas, storm water retention facilities, and playing fields) that require additional staging areas to limit compaction in the constructed zone.

AND
 For all projects
 Survey the site to identify the following:

- a. Trees in good or excellent condition, as determined by an arborist certified by the International Society of Arboriculture (ISA).
- b. Any heritage or champion trees of special importance to the community because of their age, size, type, historical association, or horticultural value, as defined by a government forester.
- c. All trees larger than 6 inches (150 millimeters) in diameter at breast height (dbh, 4 feet 6 inches [1.4 meters] above ground).
- d. Any invasive tree species present on the site, and whether those trees threaten the health of other trees to be preserved on the site, as determined by an ISA-certified arborist.

Preserve the following trees that are also identified as in good or excellent condition:

- a. All heritage or champion trees and trees whose dbh exceeds 50% of the state champion dbh for the species.
- b. A minimum of 75% of all noninvasive trees (including the above) larger than 18 inches (450 millimeters) dbh.
- c. A minimum of 25% of all noninvasive trees (including the above) larger than 12 inches (300 millimeters) dbh if deciduous, and 6 inches (150 millimeters) dbh if coniferous.



Tree condition ratings must be based on assessment by an ISA-certified arborist using ISA approved assessment measures.

Conditions for Achieving Credit

Develop a plan, in consultation with and approved by an ISA-certified arborist, for the health of the trees, including fertilization and pruning, and for their protection during construction. The plan must include protective fencing located 1 foot for (300 millimeters) each 1-inch (25 millimeter) caliper from the trunk or at the tree drip line, whichever is larger, and specify that if trenching or other disturbance is necessary within the protected zone, this work must be done by hand. If disturbance includes a permanent excavation of 3 feet (900 millimeters) or deeper, the excavation must start from a point not closer than 15 feet (4.5 meters) from the tree's drip line. If an ISA-certified arborist has determined that any trees to be preserved are threatened by invasive vegetation, develop a plan to reduce the invasive vegetation to the maximum extent possible. Stipulate in CC&R or other binding documents that the undisturbed area of the preserved trees will be protected from development in perpetuity.

Survey all sites to be developed, if undeveloped confirm all new projects meet City of Bellingham Municipal Code Chapter 15.42 'STORMWATER MANAGEMENT' requirements for BMP's in addition to consulting with approved arborist to develop comprehensive plan to protect and maintain all trees on undeveloped sites as specified by the above requirements.

Credit 8 – Storm Water Management

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: The purpose of storm water management is to reduce the amount of storm water runoff from impervious surfaces on individual sites, with a goal of modeling more natural environmental processes.

Requirements:

To achieve the full four points for the credit, all storm events up to a 95th percentile event must be fully captured and retained on-site; only runoff from the most extreme storm events is allowed. Capturing water from up to a 90th percentile storm earns three points, an 85th percentile two points, and an 80th percentile earns one point. If a project earns at least two points, an additional point may be earned if the project is located on a previously developed site, among other possible criteria. Implementing strategies such as those explained below can allow rain which falls on the site to either infiltrate into the ground at a natural rate, or be reused for on-site water demand.

Conditions for Achieving Credit

To gain all four points, rain falling on a building footprint is to either be captured and used in the green rooftop features or is directed to drainage leading to underground, or basement cisterns for storage of water for gray water uses inside the building or for landscaping.

Pervious paving should be used on 95% of paved areas and should be limited. Landscaping, especially in the form of native planted rain gardens, is encouraged for all other non-built, or non-used areas.



Credit 9: Heat Island Reduction

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To decrease the amount of reflected solar radiation, caused by dark and solid surfaces in urban areas, and to reduce heating of the local urban microclimate.

Requirements:

At least half of the non-built site should be constructed with urban heat island reduction in mind, including using pervious paving, providing shade from trees within 10 years of installation, and using materials with a solar reflectance index of at least 29. A second option includes using roofing materials with high reflectivity, or installing vegetated roofs. Utilizing a mix of all options is also a possibility.

Conditions for Achieving Credit

Development such as in south Sunnyland with a majority of non-built surfaces paved and with many structures having large windowless walls helps lead to increased radiation of solar heat to the surrounding area, causing higher regional air temperatures within the urban area. To reduce these effects, multiple strategies may be implemented. Vegetated roofs and additional street trees both reduce the amount of solid, exposed areas, as well as help to create much needed shade. Through the process of evapotranspiration trees pass water from their roots through their leaves and into the atmosphere, helping to cool the air around them, in addition to the air cooled by the provided shade. Using highly reflective roofing materials, including relatively cheap methods such as using white paint with a high reflectivity index also helps to increase the albedo. Using pervious paving on at least 30 percent of the built site helps to reduce the heat island effect by absorbing less heat than other pavements due to its open pore structure as well as lighter color.

Credit 10: Solar Orientation

Meets Standard: No
Conditionally Meets Standard: No

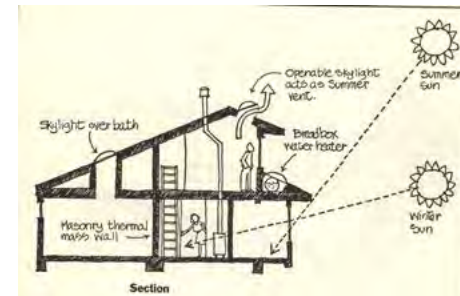
Intent: To maximize the utilization of passive solar radiation through proper site planning or building orientation. Constructing a majority of the building faces to face southward within 15 degrees allows natural solar radiation to aid in the warming of the building and its interior, reducing the demand for onsite heating as well as lighting during the day.

Requirements:

Either orient 75% or more of the total blocks in the project area to within 15 degrees of the east-west axis, with that axis at least as long as the north-south axis, or construct structures with orientation toward the sun - with east-west axis walls (within 15 degrees) 1.5 times the length of the north-south side.

Conditions for Achieving Credit

This credit has not been met and will not be met for this project due to the fact that blocks within the project area are structured with longer lengths running north-south instead of east-west as required in the first option. The primary component of solar orientation is the structural positioning of new development. In the south Sunnyland neighborhood this is not a feasible concept due to the trade off of density and urban design. To position the buildings to fully utilize the solar input the block orientation would either need to be changed, or structures would need to be built with faces turned away from the street fronts. Image 1 shows the block orientation with longer blocks running north-south.



Credit 11: On Site Renewable Energy Sources

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To provide localized heating and energy generation as well as to reduce the demand for and detrimental environmental effects of mass produced energy.

Requirements:

To earn one point, at least five percent of the entire project area's total energy or thermal needs must be met through on-site, sustainable means; 12.5% must be produced for two points; 20% must be produced for three points.

Conditions for Achieving Credit

The most practical, small scale techniques that may be utilized include photovoltaic rooftop arrays for electricity production and either geothermal or solar radiation for water heating. A typical single-family residence in the United States uses around 12,000 kWh of electricity per year; twenty percent of 12,000 is 2,400. For example, a 1.6 kWh system made of eight solar panels can generate a surplus at around 3760 kWh annually. Each residence or unit should use a minimum of five panels to reach the goal with ease.



Credit 12: District Heating and Cooling

Meets Standard: No
Conditionally Meets Standard: No

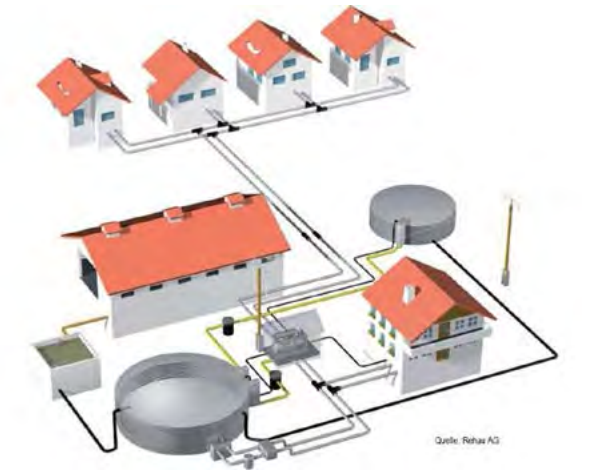
Intent: To increase energy efficiency within the project boundaries, as district heating is more efficient in the use and production of heating or cooling as there is less repetition in systems and less waste.

Requirements:

At least two buildings must be connected within a system, and at least 80% of the new construction in the project area must be met through a district plant; existing buildings may be excluded. Each system component must also perform 10% better than rated standards.

Conditions for Achieving Credit

To meet at least 80% of needs centrally as described above, a majority of new buildings within the project area will need to be connected in several mini-districts. It may be feasible for certain areas, such as the Iron Bridge or Cornwall sites, but in other areas the possibility of implementation is not so clear. For example, every intersection 'hot-spot' node on State Street would likely need to be connected, with each as its own district.



Credit 13: Infrastructure Energy Efficiency

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To lower the city’s total energy demand from infrastructure fixtures..

Requirements:
At least 15% reduction in energy consumption by infrastructure fixtures compared to current base load.

Conditions for Achieving Credit

To meet the required 15% reduction in energy use, changing traffic, street and sign lights to LED bulbs will allow for sufficient change. Lower wattage fixtures will provide adequate functionality while reducing overall electrical demands.



Credit 14: Wastewater Management

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: Wastewater can be treated and reused on site, resulting in a more efficient life cycle of the water used by a building. By utilizing water already on site, a building will lower the demand for fresh water supply from municipal sources. This also reduces to quantity of wastewater flowing out of the property to aid mitigation of stormwater and sewer capacity.

Requirements:
To meet this credit, at least 25% of wastewater must be reused on site for on point. If 50% or more of the wastewater is reused, two points may be awarded for higher efficiency.

Conditions for Achieving Credit

This credit is not currently met. It is suggested to forfeit this credit due to cost of implementation across the study area. Requiring on site water treatment through building codes would be an expense too great to burden developers considering the potential benefits. A reduction in wastewater may still be achieved via water efficient toilets and low flow appliances/ faucets.

Credit 15: Recycled Content in Infrastructure

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To reduce the use of virgin materials in infrastructure by utilizing recycled content in the construction.

Requirements:
At least 50% of mass in new infrastructure construction must come from postconsumer materials. This includes Roadways, parking lots, sidewalks, unit paving, and curbs, water retention tanks, vaults, base, subbase materials for the above, stormwater, sanitary sewer, steam energy distribution, and water piping.

Conditions for Achieving Credit

Filling concrete with demolition debris and/or industrial building waste can reduce the about of new materials needed as well as reuse of old infrastructure materials such as piping and tanks. Additionally, demolition rubble such as brick and concrete can be broken down and reused as a substrate soil drainage layer on green roofs and other low intensity planting sites.



Credit 16: Waste Management Infrastructure

Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To reduce overall levels of wastes sent to landfills from the study area via onsite reduction and waste facilities within the neighborhood.

Requirements:
There must be recycling, compost, and hazardous waste drop off facilities within the study region. In addition, there must be on street recycling and trash bins

Conditions for Achieving Credit

The later of these requirements will be easily achieved at little expense. However, implementation of new waste facilities specifically within the South Sunnyland Neighborhood would be at too great of a cost given the proposed usage. This credit will have to be forfeited, allowing funds to be used on alternative credits, achieve more improvements per dollar.



Credit 17: Light Pollution Reduction

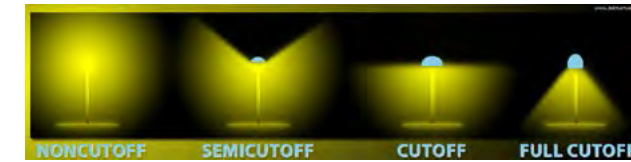
Meets Standard: No
Conditionally Meets Standard: Yes

Intent: To reduce the negative effects on nocturnal species as well as human comfort and aesthetics from excess light emitted at night.

Requirements:
In residential areas, at least 50% of the external luminaires must have fixture-integrated lighting controls that use motion sensors to reduce light levels by at least 50% when no activity has been detected for 15 minutes. All shared areas, install automatic controls that turn off exterior lighting when sufficient daylight is available. Under the definition of the LEED Lighting Zones, the South Sunnyland Neighborhood is considered a LZ3. This zone correlates to requirements for maximum lumens and corresponding light emitting angles. These ms tbe followed to achieve full credits.

