



UNIVERSITY HEIGHTS NEIGHBOURHOOD PLAN



L&M
ENGINEERING LIMITED
PLANNING CENTRE

EXECUTIVE SUMMARY

On behalf of the University Heights Neighbourhood Plan Steering Committee, BFW Developments Ltd and property owners of the land within the proposed University Heights neighbourhood, L&M Engineering Limited is pleased to present the University Heights Neighbourhood Plan for consideration by Prince George City Council. This Plan is the culmination of 18 month's work and is reflective of the long range planning policies of the City of Prince George and of the unique opportunity of working with a large number of property owners, the University of Northern British Columbia, and the Lheidli T'enneh First Nation. We would like to thank the City of Prince George for their technical support with respect to existing policy and infrastructure considerations for the University Heights lands.

The Vision

The University Heights Neighbourhood Plan area is endowed with natural features, including: steeply sloped escarpments; rolling topography; the headwaters of Parkridge Creek and other riparian areas; as well as beautiful vistas and large tracts of forest. In addition, the area's proximity to the University of Northern British Columbia creates a unique opportunity to create an urban interface between UNBC and the future surrounding neighbourhood. The vastness of the area creates incredible planning and visioning possibilities while, at the same time, providing an opportunity to address major road network, infrastructure, and environmental considerations.

The vision of the University Heights Neighbourhood Plan is to create a **Compact, Connected, Complete, and Complimentary** neighbourhood. The Plan will be:

Compact – The Plan will provide for a range of density options and housing forms, and will promote the efficient use of land for the built environment.

Connected – The Plan will provide a variety of transportation options that will include: connections for pedestrians and cyclists; public transportation; an efficient road network; and an expansion of the greenway system of the City of Prince George.

Complete – The Plan will provide the opportunity for a mix of land uses throughout the area creating a neighbourhood where people can live, work, and play.

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Complimentary – The Plan will promote excellence in design through the use of design standards that promote winter cities as well as healthy and safe communities.

The Process

Neighbourhood Plans are intended to be holistic planning processes that establish broad land use and transportation policies to guide development. Neighbourhood Plans are meant to create realistic land use policy that will provide certainty for the public, decision makers, and developers regarding how land can be developed. As required by the City of Prince George Official Community Plan, the scope of the University Heights Neighbourhood Plan includes consideration of: the natural environment; the provision of parks and trails; the transportation network; residential housing forms; commercial land use designations; institutional land uses; infrastructure and servicing; as well as implementation of the Plan.

The land within the University Heights Plan boundary is owned by 14 different property owners or entities. Early in the planning process, a Steering Committee comprised of representatives of the land owners, the Lheidli T'enneh, and UNBC was created to help guide the planning process. In addition, the early plan was informed by a Technical Planning Charette attended by representatives of the City of Prince George, the Ministry of Environment, School District No. 57, the Steering Committee, and L&M Engineering, and was held to brainstorm land use and planning considerations. An Engineering Round Table was attended by representatives of the City of Prince George, the Steering Committee, and L&M Engineering to discuss infrastructure and servicing issues and to assist in the implementation section of the Plan. Further, the planning process also included formal and informal discussions with the Trails Task Force and other trail users in the community.

Public participation has been a key component of the University Heights Neighbourhood Plan process and has included two public open houses in order to give the public the opportunity to provide input early in the planning process and to 'reconfirm' this input prior to finalizing the Plan. Advertising for the Open Houses included widespread hand delivered and mail out information packages, newspaper advertisements, as well as radio, print, and television interviews.

The Plan

The University Heights Neighbourhood Plan is a comprehensive planning document that is intended to guide development within a large area in the fastest growing sector of Prince George. The document integrates the Official

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Community Plan, the Trails Master Plan, Smart Growth principles, Winter Cities, and Healthy Communities Design Guidelines.

The Plan is characterized by the following:

- A mix of land uses including residential, commercial, and institutional with a range of residential density options;
- The proposed University Support Services land use designation;
- 196 hectares, or 29% of the Plan area, for parks, trails, greenbelt, and open space;
- 33 hectares or 5% of the total Plan area for riparian and wildlife areas;
- 2 District Parks and 11 Neighbourhood Parks;
- Completion of Environmental Overview and Wildlife Habitat Assessment;
- Promotion of excellence in design standards, including Smart Growth, Winter Cities, and Healthy Communities; and
- The opportunity to explore Alternative Development Standards through pilot projects.

Conclusion

On behalf of all of the property owners, L&M Engineering Limited is very pleased to present the University Heights Neighbourhood Plan to Prince George City Council and appreciates Council's consideration. Should Council approve the University Heights Neighbourhood Plan, the first phase of residential development is scheduled to begin construction in the spring of 2008.

Sincerely,

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University Heights Neighbourhood Plan

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1. Introduction

The University Heights Neighbourhood Plan (UHNP) area, identified on **F1: Context Plan**, is comprised of approximately 674 hectares of land situated between the University of Northern British Columbia (UNBC) and Highway 16 West. The area is bisected by Tyner Boulevard and extends eastward to the Cranbrook Hill Escarpment and westward to the headwaters of Parkridge Creek. As the area is currently undeveloped and unplanned, the lands are subject to Policy 6.3.18 of the City of Prince George Official Community Plan (OCP). This policy requires the creation of a Neighbourhood Plan that addresses environmentally sensitive areas; transportation networks; phasing of City services; residential housing mixes, forms, and densities; commercial lands; public use sites; and trail linkages. The purpose of Neighbourhood Plans is to create a clear and comprehensive land use vision for areas greater than 40 hectares in order to provide certainty for residents, land owners, and developers regarding how an area can be developed. Neighbourhood Plans strive to balance the desires of residents with environmental considerations and economic realities, and should result in land use planning policies that can be achieved over time. Neighbourhood Plans are policy documents that are intended to provide direction for land use planning rather than be used as strict regulatory tools. This document is the proposed Neighbourhood Plan for the University Heights Neighbourhood.

The University Heights Neighbourhood Plan (UHNP) has been prepared by L&M Engineering Limited in close consultation with City staff and the University Heights Steering Committee, which is comprised of a representative group of property owners. Additional professional opinion has been provided by EDI Environmental Dynamics Inc. and GeoNorth Engineering Ltd. The public process has included input provided by property owners of lands within the plan boundary, the general public, School District No. 57, the Department of Fisheries and Oceans, and the Ministry of Environment.

1.1. Neighbourhood Overview

The University Heights Neighbourhood Area is comprised of 30 legal parcels totaling approximately 674 hectares of land. The parcels are owned by 14 different entities, including private companies, individuals, the Province of British Columbia, the City of Prince George, UNBC, BC Hydro, and the BC Telephone Company. In addition, some of the lands within the plan boundary are included in the final treaty agreement initiated October 29, 2006 by the federal and provincial governments and the Lheidli T'enneh First Nation.

The majority of the University Heights Neighbourhood Plan area is designated by the City of Prince George Official Community Plan (OCP) as Urban Development, with some areas being designated for Public Institutional, Public Utilities and Significant

Slopes. The Plan area is bound to the west by the divide between the Urban Development and Rural Resource designations of the Official Community Plan that lie west of the headwaters of Parkridge Creek; while to the east are the Significant Slopes of the Cranbrook Hill Escarpment as well as the existing Charella Gardens and Starlane Neighbourhoods. South of Highway 16 West is the Westgate Regional Commercial Development, as well as the Lalonde and Lafreniere Neighbourhoods. The University of Northern British Columbia is adjacent to the Plan boundary to the north.

The area is characterized by its proximity to the University; beautiful views of the foothills of the Rocky Mountains, the City centre and the cutbanks; the steep topography of the Cranbrook Hill Escarpment; the riparian area surrounding the headwaters of Parkridge Creek; and ungulate habitat. The area is further distinguished by local recreational opportunities including an extensive walking, horseback riding and biking trail network throughout the steeply sloped eastern banks of the Plan area connecting with the Cranbrook Hill Greenway and Ginter's Field. The forests in the area are varied, but are comprised predominantly of white spruce, trembling aspen, lodgepole pine, and douglas-fir.

There are several Rights of Way within the Neighbourhood area for utilities and roads, as well as two parcels along Highway 16, one of which is owned and operated by BC Hydro and the other by the BC Telephone Company. In addition, the Plan area includes; two City water reservoirs, a City Transfer Station, Varsity Pit and a municipal fire hall.

Although identified as being within Phases 2 and 3 of the OCP's Schedule B-1 – Urban Phasing, this area has not been subject to a development proposal in the past because the useable water service is north of the Plan area, while the available storm and sanitary services is to the south. The cost of extending the infrastructure to service the plan area is significant; however, the vastness of the plan area, the number of participating property owners, and the growth in the residential development market has recently made development in this area economically viable.