Conditions for Achieving Credit

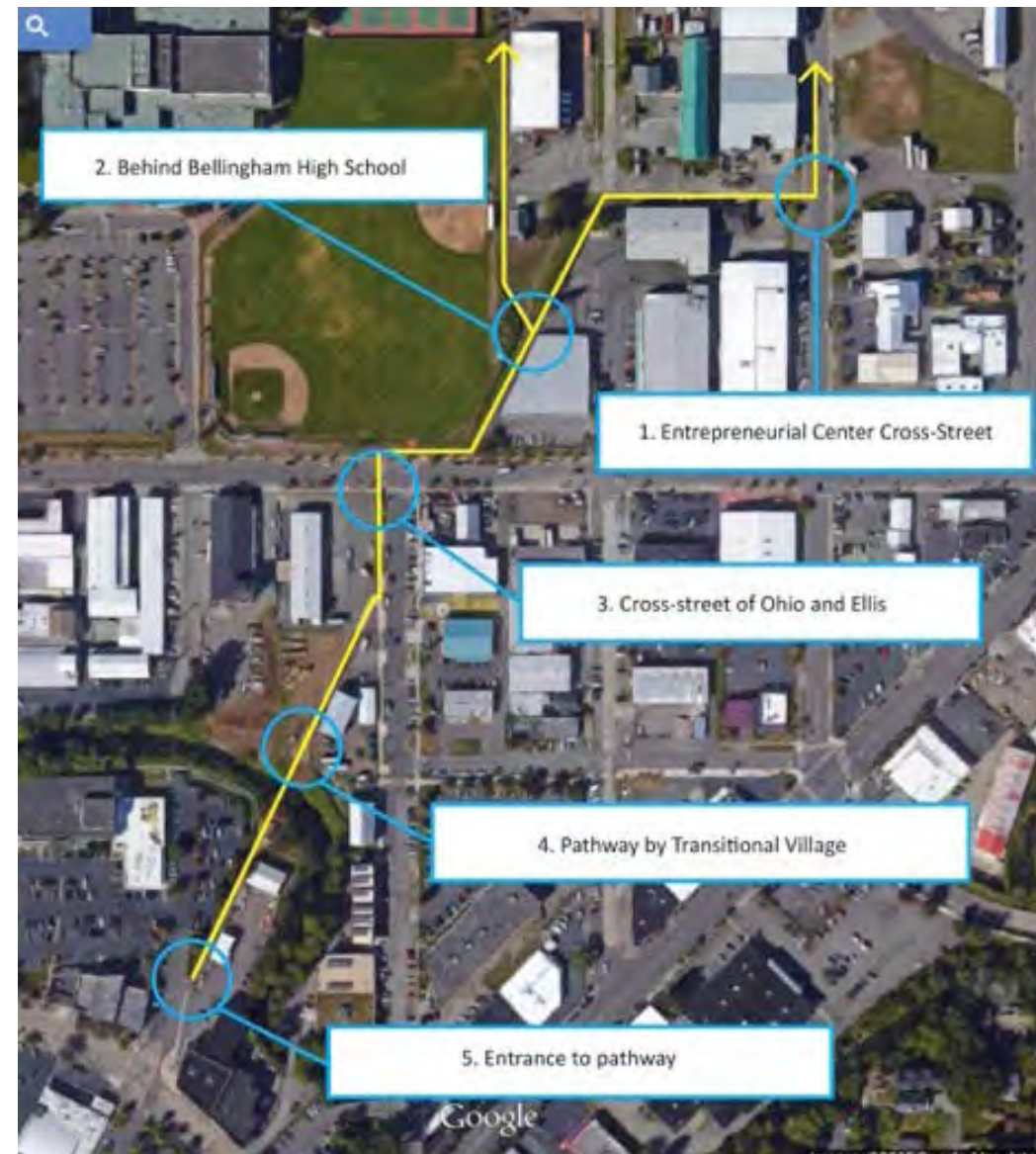
To achieve this, reducing the initial level of light emitted from light fixtures can significantly mitigate the negative effects this credit is addressing. Dimmer lights where applicable in conjunction with shaded windows can reduce light bleed from a lit area to a non lit area. Reducing initial light output also included the use of motion sensitive outdoor lighting, which will eliminate a large quantity of unused light during the night. The second component of meeting this credit is covering the light which is necessary. Street lights and building lights which must stay on all hours of the night must have covers to focus the light where it is needed only. This reduces light “bleed” vertically into the sky and surrounding areas.



5 BIG GREEN IDEAS

- 1. BIKE/PED PATH DESIGN
- 2. ENTREPRENEURIAL CENTER
- 3. TOWNHOUSE COMMUNITY
- 4. TRANSITIONAL GREEN HOUSING
- 5. GREEN ROOFS

1. Bike/Pedestrian Path Design



Introduction to Big Picture Plans for Bike and Pedestrian Path Improvements

Wayfinding and Connectivity

The path provides a mix of vegetative landscape and urban streetscape, which can be difficult to navigate. Placing wayfinding signs in key areas along the path such as starting points, intersections, and points of interests will give path users a sense of direction, help them estimate travel times more easily, and provides nodes of activity when coupled with other elements. By using the style of wayfinding trail signs already in place throughout Bellingham, residents will be familiar with signage and understand what it indicates.



Social Aspects

The bike lane runs through an industrial area, the proposed transitional housing project, and across Whatcom Creek. The plan aims to embrace existing characteristics of the community while integrating new features to enhance the path as a whole. The south end of the Sunnyland bike trail offers great potential to focus

on equity, environmental responsibility, and congruent programming, which can in turn be extended throughout the trails entirety.

Another design aspect of the path is to showcase sustainable, innovative technologies for the community members and visitors. One strategy to meet this objective is to use efficient LEDs for overhead lighting to create ambiance and enhance user comfort and safety during night path use. To power the LED lighting, solar panels should either be built into the lighting or have separate solar panels placed in areas that receive maximum sunlight exposure.

To accommodate cyclists, the plan will also include self-service bike fixit stations at various nodes along the way on top of the main station located adjacent to the transitional housing project, with specific repair opportunities housed in or near the transitional housing project.



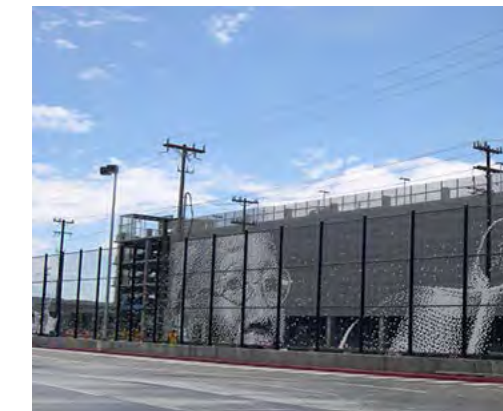
Aesthetics and Artwork Integration

Along the path there are many opportunities for the placement of artwork such as colorful murals on blank industrial walls and sculptures that incorporate industrial materials. Installing artwork along specific areas of the path will help create nodes of activity and add to the overall eclectic feel of the neighborhood.

Aside from site-specific pieces, the path should incorporate local artists' sculptures and installations in between major nodes of activity. Many of these installations will be interactive or incorporate elements such as sound and movement. One goal of this is to add liveliness to the path and increase user engagement with the community.

Designing the trail to meander will add length to the path and create a more interesting walk or ride for users. This also helps to reduce bike speeds and engages commuters with their surroundings.

Much of the path length is hugged by chain-link fencing at least on one side. The fencing separates the path from private property and while it is aesthetically unappealing, art installations exist that can be referenced in new installations in this plan, such as the piece below, created by Christian Moeller.





larger recycled crumb rubber granulate derived from cycled automobile and truck tires as well as scrap rubber diverted from landfills.

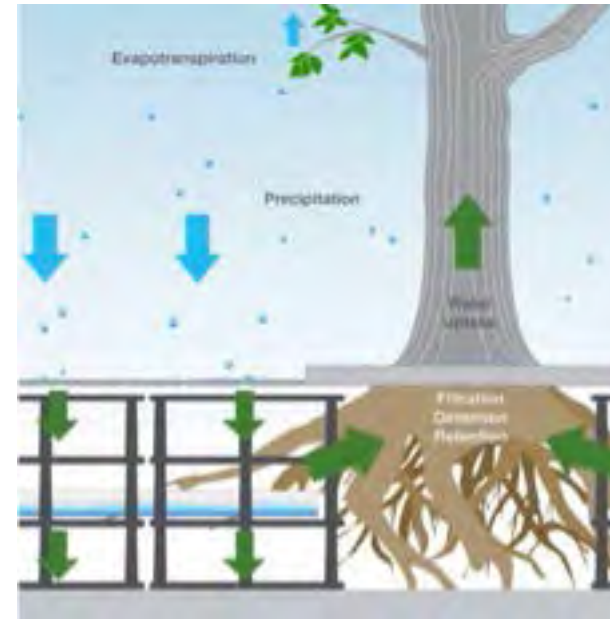


Another strategy to meet this objective is to use water efficient landscaping in strategic areas along the trail. Ditches that exist behind the high school along the trail should be transformed into bioswales. A swale is a vegetated, open-channel management practice designed specifically to treat and attenuate stormwater runoff for a specified water quality volume. As stormwater runoff flows along these channels, it is treated through vegetation slowing the water to allow sedimentation. One retrofit opportunity using grassed swales modifies existing drainage ditches (Figure 2).



A third way to meet this objective is the planting of native trees in the area, especially near existing pavement. Trees will naturally filter and store stormwater runoff from the surrounding area, which decreases flooding and erosion near the stream. Trees also reduce pollutants by taking up nutrients and other

pollutants from soils and water through their roots, and transforming pollutants into less harmful substances. Together with other stormwater controls, trees work to produce a comprehensive solution to rainfall interception, runoff and landscape water use.



Five Nodes of Activity

1. Entrepreneurial Center Cross-Street

A pocket park outside the entrepreneurial center will extend outdoor seating and interactions as well as further community engagement. A pocket park will also increase the aesthetics of the neighborhood and bring an inclusive feeling rather than the large monotonous street with little to no seating currently in place.

If there is the space, the plan has the flexibility to also introduce other concepts into the park. A small playground for example, could fit well and encourage use.



Part of increasing the aesthetic is to make the intersection greener. By planting more greenery at each corner, the plan will not only make the area more visually appealing, it will also create a natural sound barrier between pedestrians and the pocket park, while also dampening noises from automobiles.



Similar to other locations along the path, a pocket library would fit well either within the pocket park or the street corner next to the entrepreneurial center for the public and building-users to adopt.



2. Behind Bellingham High School

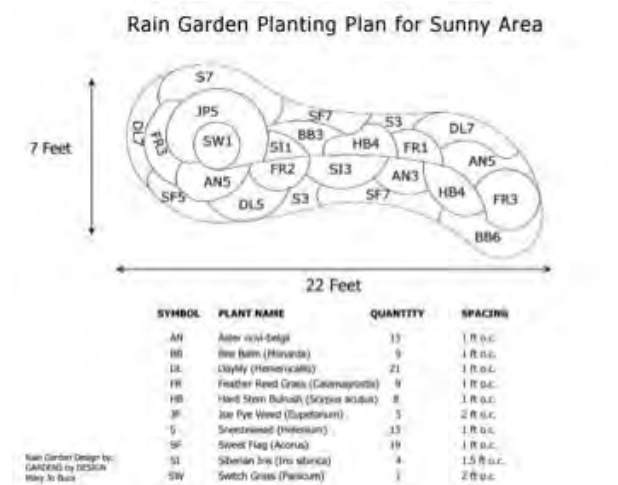
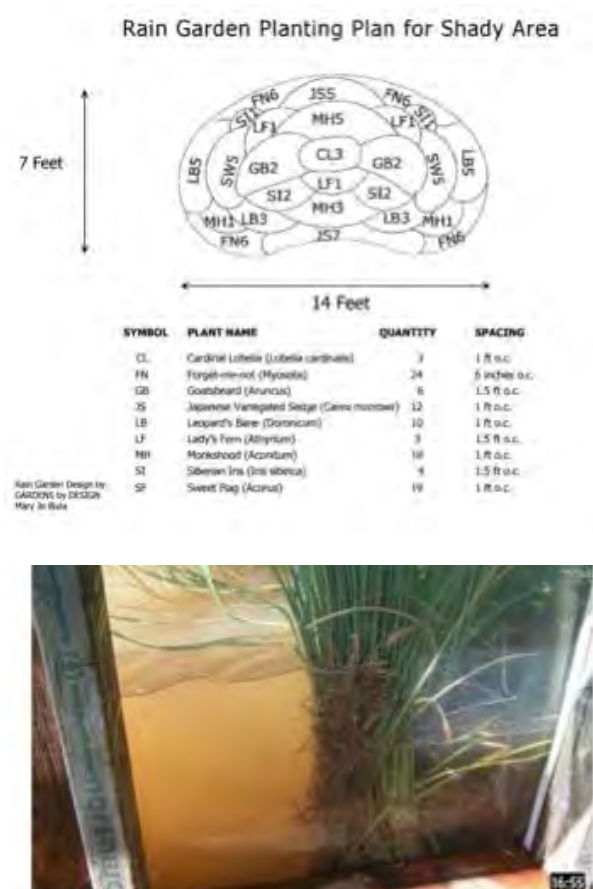
The area behind Bellingham High School is large enough to showcase several types of bioretention facilities. Bioretention and bioinfiltration facilities are shallow, landscaped depressions that contain a layer of prepared soil, a mulch layer, and vegetation. These facilities filter stormwater runoff by temporarily ponding water during storms (figure 1).