Another historical development constraint has been the lack of geotechnical investigation along the Cranbrook Hill Escarpment. This Neighbourhood Plan includes a geotechnical overview that identifies possible unstable areas, gullies that may require setbacks, areas not recommended for development without further assessment, and potential gravel areas allowing storm water drainage (see **Appendix C – Geotechnical Overview**). Prior to subdivision, some areas within the plan boundary will require more detailed geotechnical investigation. Since the inception of this planning process, the City of Prince George has completed a geotechnical assessment of a portion of the Cranbrook Hill Escarpment included within the Plan area entitled "Assessment of Alleged Landslide Charella Barnes Subdivision Expansion Prince George, B.C.". The geotechnical assessment undertaken by the City of Prince George has increased the level of certainty with respect to the potential ancient landslide in the Cranbrook Hill Escarpment. The City of Prince George study found that the presence of an ancient

landslide is of low likelihood, but that development within the University Heights Plan area that falls outside of the study area of the Golder Report should be subject to further investigation. Accordingly, the City of Prince George no longer recommends that onsite infiltration of stormwater in the gravel borrow areas be considered as part of stormwater management and that alternative methods to manage stormwater be explored in the Watershed Drainage Plan for the University Heights Neighbourhood Plan Area. This is discussed further in **Section 4.3 – Stormwater Management**.

1.2. The University Heights Neighbourhood Planning Process

The land use planning process was initiated by the sale agreement between BFW Development Corp. of Vancouver and the City of Prince George for approximately 230 hectares of City-owned land within the Plan area. The boundaries of the Neighbourhood Plan were established in consultation with the City of Prince George and BFW Development Corp., and are based upon servicing and transportation network considerations, topography and the limit of the urban development boundary established by the Official Community Plan. In addition, the Terms of Reference and the work program for this planning process were designed in consultation with the City of Prince George.

1.2.1. Property Owner Consultation and Development of the Steering Committee

As indicated above, the Neighbourhood Plan is comprised of properties that are owned by 14 different individuals or entities. As a result, an important element of the preliminary planning work for the University Heights Neighbourhood Plan has been early consultation with property owners and the establishment of a Steering Committee. The steering committee is comprised of a representative group of property owners to assist in guiding the planning process. Initial consultation with property owners consisted of an introductory letter of the proposed neighbourhood planning process, as well as an invitation to attend a meeting, held March 30, 2006 at the Ramada Hotel in Prince George. The meeting was attended by representatives of all of the property owners, including family members and agents and provided: a venue for open discussion about the proposed neighbourhood planning process and scope of work; a presentation of the preliminary investigation and base mapping accomplished at that time; as well as an opportunity for questions and discussion. The property owners were invited to participate in the planning process, which involved the following enhanced consultation process:

- Four (4) written consultations including:
 1. Presentation of the preliminary Land Use Plan followed by request for feedback from the property owners.

2. Summary of results of Public Meeting #1 followed by request for feedback from them property owners.
3. Presentation of the revised Land Use Plan based on public meetings and 2nd Review of the City of Prince George followed by request for feedback from the property owners.
4. Summary of results of Public Meeting #2 and request for feedback.
 - Invitations to the two (2) City-wide public open houses and City Council's consideration of the Plan.
 - Copy of the completed Neighbourhood Plan document.

During the meeting, each property owner was asked to express interest regarding their willingness to participate as a member of the Steering Committee. L&M Engineering Limited then selected participants by balancing the amount of land owned within the plan boundary with local ownership and the importance of the participation of UNBC as a major stakeholder. The 4 members for the Steering Committee include:

- John Turner, BFW Development Corp.
- Ed Chanter, Lheidli T'enneh Nation
- Sharon Cochran, University of Northern B.C.
- Mostafa Mohamed, University Mountain View Estates

For property owners who chose not to participate in the neighbourhood planning process, the opportunity remained to participate as a member of the public in the two City-wide public consultation open houses. In addition, and as discussed further in **Section 1.2.3**, any member of the public has had the opportunity to submit comments on the draft plan, or to discuss it with L&M Engineering staff and/or the City of Prince George.

1.2.2. The Planning Process

The planning process has consisted of the collection and review of background materials including higher level plans, bylaws and development trends as well as population projections that will influence the:

- Provision of appropriate housing forms and densities;
- Provision of school sites;
- Allocation of parkland, trails and commercial areas; as well as
- Infrastructure expansion, such as; roads and utility services.

The process has also included consultation with government agencies and School District No. 57; consultation with identifiable recreation interest groups such as the Cranbrook Hill Greenway Society, the Prince George Horse Society, and the Prince George Cycling Club; field investigation; base mapping; concept design; an Engineering Round Table attended by City engineers and L&M Engineering Limited engineers, as

well as a Planning Charette hosted by L&M Engineering Limited that was attended by staff from the City of Prince George, the Ministry of Environment, and School District No. 57. A servicing brief for water, storm and sanitary services as well as a conceptual alignment for the extension of Massey Boulevard have also been provided, as have Environmental and Geotechnical Overviews conducted by EDI Environmental Dynamics Inc. and GeoNorth Engineering Ltd. These overviews are included as **Appendices A and C**, respectively. In addition, EDI Environmental Dynamics Inc has also completed a Wildlife Habitat Assessment within the University Heights Neighbourhood Plan area which is included as **Appendix B**. Further, the City of Prince George will be conducting a transportation network modelling exercise, based on the University Heights Neighbourhood Plan population projections, regarding the necessity and possible timing of the construction of the Massey Boulevard extension, as well as other potentially required network improvements. The Neighbourhood Servicing brief is presented in **Section 4** of this document, while the proposed transportation network forms part of **Section 3: Land Use**.

The following tables detail the messages conveyed during the Engineering Round Table and the Planning Charette.

Table 1: Key Ideas from the Engineering Round Table

Discussion Topic	Message
Transportation	<ul style="list-style-type: none"> • Arterial and collector road network developed by L&M Engineering Limited, submitted for review by the City. • The Massey extension provides a high benefit to the transportation network and should, therefore, be modeled • The City of Prince George to complete transportation network modelling. • L&M Engineering Limited to conduct trip generation and distribution analysis.
Water	<ul style="list-style-type: none"> • Temporary booster station at PW828 is not a preference of the City of Prince George. • Construction of a new trunk watermain along Tyner Boulevard from PW830 is the preferred water servicing option.
Sanitary sewer	<ul style="list-style-type: none"> • Existing sewer main located at Ospika and Baker has the potential to be extended into the Plan area.
Storm water	<ul style="list-style-type: none"> • Lack of gravel in the Plan area will likely prevent subsurface storm water disposal in Plan area, particularly the areas east of Tyner Boulevard. • Storm water detention ponds are

	<p>recommended within the Plan area.</p> <ul style="list-style-type: none"> • Piping should be designed for a 1 in 10 year storm event and detention ponds designed for 1 in 200 year storm event.
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Table 2: Key Ideas from the Planning Charette

Discussion Topic	Message
Provision of Schools	<ul style="list-style-type: none"> • Consider school models other than the traditional mix of elementary and secondary schools. • Cost and land-sharing arrangements are desirable for both School District No. 57 and the City of Prince George.
University Support Services	<ul style="list-style-type: none"> • Beneficial to clearly define the intent of the University Support Services area and the proposed land use composition.
Parks and Trails	<ul style="list-style-type: none"> • Trail connectivity and preservation of existing recreational opportunities are important. • Involve existing users of the Cranbrook Hill Escarpment area in the planning process. • Clear definition of proposed recreational uses and trail standards should be provided.
Transportation	<ul style="list-style-type: none"> • The southern portion of the University Way Extension will be located outside of the riparian area surrounding the Headwaters of Parkridge Creek. • While the Massey Extension requires further investigation prior to approval or construction, it is important to assess the need during this planning process.
Water, sanitary and storm water	<ul style="list-style-type: none"> • Opportunity for stormwater infiltration systems may be limited due to geotechnical conditions. • Options to service the plan area with water servicing exist: extension from PW830; new infrastructure along Highway 16.
Environment	<ul style="list-style-type: none"> • Consideration of stream protection and riparian buffers integral. • Identification of wildlife corridors is required along with human/wildlife mitigation strategies. • Fire hazards should be addressed.

Alternative development standards	<ul style="list-style-type: none"> • Consider alternative lot grading and easements. • Retention of top soil and use of green geotechnical walls. • Explore opportunities for shallow infiltration. • Retention of trees where possible. • Design guidelines should be considered for alternative road standards. • Propose energy saving measures: facilitating evapotranspiration, geothermal, rainfall collection.
Public participation	<ul style="list-style-type: none"> • Release of concept plans to public at same time they are submitted to the City. • Two opportunities for public input.