Planting trees and shrubs in bioretention and bioinfiltration facilities may increase nutrient uptake and evapotranspiration. This type of facility should be incorporated into the existing drainage ditches behind the high school.

The proposal includes a rain garden in the area behind the high school to highlight the functionality and aesthetics of various rain catchment systems (figure 2). Usually, it is a small garden which is designed to withstand the extremes of moisture and concentrations of nutrients, particularly Nitrogen and Phosphorus, that are found in stormwater runoff.

Rain gardens have three planting zones which designate what types of plants need to be planted where. The rain garden along the path will be primarily in the sun and so looking at native plants that are better adapted to sunshine is crucial. In the case that the areas become more shaded over time as trees grow the plants could be substituted out with more shade tolerant species. Using tough plants like sedges or bunch grasses around areas

of inflow and outflow is a part of the plan.



The area behind Bellingham High School has two large, blank, walls bordering the trail behind the high school. These walls could be an opportunity to work with business/property owners and local artists as well as the high school to showcase artwork in the community. One of the walls could be designated for local artists while the other could be for High School artists to hold art competitions each year. This would increase the aesthetic value of the pathway.

3. Cross-Street of Ohio and Ellis

As a connecting point between major nodes along the path, the cross-street of Ohio and Ellis should incorporate clearer directions through improved signage. A corner of the intersection could also be used to implement an information station. This station would both serve to give direction as well as supply historic information, neighborhood facts and fun destinations in the Sunnyland area, to help promote local businesses. The station could also be used to post upcoming events and installations.



4. Pathway by Transitional Village

The transitional housing development is an important node along the path. The plan aims to encourage interaction of the residents with the larger community of path users. This node can be a point of activity for both passing path users and transitional housing residents.

The plan includes a bike share program and repair stand proposed to be located on this development site, both of which could be owned and operated by the transitional

housing residents. Members of the larger Bellingham community would directly interact with the transitional housing residents in a positive and engaging manner through this program.

Complying with the goal of the plan to implement interactive installations along the path, the area adjacent to the transitional housing will be host to a swing set which emits musical notes as users swing. In addition, the swings will light up at night. This installation is inspired by "21 Swings" in Montreal, Canada, pictured below. The greater Sunnyland Plan project, by encouraging development of all different uses, aims to foster a district which is used and populated at all hours of the day. The amount of use the light up swings receive will meter how often people are in the Sunnyland neighborhood after dark as development of this area continues.



An industrial building exists just across the path from the transitional housing development which acts as a giant canvas for a large scale art installation. A mural or vertical garden installation as opposed to a large blank industrial wall would increase trail users' and residents' enjoyment of this area.



Colorful and creative use of pavement should be used next to the path where the swing set and other structures, including a Little Free Library, will be potentially located. The use of color on any road or path is not often seen in Bellingham and will therefore be noteworthy and add to the eclectic feel of the Sunnyland neighborhood. An example of colorful pavement in urban areas is the Superkilen park in Copenhagen, as pictured below.



5. Entrance to Pathway

The southern entrance to the pathway, which aligns with the southern edge of the Sunnyland neighborhood, currently lacks definition and creativity. It should serve as an indicator for the style and goals of the pathway and neighborhood as a whole. By including better way finding, a defined archway, and green borders, it will draw in community members.

The street leading up to the entrance will also have better indicator points to help people find the entrance from the surrounding block. Two such points are bike signage painted on the surrounding streets with arrows to follow as well as pedestrian signs to draw more people in.



The new design will actively integrate the industrial history of the neighborhood with a new, greener conscience. This could involve adding features like the following:

- LED lighting strung in arch and fence
- Informational kiosk (also implemented at the corner of Ohio and Ellis Street, for example) that lays out the trail and interest features along (it topped with solar panels to charge lighting), such as:
 - Transitional Village
 - Stream restoration
 - Local artwork
 - Businesses along path
 - Parks and playsets along path
 - Little Free Libraries
 - Integration of path with native plant life
 - Meandering paths to reduce speeds
 - Defined entrance archway (also opportunity for local art) and ways to beautify the chain link fences.



The above proposed changes could improve the community acceptance and usage of the bike path as it transitions towards more sustainable transportation practices.

Big Idea 2. Entrepreneurial / Community Flex Center

The site of the project lies on the nearly one-acre lot immediately south of the Pacific Pride industrial gas station at the corner of Grant and Iowa St. Given the lot size, the project is envisioned to comprise of two semi-connected buildings to serve both the neighborhood community as well as to support new business start ups dependent upon well equipped design and light manufacturing facilities that could be rented at an affordable cost. The design of the proposed Center is intended as a demonstration of regenerative design principles following guidelines established by the Living Building Challenge.



The Entrepreneurial Center is intended to complement the current nearby makerspace, "The Foundry." As opposed to competing with The Foundry's manufacturing activities, the Center is conceived as a

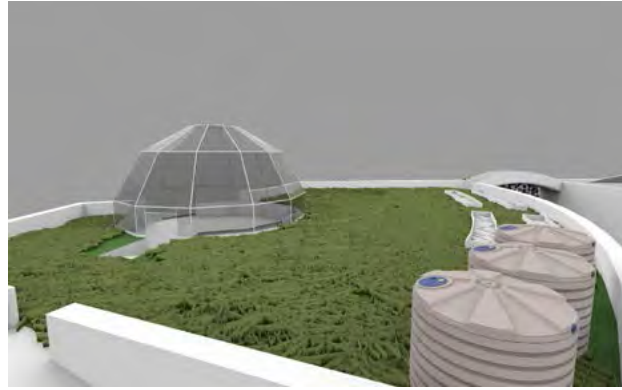
space that can support start-up office space, job training, light manufacturing, and skills development training. The Center would house computer labs installed with the modern applications to support a wide range of entrepreneurial needs, as well as 3D printers, scanners, paper cutters, and general office equipment. The Center may also serve as an educational technical learning space for students attending the nearby Bellingham High School. Classes may be held in tandem between the high school, Western's engineering and design programs, and student internships may also be provided in the fields of entrepreneurial business start up, sustainable design, light manufacturing, and other business and product development fields. An association with the proposed Transitional Housing Project is also envisioned to assist residents in acquiring the skills necessary for attaining jobs. The many job training and skills classes could present important benefits to the Sunnyland and the central city community as a whole.

The Community Flex Space portion of the project is intended to fulfill the needs of the Sunnyland Neighborhood by creating a synergy between Western Washington University graduates, local entrepreneurs seeking to initiate a new business product, high school students, and the broader community. Potential community benefits could include a rental facility to support neighborhood events. The facility can also incorporate other community support facilities, including a bike repair station, industrial sewing machines, and rental equipment that cannot be loaned to the community.

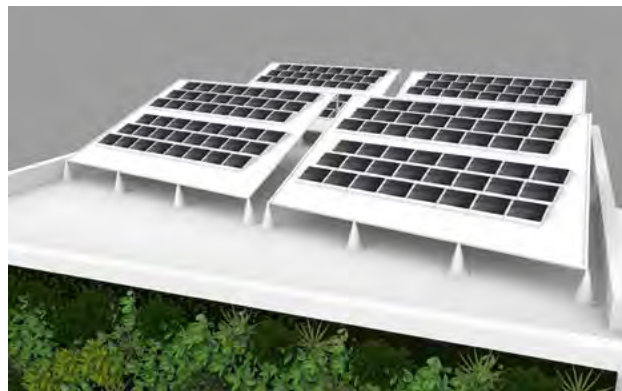


Sustainable and regenerative design features, which will help in achieving the Living Building standards, include green roofs, solar power, and both greywater and rainwater harvesting systems. The building infrastructure is proposed to be built from recycled and sustainably harvested materials, that could include FSC certified lumber, hempcrete, and recycled steel.





The Entrepreneurial Center and Community Flex Space is envisioned as a facility that can serve as a catalyst in supporting community activities as well as providing facility resources for new start up businesses that complement the district's traditional industrial and manufacturing base. As a general development concept, further research is required to determine the market feasibility for such a Center facility and the exploration of a business model to support its funding and operations.



Big Idea 3: Iron Bridge Townhouses

Design Standard: Living Building Challenge

For the Iron Bridge Townhouses we have chosen to pursue several petals of the Living Building Challenge in order to create a highly sustainable development. We have looked at the requirements for the challenge and have identified the following goals that we would like to address within the development design.

Energy

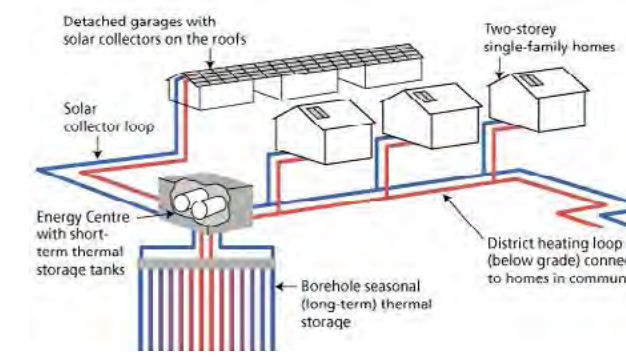
To meet the development's energy needs using only renewable energy sourced from the site, the Iron Bridge Townhouses will rely on collecting solar energy and utilizing highly intelligent building design and materials in order to maximize efficiency. By reducing energy consumption as much as possible while maximizing solar collection opportunities, the development will utilize both macro and micro options to reach the maximum efficiency possible.

District Solar Heating

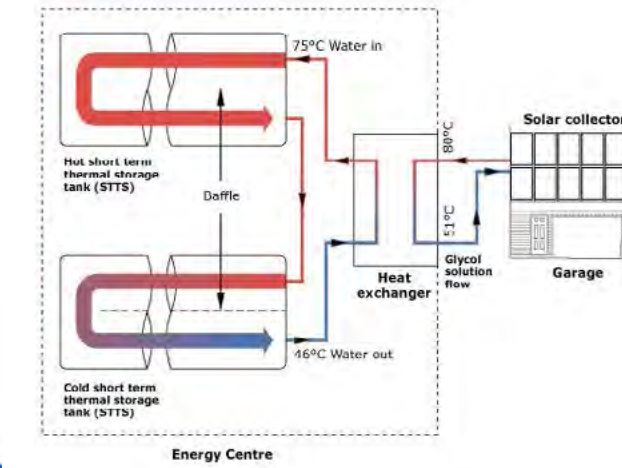
In order to maximize heating efficiency the townhouses will be equipped with their own district heating modeled after the Drake Landing Solar Community's system (see <http://www.dlsc.ca/index.htm> for more information and copies of supplementary images). As a similar multi-unit development in a temperate climate, the system would be well suited for the Iron Bridge development. District heating is advantageous for a development such as this because it allows all units to contribute to a shared source of heat thus maximizing heating access and efficiency for all units.

The district heating system works by collecting energy from solar panels on top of each unit, which then heats

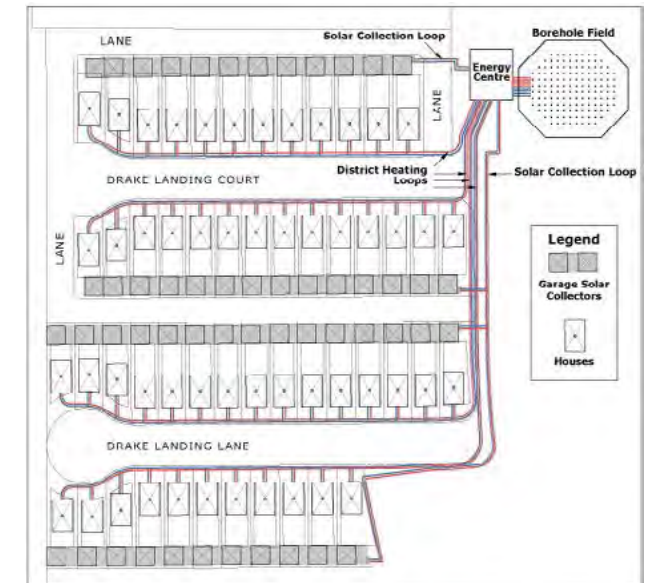
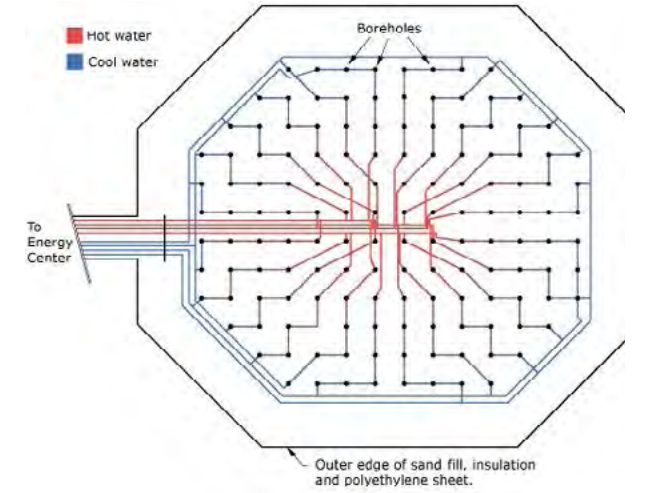
a glycol solution inside of insulated pipes. These pipes run from each unit into a shared collector system, which then feeds into the community's energy center and borehole field. By locating solar panels on the roof of each unit, the district heating system receives the maximum input of energy possible as the solar angle changes throughout the day.



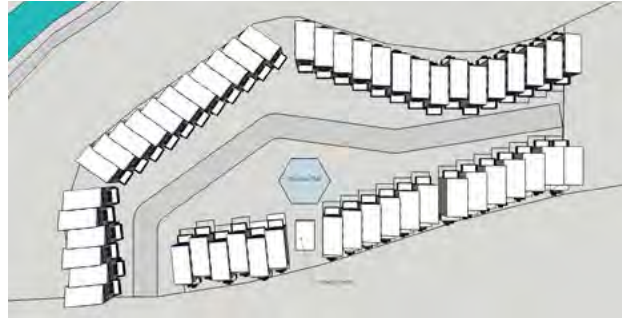
The energy center is an aboveground building that does the majority of the heat exchange for the district heating system. It will be located on-site between two clusters of townhouses. This building contains short-term heat storage tanks and most of the mechanical equipment involved in the process. The heat contained the glycol solution-filled pipes runs into the energy center and is transferred via a heat exchanger to water stored in the center's storage tank. From there, the glycol solution feeds back into the solar collector system and back to the units in order to collect more heat.



The borehole field is an underground structure located near the energy center that collects excess heat in the summer and stores it for winter use. During warmer months the heated water from the energy center is transferred into the nearby borehole field, running through a series of pipes and slowly heating the surrounding ground area. By the end of the summer a significant amount of heat will be trapped inside the well-insulated borehole field and ready for winter use. Whereas warm water is pumped into the borehole field in summer for storage, winter retrieval involves pumping cool water through the field to pick up stored heat. From there it runs through the energy center again and then back to the townhouses.



Aerial photo of Drake Landing Solar Community district heating layout



Aerial image of borehole field and energy center locations at Iron Bridge Townhouses

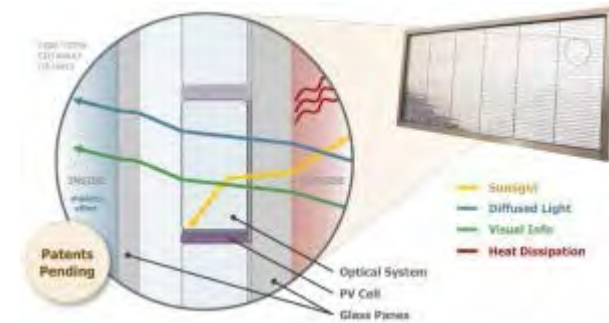


Example of piping running from solar panel on unit into energy center and borehole field

Energy Efficiency Measures and Materials

In addition to collecting solar energy for use in the district heating system, additional solar panels will be used to collect energy in order to provide power to the units. This will be combined with energy-saving building materials and designs in order to reduce overall energy demand and ensure that the power produced on-site will sufficiently meet the needs of the development.

§ Solar windows and sidewalks: To maximize solar collection for the development, solar windows and sidewalks will be utilized in addition to solar panels on the roofs of units. Both of these technologies are recent inventions but have the potential to drastically increase energy collection for the townhouse units. Solar windows can be utilized on all non-opening windows in the townhouses. They work by capturing usable wavelengths of light and sending it into solar collectors located in the window frame, while allowing unusable wavelengths to penetrate inside, allowing them to continue providing natural light to interior spaces. Solar sidewalks can be utilized for the walkways leading to each townhouse, serving the dual purpose of an even walking surface and an energy generator.



Pythagoras Solar Window



Solar Sidewalk at George Washington University

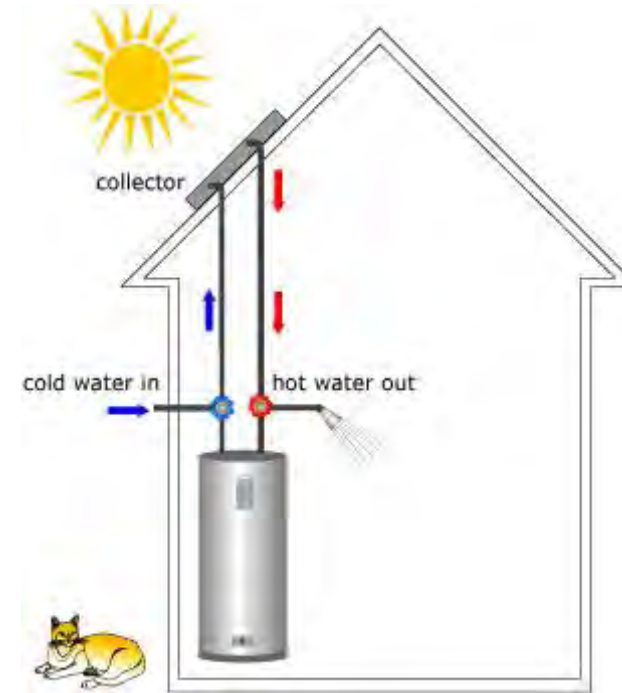
§ Triple-paned windows: For all opening windows, triple-paned argon gas filled windows will be used to minimize heat leakage in the winter. Argon gas is a relatively safe insulation option for the windows as it is naturally occurring, thus this option for energy-efficient windows would not compromise health and safety for the development.

§ Prefabricated walls: To ensure the townhouses obtain the maximum heat efficiency, it is important that they be well sealed. For this reason we will utilize prefabricated walls to build the units to avoid leakages caused by human error. The outside walls, ceilings and floors of each unit will be at least eight inches thick, also ensuring maximum insulation and efficiency.

§ Energy Efficient Appliances and Lighting: Each townhouse will be equipped with Energy Star rated appliances at a minimum. All townhouses will be equipped with LED lighting, dimmer switches, and movement detection lighting. These implementations will greatly decrease the energy demand within the development, ensuring that the collected solar energy is sufficient to meet demands.

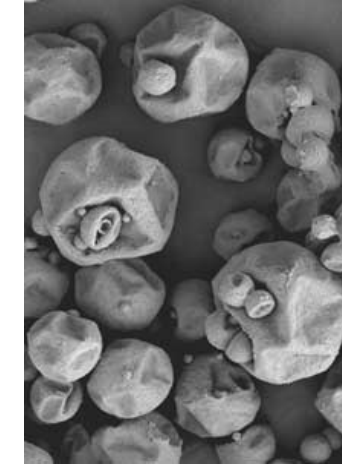
§ Educational Component: In addition to high efficiency appliances and lighting, each unit will come equipped with a digital energy usage meter so that residents can track their own energy habits and make improvements. By allowing residents real-time access to their personal usage data, the chances that they will self-educate and develop more sustainable energy usage habits greatly increases.

§ Preheated water: To decrease the amount of energy needed to heat water, each unit's water will be passively pre-heated on the roof. This will decrease the amount of time the hot water heater needs to be on to fully heat the water.



Passive solar water heating system

§ Paraffin Wax Insulation: This type of insulation qualifies as a phase-changing insulation, and thus it can store and release excess heat throughout the day. Each unit will be equipped with this insulation in the walls, which works by utilizing microscopic balls of wax that melt and harden to trap and release heat. This simple addition will greatly increase the heating efficiency of the homes and in mild spring and fall months may be sufficient to heat the homes without tapping into the district heating.



A microscopic view of paraffin wax insulation

Health:

The Iron Bridge Townhome development will emphasize design tactics that connect residents to the natural world. This connection will be beneficial in providing residents with an enhanced level of health and happiness. Attention to designing both the interior and exterior surrounding environment of the development will be imperative to creating a holistic incorporation with nature.

Interior

Each room within all townhouse developments will have operable windows that provide access to fresh air and daylight. Windows will also tangentially provide a visual human-nature interaction from the interior of the home.

To promote good indoor air quality, the project will achieve an exemplary indoor environment including the following:

- § Prohibited smoking within the project boundary
- § An Indoor Air Quality test before and nine months after occupancy is achieved
- § Compliance with the CDPH Standard Method v1.1-

- 2010 for all interior building products that have the potential to emit Volatile Organic Compounds
- § Dedicated exhaust systems for kitchens and bathrooms in units
- § An entry approach that reduces particulates tracked in through shoes



Exterior

Directly outside the townhome developments, a park is also being proposed along Whatcom Creek. The park project will be designed in many ways to include elements that nurture the innate human/ nature connection.

There are multiple connections within the proposed park area, making it more likely to attract individuals to the area to interact with nature. Aside, from being directly outside the townhome development, the park would have a connection with the Whatcom Creek Trail that would run directly along the creek. The trail would also have a proposed footbridge across the creek that would connect to Iron St. on the other side. The trail's path would be deliberately incorporating the natural pathway of the creek, thus exposing visitors to the natural patterns and feeling of the creek.

The park area itself is the established 100 foot buffer designated by the City. Therefore, the areas shape and pattern is directly in collaboration with the natural turns

of the creek. The park would also undergo extensive landscaping of invasive species and incorporate in native species of foliage, creating a better historical and cultural representation of what the creek should be for visitors.



Equity

To achieve the Equity petal we must focus on creating a built environment that upholds the dignity of every member of society. Regardless of physical ability or economic status, we will strive to create communities that not only accommodate but also welcome all people. Creating an equitable community not only includes making it physically accessible but also economically affordable to a variety of people as well as providing a connection to not only the city but nature as well.

Human Scale & Human Place

To get away from the decades long trend of creating automobile scaled places, this townhome neighborhood heavily emphasises the lack of a need for automobile transportation. Being within a half mile of Bellingham’s downtown central business district makes it an easily walkable journey to the heart of the city. Along with its close proximity to downtown, the addition of a pedestrian foot bridge over Whatcom Creek creates connectivity to the Sunnyland neighborhood where residents can work, shop, and eat.

Multiple types of townhome floor plans will be available for different lifestyle options. These floor plans include

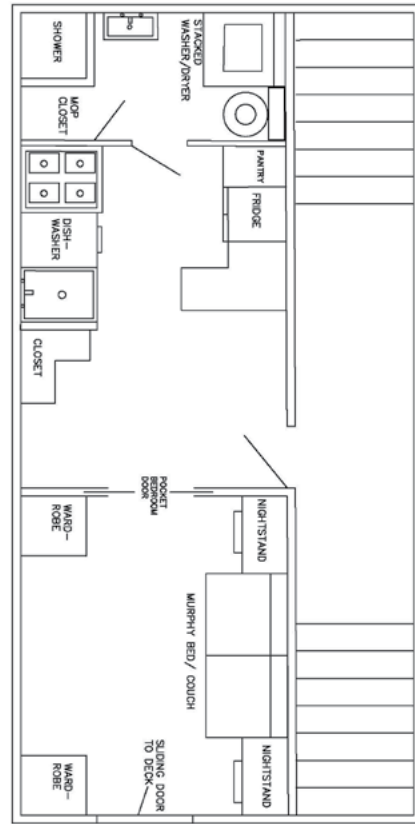


micro one story units with no dedicated parking, multifamily single floor units with shared laundry facilities, as well as independent extra storage rooms. The multi-family units have an option of having a parking spot located off site. Single family three story units will also be available with or without a single car garage. With a focus on allowing people to forgo a parking space or garage it allows them to direct their income towards the most affordable options for them.