1.2.3. Public Participation

Public input into the University Heights Neighbourhood Planning process was sought through two city-wide open houses. The purpose of holding two open houses was to gather public opinion early in the planning process and then to ‘reconfirm’ this input by holding a second public open house prior to finalizing the plan. These open houses were advertised on the City’s website, in two issues of the Prince George Citizen newspaper, and by way of a mailed and/or hand delivered information brochure to all property owners and/or occupants within 100 meters of the plan boundary. The brochures included information about the Neighbourhood Plan area and planning process; the time, date, and location of the open house; contact information for both L&M Engineering Limited and the Long Range Planning Division of the City of Prince George; as well as a copy of the public survey. The survey was also made available on the City’s website and at the public meeting. Individuals participating in the public survey were directed to submit their completed surveys to L&M Engineering or to the Development Services Department at City Hall. This step was taken as an additional measure to increase public confidence. The Public Participation Package, newspaper advertisements, and categorized survey comments are included in **Appendices E, G and H**, respectively.

1.3. Prince George and Smart Growth

1.3.1. Official Community Plan Policies

The City of Prince George Official Community Plan (OCP) outlines the long-term vision for the City of Prince George. Several principles form the basis of this vision, including:

- **Improving quality of life**
Quality of life is indicative of levels of health and satisfaction of individuals. Economic and social benefits resulting from new development improve the quality of life in the City. According to the OCP, a high quality of life results when a relative balance is achieved between the natural and built environments.
- **Managing growth for the long-term**
Unmanaged growth can have negative implications for the social, economic and ecological well-being of a city. For this reason, the Prince George OCP is supportive of principles of growth management that allow for new development in a manner that optimizes the use of space, protects sensitive natural features and encourages 'complete' neighbourhoods that have a strong sense of place.
- **Environmental stewardship**
The long-term vision of the City of Prince George recognizes the value inherent in the many natural features that are present throughout the City. The identification of sensitive natural features allows for future planning to design *with* nature in a manner that protects steep slopes, fish and wildlife habitat and watercourses and wetlands.

1.3.2. Smart Growth

In an effort to realize the above principles, Prince George City Council has recently demonstrated an interest in Smart Growth as one means of improving the quality of the ecological, social and built environments in our community. Smart Growth is a planning framework that is comprised of land use and development practices which support the enhancement of the quality of life in communities, the preservation of the natural environment and the management of urban growth (Smart Growth BC, 2001). Smart Growth principles act to encourage sustainable development practices in communities through the following techniques:

- Mixed-use zoning,
- Compact development,
- Variety in housing types,
- Preservation of open space and natural features,
- Application of innovative technologies,
- Provision of pedestrian friendly streets and trails.

The methods by which principles of Smart Growth are implemented in a community vary based upon the tools available to planners, designers, engineers and architects, the existing legislation and the level of public support for Smart Growth development. The

following list outlines some of the opportunities to encourage and integrate Smart Growth design into the University Heights Neighbourhood Plan:

- Use of *comprehensive zoning regulations* that specify appropriate setbacks, site coverage, densities and parking requirements. Typically, Smart Growth zoning regulations allow for higher densities in developed areas and a corresponding higher percentage of open space.
- Employing *alternative design standards* for roadways and storm water management. These alternative design standards result, overall, in less infrastructure costs, including less cost per dwelling unit for streets and utilities.
- Through a reduction in associated costs, *Development Cost Charge (DCC)* legislation for the City of Prince George assists in managing future growth by encouraging new development to occur within, or adjacent to, existing urban areas. In addition, DCCs promote densification by encouraging smaller lot sizes, also through a reduction in the associated costs.

1.3.3. Examples of Smart Growth and Alternative Development Standards in Prince George

5th Avenue and Hill Avenue

The approval of a 4.4 hectare mixed use development at the intersection of 5th Avenue and Hill Avenue involved the concentrated application of Alternative Development Standards in Prince George. This development includes 48 single-family small residential lots with secondary suites, a multiple-family site and an internal park with trail connections to the surrounding sidewalk. Alternative Development Standards incorporated into the design of the development include: mixing of land uses; provision of a variety of housing choices; decreasing the road width; widening the pedestrian/boulevard area; increasing street trees and pedestrian oriented street lighting; increasing densities; promoting infill development; and fostering a sense of place through the use of building schemes to create an original and cohesive neighbourhood design. Though this development is small in scale, it is an appropriate first step towards integrating Alternative Development Standards in Prince George. Tools used to implement the plan include the development of a comprehensive development zoning district and the application of a building scheme to regulate overall form and character of the development.

Fraser River Bench Lands Neighbourhood Plan

The Fraser River Bench Lands Neighbourhood Plan creates the planning policy for a 106 hectare development along the Fraser River. The application of Smart Growth principles to this development plan is evident through the provision of pockets for both high and low density Smart Growth development within the Plan area. Consideration has been given to ensuring that ample open space and trail connections are provided, that mixed uses are permitted in the Smart Growth areas and that a variety of housing options are promoted throughout the plan area. In addition, the Fraser River Bench

Lands Neighbourhood Plan proposes the application of innovative storm water management that will reduce run-off and save costs in the long-term.

1.4. Design Guidelines

Design guidelines act to direct elements of physical form in a manner that is consistent with pre-defined goals of development. The purpose of design guidelines vary and may include improving the overall aesthetic, creating a sense of place, calming traffic, increasing tourism or simply ensuring consistency in building appearance. There are many schools of thought on which design guidelines should be employed in new developments, each with a different understanding of ‘good design.’ The University Heights Neighbourhood Plan is integrating principles of Smart Growth as well as the policies of the OCP. In addition to these principles and policies there are several approaches to design that are also being integrated into the Neighbourhood Plan.

1.4.1. Winter Cities Design Guidelines

Winter Cities Design is a form of climate sensitive design that tries to minimize the negative characteristics and to maximize the positive characteristics of a winter climate. The intent of Winter Cities Design is to accept and embrace seasonality and to encourage the year-round liveability of places often perceived to be hindered by colder climates through the maximization of solar exposure and the reduction of wind impacts.

A variety of design guidelines are common to Winter Cities Design, some of which are included in the following table (Prince George Citizen, 2005; Urban Systems, 2000):

Table 3: Winter Cities Design Considerations

Improving Walkability	Appropriate Use of Vegetation	Minimizing Wind/Cold	Other Design Considerations
Handrails on sloped walkways	Use of street trees	Similar building heights to prevent wind tunnels	Seasonal lighting
Non-slip materials used at entranceways	Use of salt-resistant vegetation near streets	Sheltered transit stops	Spacing between sidewalks and roadways to increase snow storage space
Slightly raised pedestrian crossings to reduce accumulation of snow/ice/water	Planting deciduous trees on south side of streets to shade in summer and allow sun through in winter	Covered entranceways	Continuous building facades
Spacing between sidewalks and roadways to minimize spray from the	Planting coniferous trees on north and west side of streets for wind	Placing pedestrian walks on ‘sunny side’ of street	Use of warm colours

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 University Heights Neighbourhood Plan

streets	protection in winter		
Roof design that minimizes snowmelt onto pedestrian areas			

1.4.2. Crime Prevention through Environmental Design (CPTED) Design Guidelines

Crime Prevention through Environmental Design (CPTED) is an approach to planning and design that is premised on the understanding that the manner in which a community or development is planned can reduce the likelihood of criminal activity occurring. CPTED advocates design that increases the visibility of public and private spaces and that discourages the creation of barriers and enclaves where crime could potentially occur. The following design guidelines are recommended by CPTED (CPTED Watch, 2006):

- Installing lighting along pedestrian walkways, store fronts, parking areas, and parks.
- Encouraging generous amounts of windows in appropriate places to improve visibility.
- Landscaping guidelines that minimize the creation of barriers or hiding places.

1.4.3. Healthy Communities Design Guidelines

The advent of Healthy Communities design is a response to the decreasing levels of physical activity present in neighbourhoods across North America. The Healthy Communities movement aims to integrate physical activity into daily routines through the application of planning and design principles that encourage healthy living (Active Living Leadership, 2004). It is understood that a well planned neighbourhood will not only promote physical activity but will also be aesthetically pleasing and socially fulfilling so as to promote healthy living in a physical, mental and social capacity. This holistic approach places importance on the social well-being of a community and encourages a variety of housing options to make a neighbourhood affordable to all. Environmental protection and extensive pedestrian and cycling networks underpin Healthy Communities design.

Healthy Communities design involves encouraging alternative transportation and recreational activity by residents through the provision of the following design guidelines:

- Providing wide sidewalks and trails with well-marked crossing signs to ensure safe and frequent use.
- Retention of existing natural features to provide a natural setting conducive to outdoor activity as well as to preserve environmental quality.

- Generous landscaping along walking routes and commercial frontages.
- Emphasizing streetscape aesthetics, including lighting, benches, sidewalk and storefront design.

The University Heights Neighbourhood Plan reflects Council's vision as outlined in the OCP. The above-noted principles, practices and design guidelines are intended to form the basis of the recommended policies included within this Neighbourhood Plan with the intent that they will guide the development of this vase area of Prince George and create the opportunity to develop a healthy, diverse, complete and connected neighbourhood.

The following section presents the existing land use within and adjacent to the University Heights Neighbourhood Plan boundary.



2. Current Land Uses

Development within the southwest sector of Prince George has been largely influenced by the establishment of the University of Northern British Columbia (UNBC) in the early 1990s. Subsequent to the University's development, increased residential densities and extensive commercial development was stimulated within this sector that had previously consisted largely of forested land. As Prince George continues to develop and the economy thrives, the Southwest Sector is the City's fastest growing area. This section will provide an overview of current land uses relating to land within or surrounding the University Heights Plan area. Presentation of the current land uses is intended to provide context to the subsequent proposed land use policy section of this Neighbourhood Plan.

2.1. Land Use Policy and Regulations

The University Heights Neighbourhood Plan area is currently comprised of undeveloped land owned by 14 different property owners. In addition, this area of land is regulated by 8 zoning districts and 3 Official Community Plan (OCP) designations. The entirety of the Neighbourhood Plan is designated for Phase 2 and Phase 3 Urban Development by the Prince George OCP.

The purpose of the OCP is to demonstrate the long range planning policies for the area, while the zoning districts demonstrate the current permitted uses. The Official Community Plan designates the majority University Heights Neighbourhood Plan area as Urban, which has an intent of supporting the,

...development of new and infill housing in the Urban areas [... to] provide adequate land to meet the anticipated housing requirements and long-term needs of the city.

Land designated as Urban on Schedule B-1 of the OCP will accommodate most of the projected additional 80,000 residents. Accordingly, residential development supported by local commercial and institutional land uses is endorsed by the OCP for the University Heights Neighbourhood Plan area. The OCP provides for the placement of one Neighbourhood Shopping Centre in this area as well as a total of 11 hectares of District Parks in addition to 22 hectares of land for Neighbourhood Park.

Lands included in the Plan area as Significant Slopes have been included in the OCP as a means of preserving environmental quality and includes slopes with grades in excess of 20%. Section 5.3.4 of the OCP addresses the Significant Slope designation, stating that these areas should be kept largely free from tree cutting, soil removal or

development except for low intensity recreational activity. Section 4.3.5 reinforces the protection of steep slopes by stating, “new development shall minimize disturbance to the prominent cutbanks and steeply sloped areas.” In addition, properties designated as Public Utilities in the OCP relate to facilities and structures such as,

...pump stations, the treatment plant, other utility and buildings, such as those associated with television, computer, telephone, and related communication services...

The zoning districts currently in force on the subject properties include primarily AF (Agriculture & Forestry) with small portions of AG (Greenbelt) as well as Visitor Commercial, Minor and Major Utilities, Parks & Recreation and Higher Education. The AF zoning district is intended to conserve and manage agricultural and forestry lands by providing compatible uses on parcels of at least 15 hectares. Remaining zoning districts of the subject properties act primarily to protect steeply sloped lands and utilities such as hydro, storm, sanitary and water as well as to permit commercial development at Kimball Road and Highway 16 West. Further, the OCP identifies the need for future neighbourhood commercial shopping within the Plan boundary, the specific policies of which are discussed in more detail in **Section 3.6.4 - Commercial Land Use Recommendations**.

2.1.1. Lheidli T’enneh Treaty Process

On October 29, 2006 the Lheidli T’enneh First Nation initialled a final treaty agreement with Canada and British Columbia under the B.C. Treaty Commission (BCTC) process. The Final Agreement was subject to ratification by Lheidli T’enneh members eligible and enrolled to vote on this agreement. The members voted to not approve the treaty in March 2007.

In April 2007, at a community meeting, the Lheidli T’enneh members in attendance agreed to participate in a proposed BCTC survey to identify the reasons the members voted to not ratify their treaty. Members in attendance at the community meeting deferred consideration of holding a second vote on ratifying the treaty until after the BCTC survey was completed.

The University Heights Neighbourhood Plan contains 135 hectares of Crown lands included in the Treaty land package. This Crown land is currently under the jurisdiction of the City of Prince George.

The University Heights Neighbourhood Planning process acknowledges the importance and relevance of the Treaty Process and has sought to incorporate the interests of Lheidli T’enneh through their membership on the University Heights Steering Committee.

Discussions surrounding potential land uses for the Lheidli T'enneh lands included within the Plan boundary have occurred over the past year. The Lheidli T'enneh have indicated that, should the Treaty Process be settled in the future, the provision of environmental and scientific research and research park, health care and traditional medicine, cultural and tourist facilities and education services, as well as multiple family residential uses, is the desired direction of future development on Lheidli T'enneh lands included within the Neighbourhood Plan boundary.

Should a revote on the final treaty agreement result in ratification of the treaty, Lheidli T'enneh lands within City of Prince George will be excluded from City jurisdiction. Land use harmonization on Lheidli T'enneh lands and adjacent private lands within the City of Prince George will be subject to a Comprehensive Master Agreement between the parties, as provided for in the final treaty agreement.

2.1.2. Rural / Urban Interface

The western boundary of the University Heights Neighbourhood Plan area located south of the UNBC Reserve Lands follows the division between the OCP's Urban and Rural Resource designations. This urban boundary delineates the area within which new urban density development should take place and acts to support infill development sufficient to meet the City's long-term housing needs. The urban boundary is a key component of the City of Prince George's growth management strategy and the City does not anticipate expanding urban infrastructure beyond this boundary.

2.1.3. Community Wildfire Protection Plan

In 2005, a Community Wildfire Protection Plan to address the fire hazard associated with wildland/urban interface was developed by the City of Prince George's Development Services Department in consultation with Prince George Fire/Rescue; Timberline Inventory Consultants; Diamond Head Consulting; Davies Wildfire Management; and the Ministry of Forests and Range, Fire Control.

Policies directed to this interface area are intended to protect both wildland and adjacent residential, industrial or agricultural structures. This issue is of particular importance in Prince George due to its location within a forest, the accumulation of fuel as a result of fire suppression, and a significantly increased amount of dead-standing pine within and surrounding the City's boundaries as a result of the recent mountain pine beetle outbreak.

In the *City of Prince George Wildland/Urban Interface Wildfire Management Strategy*, recommendations are made for responsible development based on Alberta's FireSmart Guidebook. The Strategy states that it is important for architects and developers to consider wildfire threat during the planning and design phases of a development since

factors such as the location of alternate water sources, road access and hydrant location may have major influences on the overall design (Diamond Head Consulting et al, 2005, p. 48). Guidelines outlined in the Strategy pertain to the following matters:

- Vegetation Management;
- Community Fire Guards;
- Building and Construction;
- Access Management;
- Home Sprinkler Systems; and
- Post-Development Fire Hazard Review.

Development within the University Heights Neighbourhood Plan area shall be guided by the Wildfire Management Strategy. Individual property owners are responsible for ensuring the fire safety of their own properties.

2.2. Surrounding Residential Neighbourhoods

F1: Context Plan illustrates the neighbourhoods surrounding University Heights. The Ospika South Neighbourhood is located southeast of the University Heights Neighbourhood Plan boundary, across Highway 16 West. Development of the Ospika South Neighbourhood is guided by the Ospika South Neighbourhood Plan which is divided into Areas 1 and 2 – with Area 1 the only planned portion. This Neighbourhood Plan proposes a mix of single and multiple family development and is augmented with commercial, institutional and park lands. The housing mix results in 1,306 single family units and 642 multiple family units, for a total of 1,948 new residential units in Area 1. While the need for schools in the Ospika South Neighbourhood is yet to be determined, the Plan provides for one elementary school in the vicinity of St. Lawrence and Westgate Avenues and one secondary school in Area 2.

To the east, the Charella Gardens Neighbourhood has been developed primarily as residential, with a variety of residential housing types ranging from RS1 (Suburban Residential) and RS2 (Single Residential) lots to RM3 (Multiple Residential) zoning districts. Somewhat less diverse, the Pinecone and Westwood Neighbourhoods to the northeast of the University Heights Neighbourhood Plan area are primarily single family residential with some integration of two-family and multiple family dwelling units, as well as the Westwood Elementary School.