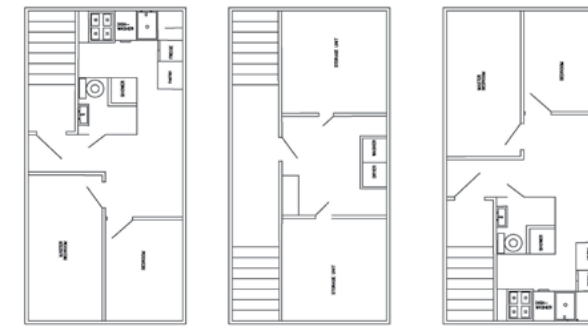
Democracy & Social Justice

Creating access to the area for all people no matter their background, age, or socioeconomic status is crucial to building a neighborhood that is equitable to all members of society. This specific area would be affordable to all classes of people, as many varieties of townhomes would be available. From one floor micro units, to two and three story condos; people of all economic classes could find a place to live. First floor units would be built to ADA standards to serves those with physical disabilities in the community.

Micro units would be available for low income residents, students, and those that do not require the space and full size amenities that a typical size home would offer. These 300 Sq. foot units would offer the basic necessities needed for day to day life such as a shower, washer and dryer, kitchen, living room and bedroom while still having a modest rent that matches or is just below the area median income. These units would not have a dedicated parking space as they are focused towards those that work or go to school nearby and do not require a “typical” living situation.



Single and multi-family units would also be available in this community for those that are looking for more room for themselves and their families. These units would range from 450 Sq. foot single floor units with a shared laundry room, to 1,350 Sq. foot three story homes with a single car garage. Having a diverse mix of housing creates a dynamic community where people of all statuses can experience a high quality life at all different income levels and lifestyles.



Outside images of townhouse unit options: multiunit townhouses and single family unit townhouses.



Rights to nature

The rights to nature are a must for an equitable community, as all people no matter their status have the right to fresh air, sunlight, and waterways. This townhome community provides each of these attributes to not only the residents but the community at large.



The bordering linear park along Whatcom Creek allows for unhindered access to an active waterway. By building along this waterway it creates a natural path for fresh air to flow through. To allow for equal access to sunlight, the design of the townhomes is staggered and the ceilings are vaulted with windows to capture maximum light.

The linear park is a major focus of this townhome community as it creates a place to relax and recreate while still being close to the amenities of the city. The footbridge across Whatcom creek leads to a portion of Iron Street that would be dedicated for food trucks, and vendors of all types allowing for the ability of a farmers market or craft fair environment to be created. This creates a sense of community where people can come together to have lunch; enjoy music, crafts and nature all within walking distance of their home.



Water:

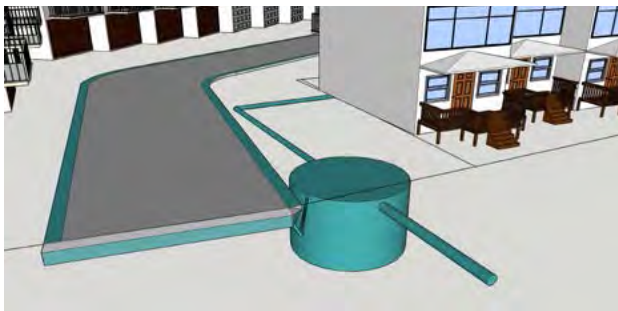
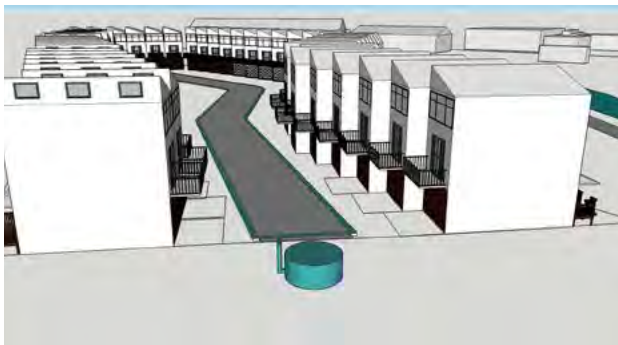
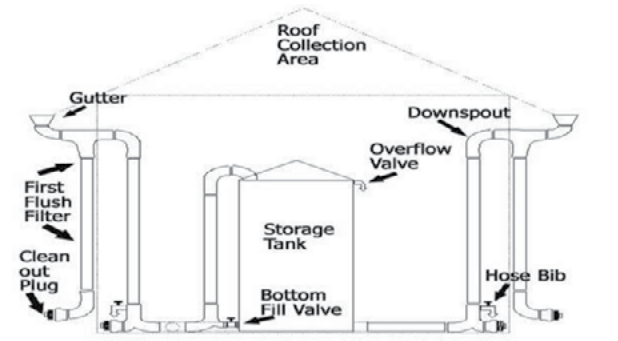
To achieve the water pedal for the living building challenge the implementation of a couple of different systems are vital. Using these systems will provide a way of reusing water resources that are readily available and enabling a house to be more sustainable. The implementation of the water channel around the middle of the townhomes will additionally fulfill the aesthetic pedal for the living building challenge. We’re combining a couple of different systems together that will generate power, catch water and reuse the water to help the overall community.

Rainwater Catchment System

Below is a diagram of what a rainwater catchment system could look like. The townhomes will have a similar but modified system like this one. When water comes down the downspout there will be 3 micro-hydro turbines located within the gutter. This will generate some electricity that can be used by everyday appliances.

Once the water falls down the gutter it will then be caught and deposited into a manmade channel. This man made channel works itself around the outside boundaries of both lanes located in the middle of the townhomes. The channel is 16 inches wide and 6 inches deep which makes it manageable to drive over but also provides a good width and length for a channel of moving water. The channel would be filled with small local river rocks giving the residents a sense of connection with the local geography and especially with Whatcom Creek and the park that is located behind the development. This water will travel through the man-made channel down to the entrance and the end of the townhome development. From these channels they will fall into a basins that is connected with a valve that will allow water to travel down it. This pipe will then be deposit water into a bigger community cisterns that is underground in the southern corner of the development. This non-potable water will be used for toilets as well as irrigation of the park and individual households use.

This channel also provides the residents, especially the younger ones the ability to become educated and internalize where their water sources are coming from. The interaction among the townhomes and the channel can help kids at a very young age start to understand the importance of conservation and sustainable living. It’s more than making the townhomes living space attractive but it’s about providing the community a chance to get educated on the conservation of natural resources.



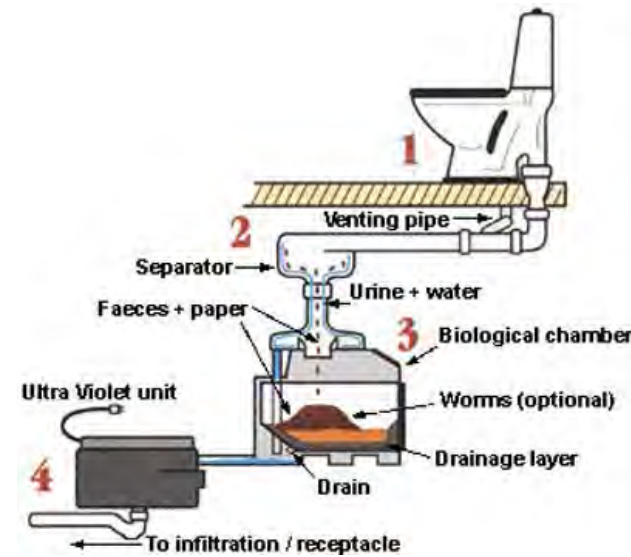
(bioswales) will take out all the unneeded bits in the water making that water extremely clean. This would be excellent for the local area provided that Whatcom Creek is right there.

These places are also great habitats for small organisms would only promotes a more health environment for those plants and animals. But the vital thing that bioswales bring to the table is the opportunity of education that is provides. There would be education boards along the bioswales explaining the importance of using native plants, providing habitats for small organisms and the cleansing of the water. Again the hope is to get the residents excited about the local surroundings and resources that are available.



Composting Toilets

Composting Toilets are toilets that use very little to no water in order to carry away the waste that is deposited there. This is already more green then a lot of other toilets which use plenty of water in order to clear the bowl. The cool thing about these toilets is that the take the waste that is generated by humans. It catches both wastes; solid and liquid. The liquid falls through while the solid waste stays and gets broken down into organic compost.

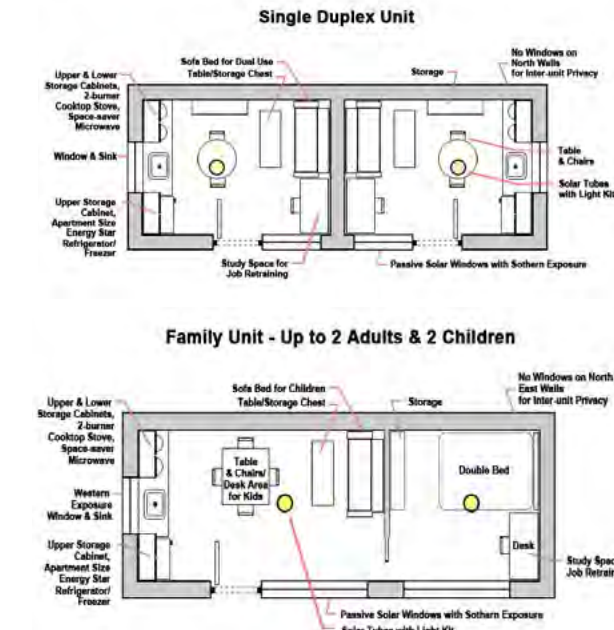


BIG IDEA 4: TRANSITIONAL HOUSING PROJECT

The South Sunnyland's Transitional Housing Project is designed to help the homeless in Bellingham into a healthier atmosphere. This community is not meant to be a permanent residences, rather a stepping-stone for people towards a more stable lifestyle. The community will have an application process, and will only accept low- to moderate- risk homeless - based on the Homeless Village Housing Report of 2014. The residents will have to sign an agreement before moving in that requires them to either:

- Be enrolled in self-help classes, like AA meetings or skill-building classes at the Entrepreneurial Center
- Or help with the maintenance of the community, like working in the gardens, cleaning the community building, help with community meals, etc.

In order to build a stronger community and sense of purpose, the residents will have the opportunity to build their own unit. There will be multiple styles of units to fit the different needs of residents; a single unit, a partner unit for a couple or two roommates, and a family unit with enough space for the parent(s) and two children.



The units are designed to be functional and compact; each one will average 200 sq. ft. for a family unit, and 100 sq. ft. for a single unit. Each unit will have a sink, a two-burner stove-top, and a small apartment fridge with freezer. In order to save money and energy, the units will be oriented in a way to take advantage of the solar energy available on the lot. They could either be oriented for passive solar heating, or oriented for solar panels on the roof. The only difference in these options is a north-facing sloped roof or a south-facing sloped roof, respectively. Continuing the effort to be as efficient and affordable as possible, each unit will have their own rainwater catchment system and solar hot-water heater. Each unit will also be a grey-water catchment system to be filtered and used for the irrigation of the community garden. Since the individual units will not have a bathroom, there will be large shared bathrooms in the community building. The community building will also have a full kitchen to allow residents to use an oven, and to be used for regular community meals. There will also be various

rooms available for community and self-help group meetings. The building will be oriented to allow for solar panels on the roof to power most, if not all, of the energy required for the entire community. The building will also have a grey-water catchment system, and the bathrooms will have compostable toilets - the product of which will be used for fertilizing the landscaping of the community.



There is a 100-foot buffer around Whatcom Creek that prevents any new development in that space. Because this buffer is taking up a third of the Transitional Housing property, there will be a community garden within this space instead. The garden will be run by the residents and will be a main source of food for them. If there is surplus produce, this could become a potential income opportunity for the community which could be used to fund improvement or recreational needs. There will be no impervious surfaces used through the community; instead the pathways throughout will be created using plastic grid system, filled with gravel or grass which will decrease the amount of impact the development has on the land. This pavement method will also be used in a small parking lot that will allow

visitors to park on site and give garbage trucks access to the community.

The proposed South Sunnyland Transition Housing development will be a completely self-sufficient community that will give Bellingham's homeless population the chance to improve their lifestyle. With easy access to Bellingham's food bank, the proposed Entrepreneurial Center, and the bike trail, this lot is the ideal location for this development.

Credits Met:

- Certified Green Buildings

- The community building and the individual units will all meet the green building standard.

- Building Water Efficiency

- Energy Star rated, or equivalent appliances will be use throughout the community.

- Building Energy Efficiency

- Energy Star rated, or equivalent appliances will be use throughout the community.
- Solar orientation will allow residents to use a heating system less.

- Water-Efficient Landscaping

- Grey-water from the community building and the individual units will be filtered and used for irrigation of the landscaping and for the garden.