The nearest elementary schools include Westwood, Peden Hill, and Vanway Neighbourhoods. John McGinnis Junior Secondary School is also located in the Peden Hill Neighbourhood. Two private schools are located in the Southwest Sector, including the Immaculate Conception School (kindergarten through grade 7) on Cathedral Avenue and Westside Academy (kindergarten through grade 12) on the Highway 16 frontage road.

2.3. University of Northern British Columbia

The University of Northern British Columbia (UNBC) which officially opened in 1994 is located adjacent to the Plan area. Approximately 4,100 students attend the University of Northern BC where they are instructed and supervised by over 350 faculty and supported by nearly 440 non-academic staff. The University's lands total approximately 560 hectares and provide extensive opportunity for research, teaching and use in outdoor sports. UNBC lands also contain a portion of the Cranbrook Hill Greenway as well as some Forests for the World trails.



The proximity of UNBC to the UHNP boundary creates a unique opportunity for the University and the development community to explore innovative land uses that are supportive of the University's needs and complementary to the City as a whole. This idea is further explored in **Section 3.8: University Support Services**. UNBC is a significant stakeholder of this planning process as well as an important influence on land uses within the plan boundary. It is for these reasons that L&M Engineering Limited and BFW Development Corp. have asked UNBC's Vice President, Special Projects to sit on the Steering Committee and to represent the University's interests and land use strategies.

2.4. Surrounding Commercial Development

Commercial development has occurred extensively in the areas southeast of University Heights and is home to the Westgate Regional Commercial Centre as well as the College Heights Neighbourhood Shopping Centre. Westgate provides regional commercial services with large retail stores including Canadian Tire, The Home Depot and Wal-Mart utilizing over 20 hectares of land. The College Heights Neighbourhood Shopping Centre provides a neighbourhood commercial function including a Save-On Foods, dental facilities, a coffee shop, bank, drugstore and a video store. A number of smaller commercial outlets, including one pub, two gas stations, two drive-through restaurants, as well as a small strip mall are also located in close proximity to the Westgate Regional Commercial Center and College Heights Neighbourhood Shopping Centre. These other commercial uses comprise over 1.5 hectares.

2.5. Road Network

The transportation network surrounding the University Heights Neighbourhood Plan area is illustrated on **F7: Proposed Major Roads**. However, as transportation networks are not only comprised of roads but are the means by which people move

throughout a community, no transportation network discussion is complete without addressing other transportation routes such as trails, greenways, bike lanes and public transit. Please see **Sections 3.3** and **3.4** for a complete discussion of these topics. The existing road network is outlined below.

Arterial Roads currently serving the Southwest Sector of Prince George by way of the Bowl include:

- Tyner Boulevard, connecting 15th Avenue, via University Way to Ospika Boulevard South, Domano Boulevard and Highway 16 West;
- Ospika Boulevard, connecting the southern end of Tyner Boulevard with Otway Road;
- Ferry Avenue, connecting the Ospika Boulevard to downtown via Queensway; and
- Massey Drive, connecting Ospika Boulevard to the College of New Caledonia via Nicholson St; to Highway 97; and to downtown via Winnipeg Street.

The Official Community Plan recognizes the extension of Ospika Boulevard, across Highway 16 West into the Ospika South Neighbourhood; however, the extension of Massey Boulevard was not included in the 2001 Official Community Plan. Regardless, the City of Prince George has required that the extension of Massey Boulevard be evaluated as part of this Neighbourhood Planning process. As a result, L&M Engineering Limited has provided a conceptual alignment for Massey Boulevard. The need for this road will be determined through the transportation network modelling exercise that will be conducted by the City of Prince George.

Section 3.4 of this document discusses how development within the proposed University Heights Neighbourhood Plan area will impact the existing transportation network. **Section 3.4: Transportation** also addresses the timing of the proposed expansion of the network which should occur when development traffic volumes begin to adversely impact the existing neighbourhoods.

2.6. Public Open Space, Parks, Trails and Recreation

The Southwest Sector of Prince George contains a multitude of recreational opportunities, primarily taking place within parks, trails and greenways. Active community groups involved in the development of these areas and have been consulted throughout the development of the Neighbourhood Plan. As a result, these groups have contributed to what is intended to be a thorough overview of public open space, including parks, trails and recreation. The proposed open space and recreation policies for the University Heights Neighbourhood Plan are presented in **Section 3: Land Use Plan**, while the existing open space and recreation opportunities within and adjacent to the Plan boundary are discussed below.

2.6.1. Trails

Facilitating connections to existing pedestrian and cycling networks in order to encourage alternative transportation to UNBC and downtown is a fundamental component of this Neighbourhood Plan. Highly frequented informal and formal trails surround the University Heights Neighbourhood Plan area, and can be summarized as follows:

- **In the East:** Informal trails connect to Massey Boulevard through Ginter's Field;
- **In the South:** Local trails create networks within the residential neighbourhoods surrounding Vanway Elementary School;
- **In the West:** The Cranbrook Hill Greenway connects the Greenway's parking area at the end of Kimball Road to Forests for the World and beyond; and
- **In the North:** UNBC has direct connections to the Cranbrook Hill Greenway as well as connections to the Bowl area of Prince George via informal trails.

Since 1998 several documents have been commissioned by the City of Prince George to create policy direction with respect to Capital Projects and networks for various modes of transportation. The 1998 Prince George City Wide Trail System Master Plan, the 2000 City of Prince George Transportation Study – Cycle Network Plan, the 2003 City of Prince George Transit Service Review and the 2004 Pedestrian Network Study comprise a host of recommendations that clarify the City's alternative transportation intentions. A Trails Task Force also serves to offer input and direction with respect to various trail-related matters. All of the above-referenced documents have been consulted in the creation of this Neighbourhood Plan. In addition, consultation has been conducted with the Trails Task Force regarding the best methods to connect to the existing trail network as well as to facilitate future trail development.

2.6.2. Informal Trails

The Cranbrook Hill Escarpment, identified on **F9: Proposed Land Use** as Greenbelt and located along the Plan's eastern boundary, is characterized by extensive informal trail development created by pedestrians, cyclists and equestrians. These informal trails are situated almost entirely on private property that is designated Significant Slopes by the Official Community Plan due to the consistently steep topography. Watercourse B, identified on **F5: Environmental Overview and Wildlife Habitat Assessment**, is partly located within this area and an informal trail has developed within the riparian area. The potential for maintaining portions of this area as a recreation area is discussed in **Section 3: Land Use Plan**.

2.6.3. Ginter's Field

Ginter's field is located at the western terminus of Massey Drive and is currently city-owned land that is open to the public for park use. The former site of a residential dwelling at 4190 Massey Drive, this site is zoned AG (Greenbelt) and is one of the City's two off-leash dog parks. The area acts as a principal access point to the Cranbrook Hill Escarpment.

2.6.4. Cranbrook Hill Greenway

The Cranbrook Hill Greenway is a 22 km trail that traverses from Kimball Road to Forests for the World, UNBC and the Otway Ski Centre, as illustrated on **F10: Proposed Parks and Major Trails**. The City of Prince George has secured the Greenway's lands by obtaining a license to occupy from Land and Water B.C., which is now known as the Integrated Land and Management Bureau of the Ministry of Agriculture and Lands, negotiating a right-of-way and attaining approval for the trail from the Agricultural Land Commission.

The Cranbrook Hill Greenway Society is the non-profit organization responsible for the Greenway's development, with a board of directors responsible for its management on behalf of several member groups and agencies. The Prince George Horse Society and the Prince George Cycling Club are two user groups who are represented on the Cranbrook Hill Greenway Society and whose members engage to a considerable extent in recreational activities within and adjacent to the University Heights Neighbourhood Plan. As such, these groups are discussed in further detail below.

2.6.4.1. Prince George Horse Society

The Prince George Horse Society is supported by over 1,400 community members, including several non profit user groups, and is managed as a non-profit organization. Equestrian trails connect the Agriplex to the Cranbrook Hill Greenway, although to date these trails traverse private property and utilize an uncontrolled crossing of Tyner Boulevard. Horseback riders also access the Greenway via Kimball Road, where existing parking, unloading and turning space is considered inadequate. The preferred route up the Cranbrook Hill Escarpment is identified on **F10: Proposed Parks and Major Trails** and is shared by various user groups, including cyclists and hikers, as introduced below.

2.6.4.2. Prince George Cycling Club

Prince George is home to a range of cycling opportunities, an assortment of which can be observed in and around the University Heights Neighbourhood Plan area. The Prince George Cycling Club is a member-based organization representing local cyclists who engage in both road- and mountain-biking.

Throughout the city, mountain-biking trails have been constructed formally and informally on private property, as well as on Crown land and land owned by the City of Prince George. Extensive mountain-biking trails have been established on private land in and around the Cranbrook Hill Escarpment. The Cranbrook Hill Greenway also serves as an off-road cycling trail which extends 22 kilometers to connect with the Otway Ski Centre, another popular mountain-biking destination. Mountain biking trails have also been constructed throughout existing neighbourhoods in the Southwest Sector of Prince George.

The road biking portion of the Prince George Cycling Club makes use of Tyner Boulevard, which connects the University Way dedicated bike lane to the Ospika Boulevard dedicated bike lane as well as to Highway 16 and College Heights. Facilitating well-designed cycling connections will be an integral part of the University Heights Neighbourhood Plan transportation network, outlined in **Section 3.4.3** of this Plan.

This completes the discussion of existing and surrounding land uses. The following sections introduce the proposed Land Use Plan for the University Heights Neighbourhood. Presentation of the Plan begins with environmental considerations and continues to discuss the built environment, including parks and trails; transportation; residential, commercial, and institutional development; as well as University Support Services.



3. University Heights Neighbourhood Land Use Plan

The following section presents the land use plan and policy recommendations of the University Heights Neighbourhood Plan. The proposed land uses being considered in this Neighbourhood Plan are discussed independently and have separate policy recommendations for each proposed use. The land use vision and corresponding policy has been informed by City of Prince George plans and policies including: the 2001 OCP, the 1998 City Wide Trail System Master Plan; the 2000 Cycle Network Plan; the 2001 Transportation System Planning Study; the 2003 Prince George Transit Service Review; the 2004 Pedestrian Network Study; the 2004 Subdivision and Development Control Bylaw; and the 2007 Zoning Bylaw. In addition, Smart Growth planning principles and design guidelines of Winter Cities, Crime Prevention through Environmental Design and Healthy Communities have also informed the proposed University Heights Neighbourhood Plan.

3.1. Vision of the University Heights Neighbourhood Plan

The Planning Vision for the University Heights Neighbourhood Plan centres on the proximity of the Plan area to the University of Northern British Columbia and the unique opportunity of working closely with the Lheidli T'enneh Nation as they move towards ownership and governance of land within and surrounding the Plan boundary. Given the decision of the Lheidli T'enneh to not ratify the Treaty, the lands included as part of the Treaty land package within the University Heights Neighbourhood Plan boundary may not transfer to the Lheidli T'enneh. However, input from the Lheidli T'enneh has been an integral part of this planning process and, based on future decisions regarding the Treaty land package, the Lheidli T'enneh may still influence the direction of future land development. The University Heights Neighbourhood Plan area is endowed with natural features, including steeply sloped escarpments, rolling topography, the headwaters of Parkridge Creek and other riparian areas, as well as beautiful vistas and large tracts of forest. In addition, the area is in close proximity to several extensive trail networks and open space recreation opportunities, including Cranbrook Hill, Forests for the World and Ginter's Field. The vastness of the area creates incredible planning and visioning possibilities, while, at the same time, providing an opportunity to address major road network, infrastructure and environmental considerations.

In an effort to follow City Council's vision as outlined in the OCP, the vision of the University Heights Neighbourhood Plan is to create a **Compact, Connected, Complete** and **Complimentary** neighbourhood. The Plan will be:

Compact – The Plan will provide for a range of density options and housing forms and will promote the efficient use of land for the built environment.

Connected - The Plan will provide a variety of transportation options that will include connections for pedestrians and cyclists; public transportation; an efficient road network; and an expansion of the greenway system of the City of Prince George.

Complete – The Plan will provide the opportunity for a mix of land uses throughout the area creating a neighbourhood where people can *live, work, and play*.

Complimentary – The Plan will promote excellence in design through the use of design standards that promote winter cities as well as healthy and safe communities.

Table 4: Land Use Summary provides a synopsis of the University Heights Neighbourhood Plan based on the entire land area. As proposed, the Gross Area of the UHNP is 674 hectares with a net developable area of 351 hectares.

Table 4: Land Use Summary

Land Use	Area (ha)	Percentage of Gross Area
Commercial	33	4.9
-Neighbourhood	10	1.5
-Local	5	0.7
-Highway	6	0.9
-Visitor	12	1.8
Residential	291	43
-Single Family	244	36
-Multiple Family	47	7
Institutional	17	2.5
University Support Services	10	1.5
Parks	34	5.0
Off-Street Trail	1	0.1
Roads	94	14
Riparian Zones/ Wildlife Corridors	33	5
Greenbelt	161	24
Gross Area	674	100
Less Parks, Off-Street Trail, Roads, Riparian Zones and Greenbelt	323	48
Net Developable Area	351	52

The following land use policies for University Heights consider many different components of land use and development practices, including zoning regulations, subdivision and development control regulations and design standards. For example, permitting a mix of land uses, such as local commercial combined with institutional and residential, may require an innovative, comprehensive zoning district; or designing an area within the neighbourhood with alternative road width standards may require a

variance to, or amendment of, the Subdivision and Development Control Bylaw. The specific regulatory requirements are beyond the scope of this Neighbourhood Plan, however, the Official Community Plan and Neighbourhood Plan policies will help guide decisions on planning and land use management within the area covered by the Plan.

The presentation of the Land Use Plan begins with a discussion of Environmentally Sensitive Areas and the Natural Environment.

3.2. Natural Environment and Environmentally Sensitive Areas

The majority of the University Heights Neighbourhood Plan area is undeveloped forested land, while human-made disturbances have occurred throughout; including extensive harvesting in District Lot 1600 and east of Tyner Boulevard (see **F2: Aerial Photo & Neighbourhood Plan Boundary**). Forests in low and wet areas within the study boundary are generally dominated by hybrid white spruce, while in upland and drier areas stands are a mix of lodgepole pine and douglas-fir (EDI, 2006). The western border of the Plan area accommodates the headwaters of Parkridge Creek, while drainage east of Tyner Boulevard is directed east toward existing City development. Due to the extent of this proposed development an *Environmental Overview* has been conducted by EDI Environmental Dynamics Inc. and is included as **Appendix A**. In addition, EDI has also conducted a *Wildlife Habitat Assessment* which is included as **Appendix B**.

3.2.1. Official Community Plan and Provincial and Federal Government Policies

The OCP advocates preservation of natural landscapes, which are defined to include steep slopes, rivers, streams, wildlife habitat and agricultural land. The need for air quality improvement is also recognized in Section 4 of the OCP, Section 4, and may be addressed at the municipal level through efforts to reduce the particulates created by road dust emissions, vehicle exhaust, wood burning stoves and yard waste burning (City of Prince George, 2001b, p. 21).

Policy 4.3.1 of the Official Community Plan discusses the Environmentally Sensitive Areas within the City, as indicated on Map 2 – Sensitive Natural Areas of the OCP. With respect to University Heights, Map 2 of the OCP identifies swamps in the northwest portion, but does not highlight these areas as being of particular environmental significance. Schedule B-2 of the OCP identifies the southern most tip of the Plan area as part of the Parkridge Creek Watercourse/Wetland Development Permit Area. In addition, although the OCP does not recognize any other areas within the Plan boundary as being of significant environmental value, there are areas of environmental sensitivity, including steeply sloped escarpment on the eastern edge of the Plan area; intermittent watercourses draining toward the Ospika Boulevard; and ungulate as well

as other wildlife habitat and grazing areas. Policies throughout Section 4.3 of the OCP make general provisions for these types of environmentally sensitive areas and emphasize sensitive development; consultation with appropriate approving agencies; allowing the public to access sensitive areas that provide recreational and/or resource-use opportunities; as well as preservation, when appropriate.

The City is currently pursuing a Memorandum of Understanding (MOU) with the Department of Fisheries and Oceans (DFO) and the Ministry of Environment (MOE) in an effort to define the parameters of environmental review, as well as jurisdiction of responsibility for development approval regarding the environment. The University Heights Neighbourhood Plan will be subject to this MOU if it is implemented. In the mean time, the *Interim Standard Development Letter for City of Prince George Referrals* drafted by the DFO, outlines their general recommendations with respect to stream setbacks, storm water discharge, and creation of trails near waterways (DFO, 2006). This letter will continue to set the minimum standards until such time as the MOU between the City, DFO, and MOE is in place, or until MOE definitive or superseding requirements are released by DFO. However, as this plan has prepared an environmental overview specifically to assess the plan area, the recommendations made by these qualified professionals will also inform the guidelines for environmental protection within the Plan boundary. The vast scale of planning and environmental overview of this plan does not allow for detailed environmental assessment. Accordingly, specific development proposals will be evaluated on a case by case basis with respect to setbacks from watercourses.