- Minimized Site Disturbance in Design and Construction

- No impervious surface will used in this development.
- Instead, permeable pavement, like a plastic grid pattern will be used as the structure for the paths throughout the community.

- Solar Orientation

- Orienting each of the units to optimize the potential passive solar heating available on the lot.

- On-Site Renewable Energy Sources

- Solar panels on the community building to either power the entire community, or at least part of the total energy required.

- Direct Heating and Cooling

- The solar orientation of the units will allow for passive heating
- Each unit will have a small solar hot-water heater

- Wastewater Management

- Grey-water catchment systems for irrigation in both the community building and in each of the individual units

- Solid Waste Management

- Using compostable toilets in the community building

- Steep Slope Protection

- Not developing on the steep slope on our lot
- Plans to add to the vegetation on the slope to prevent erosion

Living Building Challenge

- Site/Place Petal

- Limits to growth
 - “Previously Developed” Documentation
 - Conservation documentation
 - Landscape plan
 - Flood map
- Urban Agriculture
 - Agricultural Site plan
- Habitat Exchange
- Human Powered Living
 - Mobility Plan - bike storage

- Water Petal

- Net Positive Water
 - Annual water balance Diagram
 - Stormwater calculations
 - Biosolids disposal documentation
 - Appropriate use of bio-solids and -liquids

- Energy petal

- Net positive energy use

- Health and Happiness Petal

- Civilized environment
- Healthy Interior environment
 - Cleaning product list
 - Use of low risk VOCs

- Biophilic environment

- Materials Petal

- Red list
 - Compliance with the red-listed materials
- embodied carbon footprint
 - carbon footprint calculations
 - carbon offset calculations
- Responsible industry
 - reuse of salvaged materials
- Living economy sourcing
 - materials tracking - using local materials whenever possible to reduce carbon emissions from transportation
- net positive wastereducing construction waste

- Equity Petal

- Human scale and humane places
- universal access to nature and place
- equitable investment

- Beauty and inspiration Petal

- beauty and spirit
 - description of design intent and purpose
- inspiration and education

Living Community Challenge

Based on the criteria below and our ability to fulfill the petal requirements outlined above, it appears that our transitional housing development will be able to receive Petal Community Certification and possibly Living Community Certification (if we can find a way to meet the Universal Access to Community Services and Just Organizations imperative not addressed above) as long as the project is built to our specifications.

A few negatives about attempting to become certified:

- Cost of certification is between \$23,700 and 36,200.
- If our development budget is tight, these funds may be more beneficial if used in a different capacity.

- It takes a long time since the community has to be complete and operational for a minimum of 12 consecutive months.

Registration Fee \$1,200

Compliance Review and Certification Fees			
Full Certification			
	<10 acres	10-25 acres	25-100 acres
Living Community Masterplan Compliance	\$10,000	\$15,000	\$20,000
Living Community Certification	\$25,000	\$30,000	\$35,000
Total	\$35,000	\$45,000	\$55,000

Petal Certification			
	<10 acres	10-25 acres	25-100 acres
Living Community Masterplan Compliance	\$7,500	\$10,000	\$15,000
Living Community Certification	\$15,000	\$20,000	\$25,000
Total	\$22,500	\$30,000	\$40,000

Supplemental fee for communities with significant existing buildings and/or infrastructure: \$5,000

Source: <https://living-future.org/lcc/how-it-works>

CREATING WORLD-CLASS COMMUNITY DEVELOPMENT

Source: <http://living-future.org/lcc>

The Living Community Challenge is comprised of seven performance areas, or “Petals”: Place, Water, Energy, Health and Happiness, Materials, Equity, and Beauty and Spirit. Petals are subdivided into a total of twenty Imperatives, each of which focuses on a specific sphere of influence. This compilation of Imperatives can be applied to the masterplan and/or completed construction of almost every conceivable community type, be it a small city block or street, a planned residential development, a mixed-use transit community or a large college campus. Naturally, strategies to create Living Communities will vary widely by occupancy, use, construction type and location—this is necessary—but the fundamental considerations remain the same.

There are two levels of certification within the Living Community Challenge:

1. Living Community Certification - A masterplan or built project must meet all twenty Imperatives across

all seven Petals to earn Living Community Certification.

2. Petal Community Certification - A Community must meet all the Imperatives of at least three Petals (one of which must be the Water, Energy or Materials Petal) to earn Living Community Petal Certification. Imperative 01, Limits to Growth and Imperative 20, Inspiration and Education are also required.

Compliance or Certification is available in two stages:

1. Living Community Masterplan Compliance
2. Living Community Challenge Certification

Living Community Masterplan Compliance

The Institute recognizes that it can take years and sometimes decades to develop masterplans, then years more for those plans to evolve into completed projects ready for occupancy. The Living Community Masterplan compliance acknowledges this reality and now reviews masterplans as the first stage toward Living Community Certification. This powerful new tool can guide developers and planners during a project’s critical conceptual phases, public review or planning efforts, acknowledging and certifying world-class planning efforts at this critical early juncture.

Living Community Masterplan Compliance requires a plan review with supporting documentation and no on-site audit or third-party auditor. Compliance is valid for up to three years, after which the project’s plans must be resubmitted if construction has not yet begun. If the project has moved to the construction phase, then it is no longer eligible for Living Community Masterplan Compliance and must set its sights on Living Community Certification.

Upon receiving Living Community Masterplan Compliance, developers may not market their project as a Living Community. They may promote the fact that they have created a compliant Living Community Masterplan for what aspires to be a Living Community upon completion of construction.

When any phase of a planned development’s construction is complete, developers may apply for Petal or Living Community Certification. So it is feasible for a single project to contain certified built elements and compliant plans at the same time.

Living Community Certification

Once a planned Living Community has completed construction and has a minimum of twelve months of continuous operation, it may apply for Petal or Living Community Certification (assuming that the compliant Living Community Masterplan has not been undermined by actual infrastructure implementation). Because a Community is often built in phases, The Community may work with the Institute to determine if the phase is significant enough to trigger certification for that portion of the development. This is likely a suitable strategy for large community or campus plans. Existing buildings within the community or buildings not under the ownership of the Community do not have to be certified as Living Buildings (although they are encouraged to be). However, all built infrastructure within the Living Community must meet the requirements of the program. All buildings owned or developed by the community must meet the Living Building Challenge for the project to earn full Living Community certification status.

When the project is ready for certification, a third-party audit will be organized by the International Living Future Institute to ensure compliance with all pertinent Imperatives.

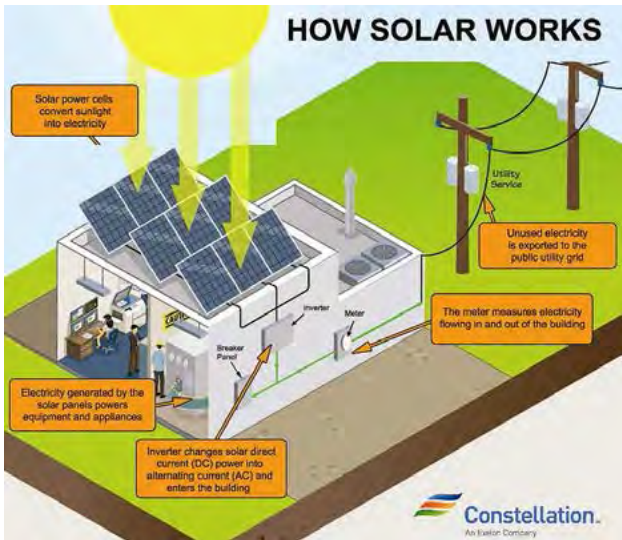
There are two rules for Living Community Certification:

1. All Imperatives are mandatory.
2. Certification is based on actual, rather than modeled or anticipated, performance. Therefore, projects must be operational for at least twelve consecutive months prior to evaluation.





How it works: Solar panels are comprised of smaller Photovoltaic cells that generate electricity when photons (particles of light) hit them. Solar panels create a Direct Current (DC) energy supply that must be fed into an Alternating Current (AC) converter to power appliances or be fed back into the public utility grid.



Local contractor Ecotech Solar provided us with specific placement information.

Creating a Good Space for Solar Electricity: Solar electric (photovoltaic or PV) systems are typically mounted on building roofs. However, they can also be mounted on poles or racking systems on the ground.

Here are some things to consider:

1. A Solar Site Assessment is always the starting place for a solar electric system. During a Site Assessment the solar access, location, orientation, etc. are assessed.
2. Solar electric systems are very sensitive to shading. A hard shadow on part of the solar array may reduce the output by much more than the percentage that's shaded. Systems must be located where they receive direct sun without shading for much of the day.
3. The ideal orientation is true south. However, a southern orientation is not critical. An east or west facing roof will get about 85% as much solar energy as a south facing roof.
4. The ideal pitch is 8:12. This also is not critical at all. Most standard roof pitches will get 96-99% as solar energy as an 8:12 pitch. For off-grid systems (no connection to the power company), a steeper pitch may be advantageous to optimize for winter energy capture.
5. Be sure to keep the solar side of the roof (usually south) free of plumbing vents, chimneys, dormers or anything else that will cast a shadow or interfere with the solar array. It's important to remember that an obstruction will not only cast a shadow to the north, but also to either side as the sun moves across the sky through the day. If plumbing vents or other obstructions must be on the solar side of the roof, try to cluster them closely together or push them right up to the peak so they don't eat up too much solar real estate.
6. The amount of roof space required will depend on the system size and the type of solar panel. Solar arrays typically cover around 65 to 100 square feet per kW. Average system sizes range from around 200 to 1,000 square feet.

Pros:

- Since they have no moving parts, once solar panels are installed, they are usually under warranty for 25 years on the panels and 5-10 years on the inverter which makes the maintenance and repair minimal.
- Solar is completely sustainable since it does not require any fossil fuels to function and does not release any carbon emissions.
- Solar panels are not easily damaged and can withstand 1" hail at 50 mph and hurricanes.
- Increases the value of the building it powers. For example, if \$1,000 a year in electricity is saved, the building will be worth \$20,000 more since that money can be used to pay different bills.
- Financing is available. According Ecotech Solar we can take advantage of Puget Sound Cooperative Credit Union's Sustainable Solar loan program since they are a preferred installer. The loan is an easy to apply for, low interest option that can allow the contractor to purchase solar for \$0 down.

Cons:

- Solar panels have an expensive initial investment but there are many Federal, State and Public Utility discounts, pay back plans and discount offers available.

EcoTech Solar provided a list of local incentives:

- **Federal tax credit of 30% of installed cost:** You

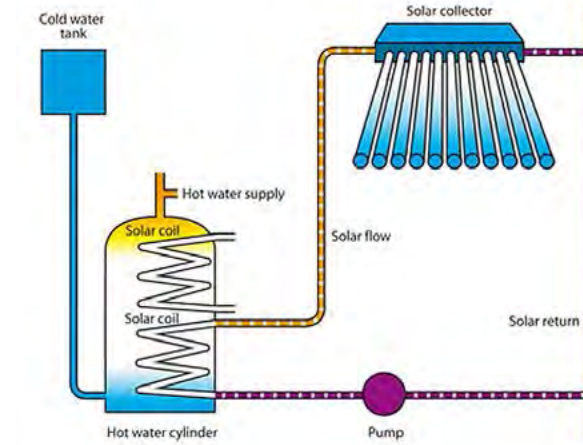
receive this credit off of your bottom line taxes owed. (Expires in 2016)

- **Washington State production incentive:** You receive \$.15 to \$.54 per kWh through June, 2020 up to \$5,000 yearly for all electricity that you generate (whether you use it or not). The higher rate applies for equipment made in Washington and we have the largest solar manufacturer in the state right here in Bellingham. The value of this incentive depends on the date of your installation with earlier installs having a much higher benefit and later ones gradually decreasing in value. (Expires in June 2020)
- **No sales tax on equipment and installation:** You will pay no tax on most systems. (Expires in 2018)
- **Accelerated depreciation:** You receive a five-year accelerated depreciation for all commercial installations from the IRS.
- **Net metering:** This is your savings for generating your own electricity and not having to buy it from the utility. The value increases over time as electricity rates go up.
- They require a site without trees blocking them.
- They do best when oriented to southern exposure.

Cost: The average initial cost for a solar panel system is \$50,000 installed (pre-federal and local tax incentive for a 6.25-kwh system that produces 8,000/kwh.

Solar Hot Water Heating

How it works: Solar panels are attached to your roof and are connected to a solar hot water tank through a heat transfer system.