3.2.2. Neighbourhood Plan Principles

As the land use planning document for University Heights, this Neighbourhood Plan recognizes the importance of setbacks and the retention of vegetation adjacent to the headwaters of Parkridge Creek and the other identified watercourses, as well as on undevelopable slopes with grades of over 20%. This recognition is clearly demonstrated by the proposed retention of approximately 34% of the land base as natural greenbelt, including provisions for riparian areas and wildlife corridors. At the same time, the Neighbourhood Plan reinforces that the area is designated for Urban Development and is not identified by *Map 2: Sensitive Natural Features* of the Official Community Plan as an area of particular environmental sensitivity, with the exception of the areas designated as Significant Slopes. **F5: Environmental Overview and Wildlife Habitat Assessment** demonstrates the intention to provide riparian areas kept free of development beyond that of either rustic trails or natural or engineered storm water drainage utilities in order to accommodate wetlands, watercourses, open spaces and wildlife habitat corridors. Detailed design will need to consider the Environmental Overview Assessment, included as **Appendix A**, as well as the University Heights Wildlife Habitat Assessment, included as **Appendix B**, and pay particular attention to water quality, road crossings of riparian areas and riparian area management zones. The retention of mature trees should also be a priority throughout the Neighbourhood

where possible, as mature trees provide protection from the sun and other elements, increase aesthetic values, buffer noise and create a pleasing urban environment.

EDI's Environmental Overview and Wildlife Habitat Assessment are important components of this Neighbourhood Planning process as the reports identify potential areas of sensitivity and mitigative best practices as well as environmental regulatory requirements related to the proposed development. The reports have also been used to facilitate the conceptual design of roads, trails, greenways and residential areas. Further, the reports also note that the implementation of the University Heights Neighbourhood Plan will require additional environmental review to inform detailed design and subdivision.

The University of Northern B.C. and the City of Prince George have undertaken a five year collaborative project called the *Prince George Northern Sustainable Landscape Initiative*. This project evaluates the effectiveness of ecologically sound landscaping in a northern ecosystem and determines appropriate planting combinations for different site requirements (Booth, Rapaport and Parker, 2005). The findings of this research can inform sustainable landscaping practices within University Heights, specifically within boulevards, parks and other public spaces.

Generally, the University Heights Neighbourhood Plan is intended to thoroughly address the Plan area's surroundings by incorporating the natural environment in its planning policies. In order to create a complete and inclusive neighbourhood that promotes ecological sustainability, the following topics shall be important components of the University Heights Neighbourhood Plan.

3.2.3. Riparian Areas, Wildlife Corridors, and Habitat

Riparian areas are generally defined as the areas surrounding watercourses or bodies of water where soil and vegetation are directly influenced by the presence of this free or unbound water; they are transitional zones between land and water ecosystems where topography is commonly an additional distinguishing factor (Hutchens, 1998). Riparian areas provide valuable ecological functions including nutrient and chemical filtration as well as storage; protection of channel stability; prevention of stream sedimentation; water temperature regulation; and more. These areas are important to protect not only for their contribution to local water systems but also for their contribution to maintaining the health and productivity of plant, animal and human communities (Hutchens, 1998).

The following sections outline the three primary riparian and wildlife habitats within the University Heights Neighbourhood Plan and provide a synopsis for their protection, as outlined in more detail in **Appendices A and B** and illustrated on **F5 – Environmental Overview and Wildlife Habitat Assessment**.



3.2.3.1. Parkridge Creek (Stream A)

According to the environmental assessments by EDI Environmental Dynamics Inc., the western portion of the study area drains south into Parkridge Creek, which flows into the Fraser River. Parkridge Creek has been identified as an Environmental Development Permit Area (EDPA) by the OCP and, as such, is considered sensitive to soil erosion, sediment transfer, slope instability, and possible disturbance of fish and wildlife habitat (EDI, 2006). EDI has determined that because Stream A flows directly into Parkridge Creek, it should be considered as contributing to the overall health of fish habitat. In addition, Stream A marks the interface between urban and rural land use designations and also provides significant habitat protection with respect to the movement of animals. Accordingly, EDI recommends that a 30 metre variable setback from the eastern top of bank be retained. The 30 metre setback will be maintained for the majority of the length of Stream A in order to maintain water quality and habitat values; however, the setback is variable to 15 metres to allow for the construction of the University Way extension and Cranbrook Drive. In addition, it is recommended that the riparian area on the west side of Stream A be extended to the Urban boundary in order to provide sufficient wildlife and habitat protection. (see **Figure F5 – Environmental Overview and Wildlife Habitat Assessment**). The wetland associated with this stream, located adjacent to the southwest corner of the Plan area, also provides high value fish and wildlife habitat as noted above and in EDI's report (**Appendix B**).

3.2.3.2. Stream B

Stream B is classified as non-fish bearing, ephemeral stream, with variable channel characteristics. The stream has been impacted by logging activities east of Tyner Boulevard; however, its flow returns to its natural channel further down slope where wildlife habitat is protected. Upstream of Tyner Boulevard, Stream B has mixed channel definition with wetland areas where signs of wildlife presence are common. The riparian area surrounding Stream B is to be protected by setbacks from the Top of Bank, ranging from 15 to 30 metres in order to sufficiently provide wildlife habitat in the area.

3.2.3.3. Stream C

Stream C is an isolated but important natural feature within the University Heights Neighbourhood. Accordingly, a 15 metre setback from the Top of Bank is recommended to maintain water quality and habitat values.

3.2.3.4. Habitat Assessment and Wildlife Corridors

Although no specific wildlife habitat has been identified for the subject area on the City of Prince George OCP *Sensitive Natural Features* map, the OCP does identify bear and ungulate winter ranges between just over 1 kilometer and slightly less than 3 kilometers west of the Plan boundary. EDI's Environmental Overview Assessment has provided additional comment regarding habitat, as have Ministry of Environment and other approving agencies through consultations with L&M Engineering Limited.

Wildlife activity was observed frequently in areas characterized by mature forests as well as those recently cleared, with increased activity in riparian areas (EDI 2006). Bears frequently enter City of Prince George Neighbourhoods, as revealed by the fact that 80 black bears were shot within City boundaries in 2005 (Arthur, 2006). In addition, moose are often sighted crossing Tyner Boulevard at various locations. Other wildlife observed within the University Neighbourhood Plan boundary includes members of the dog family such as foxes and coyotes, birds, and ungulates, including moose and deer. Accordingly, an assessment completed by EDI and included as **Appendix B** addresses the impacts of development activities within the plan boundary on wildlife habitat; land use policies intended to balance the preservation of habitat with the provision of human neighbourhoods; and the mitigation of wildlife-vehicular-human conflict as the Neighbourhood is developed and into the future.

There are a number of development activities that have already occurred within and adjacent to the University Heights Neighbourhood Plan boundary that have bisected the habitat of the area and act as limiting factors to wildlife movement. These developments, including the construction of Tyner and Ospika Boulevards and the construction of the University of Northern British Columbia, in combination with the development of the University Heights Neighbourhood will preclude safe and uninterrupted passage for large species such as bear and moose between the designated rural area to the north and west of University Heights and the greenbelt of the Cranbrook Hill Escarpment. As a result, EDI's Wildlife Habitat Assessment (**Appendix B**) finds that the objective of the wildlife corridors within the Neighbourhood Plan should be to, "provide habitat and connectivity for animals with low risk of wildlife-human conflict". It is the large species that present the most risk with respect to wildlife and human interaction. It is neither possible nor desirable to limit the movements of these species while development of the neighbourhood proceeds from south to north; however, it is possible to mitigate undesirable human-wildlife-vehicular conflicts during development and before full build-out of the Neighbourhood. When the Neighbourhood is fully developed, the number of large wildlife will be vastly reduced as the animals move to more suitable habitat. Mitigation measures will, of course, remain in place because, as in other areas of the City, large wildlife will still find ways into the area. EDI's recommendations for mitigation include vegetation management; lighting/signage;

traffic speed/road design; and human-bear conflict measures, such as banning of fruit trees and garbage management requirements.

It is possible to provide movement corridors and preservation areas for the smaller wildlife that will continue to inhabit the Neighbourhood into the future. As outlined in the Wildlife Habitat Assessment (**Appendix B**), the riparian areas as well as the greenbelt and open space, comprising approximately 230 hectares or 34% of the land area, provide this function.