Pros:

- Reduces hot water bills by up to 70%
- Can be installed on flat or pitched roofs
- Lasts 15-20 years with a 5-10 year warranty and requires minimal maintenance with an inspection recommended only every 5-6 years.

Cons:

- Initial cost is more than most traditional hot water systems.

- They require a site without trees blocking them.
- They do best when oriented to southern exposure.

Cost: \$1,500 to \$2,000 for a typical household



Passive Solar Lighting

How it works: Passive solar lighting is the result of proper structure or skylight planning. It can provide ample light during the day, reducing the dependency on artificial lighting products.

Techniques to achieve a building's full passive solar lighting potential:

- East and west windows should be smaller, and are used to provide light. East facing windows will illuminate a room from early in the morning until noon, while west facing windows will illuminate a room late in the evening.
- Incorporating south facing skylights can provide light to rooms placed on the northern side of the main structure which do not have an east or west exterior wall.

- Skylights can gather sunlight all year and are a good choice when lighting is the primary design consideration, such as for rooms in the center of a large building.

Solar Tubes:

Installation of tubes through the roof to allow for sunlight to reach the room below

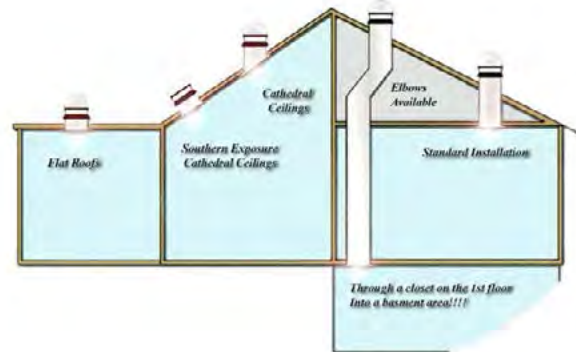
Pros:

- good way to bring light into the houses - able to use less false lighting which saves energy and money

Cons:

- Kind of expensive depending on where you get them, but cheap options could be found

Cost: \$180-\$500 per tube



Passive Solar Heating

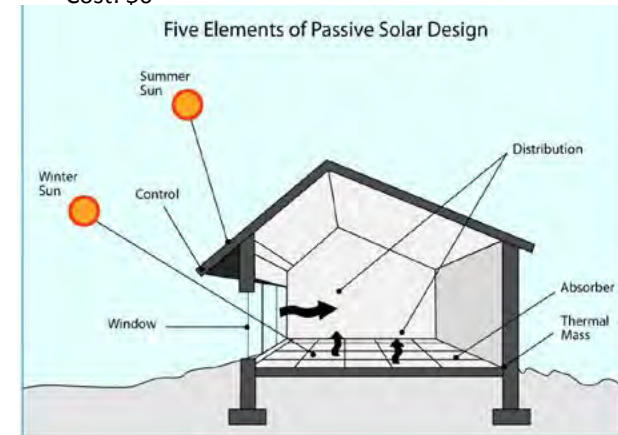
How it works: Orientation of a building so fully optimize the potential solar energy available on the site. The optimal orientation is to have longest part of the building is facing south - increasing the amount of south-facing windows that can access the solar heat.

There are five main parts of passive solar heating:

- Window
 - must be south facing
- Control
 - eaves on the roof to prevent the summer sun from heating the building
- Distribution
 - allowing for the natural distribution of the captured energy through the room/building
- Absorber
 - storage of solar energy captured with "thermal mass" materials
- Thermal Mass
 - storage of solar energy with building materials with high heat capacity

(concrete, brick walls, tiles floors, etc)

- Pros:
 - Doesn't cost any additional money - you just have to plan for it when starting construction
 - reduces the amount of energy and money that would have been spent on heating
- Cons:
 - could decrease the amount of units we can fit on the lot
- Cost: \$0



Water

Rain Gardens

How it works: Rain gardens are small landscaped areas that are designed to collect storm water runoff. Rain gardens are comprised of amended soil, and water-philic plant species that soak up water. Rain gardens are designed to absorb and filter stormwater before flowing into storm drains. This prevents oils, greases, and other pollutants from entering into storm drains.



Pros:

Rain gardens are replacing the old assumption that every development needs a large stormwater retention ponds. Rain gardens are not only effective in removing pollutants from entering into storm drains and other water systems, but are also very attractive. Rain gardens can be landscaped with a variety of plant species that are effective in absorbing water. The landscaping can benefit other species like birds and insects. Rain gardens can also help prevent flooding and help recharge local groundwater supplies.

Cons:

Rain gardens cannot be placed anywhere within a residential yard. The location of rain gardens heavily depends on the quality of soil, and cannot be placed anywhere with a grade of more than 10 percent. Also, rain gardens cannot be placed within 10 feet of a building foundation, be placed over utilities, near septic tanks, areas that do not drain well, near wells, and areas with high ground water in winter. Rain gardens also require maintenance, mainly in the form of weeding so allow for correct water absorption by the soil, replenishing of mulch, and watering of plants.



Water Efficient Landscaping/Xeriscaping -

How it works: Xeriscaping refers to landscaping that eliminates the need for a supplemental water supply besides that it naturally receives from the environment. Landscapes are transformed using plant species that require low amounts of water to survive, and incorporates designs that do not require watering like rock-scapes.



Pros:

Water efficient landscaping an effective way to save on the amount of water used for watering plants. This allows for more water to be used for essential purposes like domestic use, and saving water for the environment. Xeriscaping also reduces the amount of maintenance needed for landscaping, saving time, energy, and cost. Also, less fertilizers are required preventing pollutants from entering into water supplies. Due to the lack of grass in xeriscaping, less organic waste is produced through the form of lawn clippings. Xeriscapes can also be beneficial to other species by providing nutrients and shelter.

Cons:

Xeriscapes can vary in aesthetics. The use of rocks are heavily incorporated into designs, which may go against some homeowner associations requirements for lawns. Also, the amount of reduced grass space results in less area for recreational activities. There is also the initial startup cost of re-landscaping a yard. Xeriscapes also require a lot of initial planning. The use of sun charts, measuring pH levels of soils, finding climate appropriate species, and re-landscaping are all required into creating a xeriscape.

Rainwater Catchment

How it works:

It was decided in 2009 by the Washington State Department of Ecology that rainwater catchment does not require a permit, meaning that any person is allowed to collect rainwater. Rainwater catchment can happen in a myriad of ways. However, the main method is roof water catchment which is then captured by a rainwater barrel or cistern. Some rainwater catchment systems incorporate filtration systems, but most are not necessary since the water is not meant to be ingested by humans.



Pros:

The use of collected rainwater can be used in a variety of ways. The most common is for watering landscaping and gardens, which helps reduce the amount of municipal water used. This results in a cheaper method of maintain yards and gardens. Collecting rainwater is also an effective stormwater management tools. Instead of the water falling off roofs, collecting pollutants, then entering into water systems, it is instead stored and used at a later point. This can also help the amount of flooding in yards. Also, the water stored in cisterns can be used for supplying toilet water, which does not pose a health hazards to humans and saves money.

Cons:

If rainwater is collected in mass quantities, groundwater recharge supplies could be affected. There is also an initial startup cost for construction rainwater catchment systems. Rain barrels can cost up to \$120, and cisterns can cost thousands of dollars based on the size.

Greywater Catchment

How it works:

Water can be collected from a variety of household sources like bathroom sinks, showers/tubs, and washing machines. Water collected from these sources are referred to as light greywater, because they contain minimal amounts of fats, oils, and grease compared to

water collected from utility sinks, and dishwashers. There are three different kinds of systems used to collect grey water. The first is a gravity distribution system that does not require storage tanks. The second is a system which uses storage tanks, and allows greywater to be stored for less than 24 hours. The third is a system which is capable of treating light and dark grey water, to be used in public areas.

Pros:
The collection of grey water reduces the amount of municipal water needed to water landscapes and gardens. Greywater can also be used for toilet water, which also reduces the amount of municipal water used. This can result in a significant cost benefit, and help sustain groundwater supplies.

Cons:
The construction of a greywater catchment system can be expensive if trying to retrofit an existing home, compared to integrating the system into the construction of a new home. Using greywater to water plants can expose species to different chemicals, which may be harmful. It is recommended to wash off all products with soap and water if exposed to greywater. There are also many regulations at the local and state level.

Expensive (\$1,645-\$2,500), large total system, compost has to be removed yearly.



Self-Contained Mechanical Composting

Like central composting but with entire system contained within toilet.

Pros: Small footprint, no plumbing or hookups required.
Cons: Expensive (\$900-\$2,100), requires compost to be removed, potential for indoor odors.

Low-Tech Composting Toilet

Essentially a large plastic bucket, composting material added after each use
Pros: Inexpensive (<\$100), simple to build and maintain
Cons: Not entirely odorless, has to be regularly emptied to an exterior composting location



RV/Boat Low Flush

Compact low-flow toilet empties into holding tank.
Pros: Simple familiar operation, odorless, inexpensive (<\$400)
Cons: Uses clean water and generates black water (sewage). Requires holding tank to be emptied or connected to a grid system.

Incinerating Toilets

Electric or gas powered toilet burns waste to a minimal amount.
Pros: No water, very little waste,
Cons: High energy use (not ideal for solar), ashes have to be emptied regularly, expensive (\$1,900-\$2,100)

<http://clotheslinetinyhomes.com/2012/10/03/everyone-poops-tiny-house-toilet-options/>
<http://sun-mar.com/index.html>

District Heating

How it works:
A district heating scheme comprises a network of insulated pipes used to deliver heat, in the form of hot water or steam, from the point of generation to an end user.

District energy systems produce steam, hot water or chilled water at a central plant. The steam, hot water or chilled water is then piped underground to individual

buildings for space heating, domestic hot water heating and air conditioning. As a result, individual buildings served by a district energy system don't need their own boilers or furnaces, chillers or air conditioners.

The district energy system does that work for them, providing valuable benefits including:

- Improved energy efficiency
- Enhanced environmental protection
- Fuel flexibility
- Ease of operation and maintenance
- Reliability
- Comfort and convenience for customers
- Decreased life-cycle costs
- Decreased building capital costs
- Improved architectural design flexibility

For implementation of district heating for the transitional village, the central power generator would be the community building. It would gain most of the energy for the community from solar panels on the roof.

- Pros:**
- will be very cost effective in the long run

the village could then be totally self sufficient in their energy creation and use

Cons:

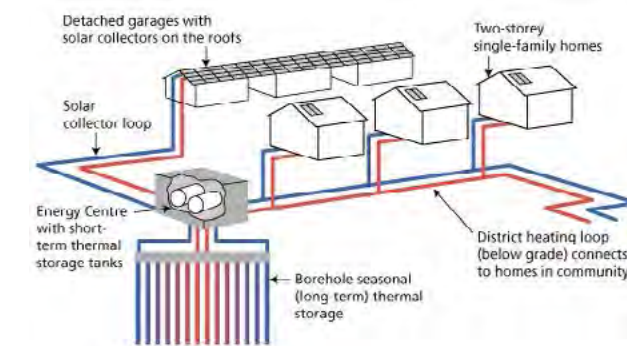
- expensive to implement
- needs permanent hook-ups for the system - substantially limiting the flexibility of the layout for the community

Cost:

Difficult to predict as district heating is usually used on a larger scale. One example is: ~\$11,537/unit. This estimate is for a small house, but it would be a lot less for the tiny houses. The total cost includes:

- connection fee
- power charge
- energy charge

The total cost of implementing a district heating system in the Transitional Housing Community would be expensive, but would pay off in the long run.



SIPs Panels

How it works:
Structural insulated panels (SIPs) are a building system for residential and light commercial construction. Panels consist of an insulating foam core sandwiched between two structural facings. SIPs are factory manufactured and can be fabricated to fit nearly any building design. The result is a building system that is extremely strong, energy efficient and cost effective.

Pros:

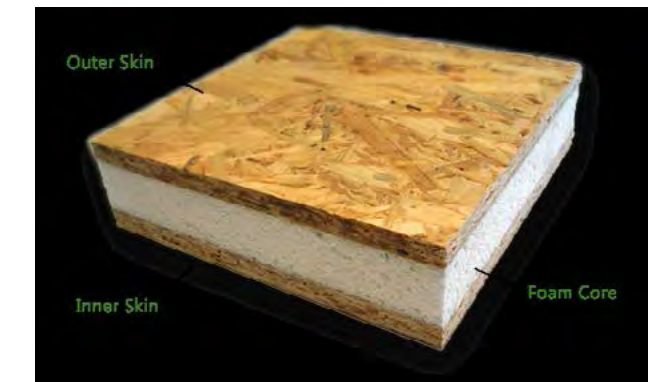
Quick build time, pre-fabricated with locations for windows, doors, and other considerations integrated, superior insulation qualities compared with most traditional methods.

Cons:

Wood protective facings are susceptible to moisture and exposure will cause rot requiring the total replacement of your wall or roof system. Panels must be designed and manufactured ahead of time, long lead time. More complex code requirements, most contractors not familiar with SIPs installations and larger equipment (cranes) required for certain installations.

Cost:

Materials are more expensive however total installation cost including labor is comparable to traditional stick framing.



Permeable Paving

How it works:
Permeable surfaces allow water to percolate into the soil to filter out pollutants and recharge the water table. There are many different kinds of permeable surfaces: interlocking concrete/stone pavers, grass or gravel pavers, and porous concrete.

Interlocking Concrete/Stone Pavers:

Pros:

- prevents excess runoff
- low maintenance

Cons:

- more expensive to instal than asphalt

Cost: \$5.00 - \$10.00 per square foot



Grass/Gravel Pavers:

Pros:

- prevents excess runoff
- low maintenance (especially if gravel is used)

Cons:



- more expensive to instal than asphalt

Cost: \$1.50 - \$6.00 per square foot



Porous Concrete:

Pros:

- prevents excess runoff

Cons:

- more expensive to instal than asphalt
- requires a lot of maintenance

Cost: \$2.00 - \$6.50 per square foot



BIG IDEA 5: GREEN ROOFS

Green Roofs

Rooftops are some of the most underutilized spaces in the built environment. There are a number of existing and proposed buildings that would be ideal for intensification of rooftop use. Implementation of green roofs will require consideration of the ecological needs of plant life in the urban environment. Exposure to winds and direct sunlight makes it difficult for pre-planted vegetation to survive, and instead a fertile soil medium should be installed, allowing for self colonization of native plants such as grasses, succulents, and native wildflowers. This soil medium can be composed in part by the demolition waste of buildings in the area, contributing to Credit 15's requirement of recycling 50% of the infrastructure's mass. Clay and concrete rubble forming the lower soil layers of the green roof contribute to the filtration and drainage of water from the roof. The plants themselves absorb and transpire much rainfall, lessening the load on stormwater systems.

Solar panels

Solar panels allow unused roof space to be utilized for energy production. By providing a means of energy production on-site, the Sunnyland neighborhood can implement a micro-grid system that sells its excess power back to the greater Bellingham power grid. Charge controllers can be used to monitor the input and output of power at each site. While solar panels can be offputting with their initial cost, the user does save money in the long run, and as more people and businesses buy solar panels, the initial cost will be reduced over time.

Solar panels installed on green roofs benefit from the cooling effect created by the evaporation of water

from plants and the soil, allowing them to perform more reliably in the direct heat of summer months. In combination, green roofs and solar will be implemented on as many inaccessible roof spaces as needed to Credit 11 and 13's requirements. The poor aesthetics of a solar array also lends to their installation out of sight and away from the rooflines of these sites.

Recreation/Patios/Gardens

While many green rooftops focus on water and energy efficiency, the space is also beneficial for residential recreation. Rooftops present an opportunity for residents to enjoy the open green spaces that are available in less dense suburban areas. Rooftop recreation, such as bocce ball and croquet courts, will provide an attraction to the neighborhood and foster community. With increased development, higher densities will result in the reduction of traditional private open space. Utilization of rooftops, such as gardens and patios, will provide an alternative to residents.

Food Production

Accessible green spaces will be implemented with a soil depth that allows for a diversity of plant and wildlife to take root. These green spaces can be patchworked into the existing proposed parks and open spaces of the neighborhood, preventing demolition of existing sites. The curation of plants within these spaces will depend on their proximity to roads and exposure to sun and wind. Near roads, trees and herbaceous plants can act as sinks for atmospheric pollution, while edible plantings will be located further from roads to prevent contamination.

Chestnuts, walnuts, hazelnuts, and pine nuts are all suited to the climate and hardy enough to survive a micro-urban environment. Apples, plums, peaches, and pears can provide fruit in this environment, and grafting of these species provides a variety of fruits from a single plant. These trees also cast shade, which can be utilized to create spaces for relaxation with benches and tables.



Finally, foraging plants such as mountain huckleberries, red huckleberries, salmonberries, thimbleberries, and raspberries can round out the edible offerings of the Sunnyland green spaces.

Community involvement with the gardens will need to be fostered in order to provide continuing food production from these green spaces. By providing initial education on the use of these green spaces, access to pruning and gardening supplies, and examples of the garden's success through the sale of harvests at the local farmers market, residents can be compelled to participate in the project.

Green Roof Locations

Developers of new construction and existing building owners can asses the uses of their building and develop green spaces accordingly. Commercial or industrial buildings are candidates for purely self maintaining green roofs planted with gresses and succulents, whereas mixed use or residential buildings are ideal for creating rooftop recreational areas or gardens, depending on the area and dimensions of available roof space.

Green Walls

Green walls and vertical gardens can be both an aesthetically pleasing and environmentally friendly features. These walls could be a pleasant change of scenery in the study area that has so many blank, industrial buildings. Plants are chosen based on the micro-climate the wall resides in.

Rain Gardens

Rain gardens are a unique and aesthetically pleasing option for medians to manage stormwat

Appendix

I. Appendix One

List of Businesses in our Region:

Fanatik Bike Co.
 Bellingham Food Bank
 Enterprise Rent-A-Car
 Autozone
 Spartan Espresso
 Cash and Carry
 Carlson Steel Works
 Resiner Distributor
 Bellingham Public Auto Auction
 2020 Solutions
 Harmony Motorworks
 Olsen Auto Body and Collisions
 Whatcom Radiator and Bal
 Dollar Rent A Car
 Hertz Rent A Car
 Perch and Play
 Stampadoodle and the Paper Café
 Platt Electrical Supply
 Jogo Crossfit Bellingham
 Wander Brewery
 Hammer Properties
 Consign Northwest
 Diamnd Antiques
 Construction Supply
 Whidbey Island Bank
 Bellingham Athletic Club
 Banner Bank
 Bellingham Whatcom County
 Mobile Music Unlimited
 Grace Church Bellingham
 Woodsmiths Furniture
 Whatcom County Public Works
 Senior Services; Senior Center
 Echo Newspaper

Cosmic Comics and Amusement
 Misty Moutain Realty
 Hamster Realty
 Custom Cushions and Foams
 Mt. Baker Powder Coating
 Erins Baker Wholesome Baked Goods
 Humbolt Automotive Inc.
 Sanderson
 Bay Trophies and Engraving
 Bruce Cox Imports
 Liquidation Car
 The Autohaus
 Sammy’s Place
 Wiztronics
 Consolidation Electrical Distribution
 Security Solutions NW
 Explorations Acadmey
 Keith Cox Autobahn
 Stusser Electric
 Airgas Branch
 Praxair Distribution, Inc.
 Applied Digital Imaging
 Alignment and Brakes Plus
 Fairchild European Auto
 Drive Line Services of Bellingham
 Joes Automative Repair
 Furhaven Pet Products
 Greenhouse-Warehouse
 USTA Martial Arts-Bellingham
 Allstate Insurance
 Foodhaven
 Black Market Boutique

II. Appendix Two

Community Outreach and Involvement Meeting Procedure:

I. A meeting will be conducted by the COB planning staff to solicit and document the input of the public regarding the identification of the South Sunnyland neighborhood as a potential urban infill site. Details from WWU’s 2015

Urban Transitions Studio report will be presented at the meeting, including but not limited to maps of the proposed site (p.7-8), maps identifying areas for potential infill (p. 20) as well as how these potential infill sites were identified (p. 18, section 6.1). The public will then have the chance to register their input via both spoken and written comments.

NOTICE concerning this meeting will be mailed out to all appropriate community members and with the cooperation of the COB and the Sunnyland Neighborhood Association and will include all pertinent details of the project and site (as per BMC 21.10.200, see Appendix III). Notice of the meeting will also be posted on the COB website as well as the Sunnyland Neighborhood Association website. Signs will posted at various busy intersections throughout the neighborhood and notice will be posted in the local paper along with basic information and an address to send comments to for citizens unable to attend the meeting but with interest in adding input (comments will be accepted for 14 days following the meeting date). All of this is to be done at a minimum of 10 days prior to the meeting’s scheduled date.

Meetings will occur within the proposed South Sunnyland infill neighborhood at a location (TBA) which is easily accessible to the public via public transportation. (Note: All following meetings will follow the same guidelines listed above unless otherwise stated.)

II. After the initial meeting to solicit input prior to commencing design, public opinion will be registered and taken into consideration. The design phase of the project will occur in the format of a design charrette.

Charrette Procedure:

The design charrette will occur in several phases, and participation will be solicited from members of the Sunnyland neighborhood and members of the neighborhood association’s board, Bellingham citizens at large, project proposers (in this case WWU’s 2015 UTS), COB planning officials, independent local experts with backgrounds in

LEED and design, and anyone else with a vested interest in the project.

1) The first phase of the charrette will be conducted in a round table format with select members from each of the above groups invited to attend. The public will be allowed attend as well, but will not have an opportunity to participate at this juncture. The members of the round table will discuss general goals (including: partially meeting Bellingham’s future housing needs, principles of New Urbanism and the Urban Village, meeting LEED ND Gold standards, building to Living Building Challenge standards, etc.). The representative from WWU’s 2015 UTS will present the class’ proposal to the group. The purpose of this meeting is to educate all participants on the proposed South Sunnyland infill project and create mutual goals so that they may act as team leaders in later meetings.

2) This phase of the charrette is to occur no more than 14 days after the initial meeting and will be open to public participation. Participants will break into working groups led by members of the first meeting’s round table. Each group will be given maps of the proposed infill site, plans for infill, information on LEED ND and all other necessary materials to give input on the design process. Team leaders will focus on registering comments and translating them into ideas that fit within the proposal’s goals. The purpose of this meeting is to introduce the public to potential project design and solicit their input on design elements.

3) After the initial public meeting, the round table will reconvene within 14 days to share the results of their working groups. Revisiting initial goals, they will create a new draft of the project design, making sure to note when community input is not used and why.

4) Within 14 days, the final public phase of the charrette will occur. Participants will again break out into working groups with all necessary materials. Team leaders will explain the project design as well as what elements were not incorporated and why. Community members will have a final chance to suggest modifications to the design. The goal of this meeting is to make sure the design

aligns with community interests as well as urban infill/LEED ND requirements.

5) Within 7 days of this meeting, the final meeting in the charrette will occur between members of the round table. Additional design modifications will be addressed and a final proposal created. The goal of this meeting is to produce a product ready for the COB preapplication conference for Type II land uses (as per BMC 21.10.70).

III. Following the charrette the project will undergo a preapplication conference with COB officials to solicit input, a preapplication neighborhood meeting, application, notice of application, minimum comment period, environmental review, and notice of decision, (as per BMC 21.10.170 through 21.10.230). This formal process will occur entirely within COB Municipal Code.

IV. Based on the ruling in step 3 (under BMC 21.10.240) and assuming no appeal is needed, a website will be set up with information on the project and regular updates on construction and any other information pertinent to the community. The website will have a Q & A section where community members can keep in touch with the developer and ask any relevant questions. Information about the website will be released in the same manner that information about meetings is released (detailed in Step 1)

III. Appendix Three

Credit 12- Mail Meeting Notice to (based on BMC 21.10.200)

-Applicant

-Owners of properties listed on application

-Property owners within project area as well as those within a 500-foot buffer of project boundary (see table below for parcel numbers, picture below that is a visual representation of the extent of contact)

-Mayor’s neighborhood advisory commission representative

-Neighborhood associations that touch project site (in this case: York, Sunnyland, Lettered Streets, City Center neighborhoods)

-Any person/organization that has filed a written request for notice with the planning and community development department

LEED ND Meeting Notice Parcels Table- South Sunnyland Development

380329005214	380330204308	380330315214
380330455465	380330521202	
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380329010353	380330205250	380330329182
380330456166	380330522490	
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380330456178	380330524479	
380329011230	380330206236	380330347183
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380329011233	380330207439	380330348157
380330456186	380330525210	
380329011237	380330207453	380330351143
380330456190	380330525215	
380329011243	380330208198	380330353163
380330456194	380330525220	
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380330456198	380330525224	
380329014463	380330211443	380330358142
380330456202	380330525228	
380329017354	380330212419	380330358464
380330460212	380330525232	
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380330460216	380330525236	
380329018372	380330214446	380330362469
380330460221	380330525240	
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380329020441	380330219247	380330362494	380329039473	380330230438	380330397497	380330185397	380330250387	380330436155
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Key: Green represents project area, blue represents 500 ft buffer around project