3.2.4. Topography

Significant slopes border University Heights to the east, with the northeastern portion of the Plan area and immediately beyond being of primary geotechnical concern. For that reason, GeoNorth Engineering Ltd has been contracted to provide an overview of the stability of this sloped area, along with the stability of all other slopes within the Neighbourhood Plan area (See **Appendix C**). In addition, Golder and Associates has completed more detailed geotechnical investigations on behalf of the City of Prince George on some of the northeastern slopes, specifically what is referred to as the Cranbrook Hill Escarpment in the Charella Barnes Neighbourhood (see **F6: Geotechnical Overview**). Golder and Associates' investigation included test drills and provides further information regarding slope stability and soils information.

The remainder of the area within and around the Plan area, including the area surrounding Highway 16 West, is generally comprised of unremarkable topography. There are, however, notable ravines surrounding local watercourses which constitute significant slopes and frequently compliment the riparian area buffers provided in this Plan.

3.2.5. Vegetation

EDI Environmental Dynamics Inc. has outlined *Vegetation and Biogeoclimatic Ecosystem Classification* (BEC) in section 4.1 of their Environmental Overview Assessment, attached as **Appendix A**. Details with respect to the Plan area's variations within the Dry Warm Sub-Boreal Spruce sub-zone are outlined in this appendix, and should be used as a reference in understanding vegetation patterns surrounding University Heights.



3.2.6. Environmentally Sensitive Area Policy Recommendations

1. Detailed subdivision design shall be based on the outcome of the Environmental Overview Assessment (**Appendix A**) and the Wildlife Habitat Assessment Study (**Appendix B**). Additional environmental analysis may be required for individual watercourses within particular subdivisions. Should independent, additional environmental analysis not be undertaken, at minimum, detailed subdivision design will follow the setbacks from watercourses as outlined in the Department of Fisheries and Ocean's interim standard development referral letter to the City of Prince George dated Friday, June 30, 2006.
2. Notwithstanding Policy 1 of this section, if a Memorandum of Understanding (MOU) is implemented between the City of Prince George and the Department of Fisheries and Oceans, new development within the boundaries of University Heights will be subject to the MOU in combination with professional reporting provided by property owners.
3. As illustrated on **F5 – Environmental Overview and Wildlife Habitat Assessment**, a variable width of 15 – 30 metres will be retained from the top of bank on the east side of Stream A. The area shall become the property of the City of Prince George.
4. As illustrated on **F5 – Environmental Overview and Wildlife Habitat Assessment**, no development is to occur on the west side of Stream A between the top of bank and the urban boundary, as established by the Official Community Plan. The area shall become the property of the City of Prince George.
5. Greenways may contain well-maintained trails built to the standard confirmed during rezoning.
6. As illustrated on **F5 – Environmental Overview and Wildlife Habitat Assessment** a variable width of between 15 - 30 metres shall be retained from the top of bank of Stream B. This area shall become the property of the City of Prince George.
7. As illustrated on **F5 – Environmental Overview and Wildlife Habitat Assessment** a minimum of 15 metres shall be retained from the top of bank of Stream C. This area shall become the property of the City of Prince George.
8. Any natural open space that includes, or is intended to include, public utilities, i.e. trails and/or storm water drainage, shall become the property of the City of Prince George.
9. Notwithstanding small pockets throughout the Plan area, the majority of lands exceeding 20% slopes will not be subject to development. Areas deemed to be too steep to be developed by a qualified professional shall be left as natural greenbelt. Prior to subdivision approval, the City of Prince George will determine which lands will become the property of the City of Prince George.
10. Detailed geotechnical and topographical investigation may reveal small areas, recognized by the Neighbourhood Plan as over 20% slope, to be developable.
11. Detailed subdivision design shall include retention of mature trees, where possible.
12. Building schemes that work to reduce human-wildlife conflict should be implemented, including banning fruit trees in the Neighbourhood Plan area.

13. Mitigation methods to reduce wildlife-vehicular conflict should be instituted along all arterial roads.

3.3. Parks and Trails

3.3.1. Official Community Plan and Master Plan Policies

The Official Community Plan considers the provision of parks and trails an essential component of our community when it states (City of Prince George, 2001b, p. 71),

A key attribute to the quality of life is the significant extent of park and open space in the community and the linkages offered by trails to connect various parts of the city.

The OCP outlines a hierarchy of parks and trails that are to be included in new neighbourhoods including City, District and Neighbourhood parks and greenbelts as well as Multi-use, Local and Rustic trails, defined as follows:

- **City Parks** – caters to all residents and visitors in the city and the surrounding region and contains a variety of passive and active parks.
- **District Parks** – include athletic facilities established at a dispersed level to serve residents more directly than on a city-wide basis. District Parks are intended to serve approximately 8,000 surrounding residents.
- **Neighbourhood Parks** – provided at a neighbourhood level for residents within walking distance of their home. Neighbourhood Parks are intended to serve residents located within a five minute walking distance.
- **Greenbelt** – this includes areas that are determined as unsuitable for development due to environmental considerations, such as steep slopes or sensitive habitat. Greenbelts may be used for recreational purposes but are limited to facilities-related to trail development.
- **Multi-use Trail (City Trail)** – is a city wide route linking major residential areas to the downtown, riverfronts, destination parks, significant natural areas, regional recreation facilities and other amenities. City trails are asphalt with a trail width of 2.5 to 3.0 metres.
- **Local Trail** – is located in natural areas, neighbourhood open spaces, greenbelts and as secondary loops in destination regional parks and other open space areas. The trail surface is granular with a width of 1.5 to 2.0 metres.
- **Rustic Trail** – is located in natural settings to maximize aesthetics and trail experience. The trail is generally packed earth, crushed gravel, or granular with a width of 0.8 to 1.0 metres.

In addition, the City has the authority to require 5% of subdivided land for future park development or to take cash-in-lieu to the equivalent of 5% parkland dedication. The

priority for this dedication is land that is suitable for development as City, District or Neighbourhood parkland.

In 1998 a *Prince George City Wide Trail System Master Plan* was prepared for the Leisure Services Department – Parks Division at the City of Prince George. The ‘Trails Master Plan’ identifies community desires, proposes trails by category, and notes important transportation links and loops. Basic trail costs have also been outlined in this Master Plan.

3.3.2. Neighbourhood Plan Principles

In recognition of the importance of lineal parks and public access to Forests for the World, Ginter’s Field and the Cranbrook Hill Greenway, as well as the importance of retaining the significant slopes of Cranbrook Hill Escarpment and the riparian areas, the 229 hectares, or 34%, of land provided for parks and open space by this plan create opportunities for significant recreation and outdoor space provisions for the community.

Table 5: Parkland and Open Space Areas illustrates the amount of land provided for parks and open space.

Table 5: Parkland and Open Space Areas

Land Use	Total (ha)	% of Total Area
District Park	12	1.8
Neighbourhood Park	22	3.3
Greenbelt	161	23.8
Off-Street Trail Right of Way	1	0.1
Riparian Area/Wildlife Corridor	33	5.0
Total	229	34.0

3.3.2.1 District and Neighbourhood Parks

The City of Prince George can require property owners to dedicate 5% of their land as park, as legislated by the Local Government Act, or to accept cash-in-lieu of land. In addition, Policies 9.5.3 and 9.5.4 of the OCP have established the desired quantities of land for parkland acquisition within the City of Prince George. The acquisition standard for District Parks is 1 hectare per 1,000 population, with an optimum size of 8 hectares (minimum of 5 hectares of useable land). The acquisition standard for Neighbourhood Parks is 2 hectares per 1,000 population, with each Neighbourhood Park having an optimum size of 2 hectares.

As recommended, the University Heights Neighbourhood Plan is proposing to create two District Parks, totaling 12 hectares, as well as 22 hectares of Neighbourhood Parks. Please refer to **Table 6: Population Projections and Parkland Provided** for an outline of how the Neighbourhood Plan’s parkland provisions meet the City’s acquisition standards. As the parks proposed throughout this Plan may cross property lines, it is

recommended that the process for compensating owners dedicating more than 5% parkland be negotiated with the City of Prince George.

Table 6: Population Projections and Parkland Provided

	Neighbourhood Park	District Park
Acquisition Standard	2ha / 1,000 Residents	1ha / 1,000 Residents
Total Population	10,692 Residents	10,692 Residents
Parkland Required by Acquisition Standard	21 hectares	11 hectares
Parkland Provided by 5% Requirement	22 hectares	12 hectares
Total Plan Area	674 hectares	674 hectares
Percent of Total Area*	3.3%	1.8%

*Equaling approximately 5% of Total Area

The parkland has been sited to provide optimal connectivity between residences, commercial areas, greenways and street trails. As outlined in **Section 3.7.1** of this Neighbourhood Plan, partnerships should be explored between City of Prince George and School District No. 57 that would allow the development of cost and maintenance sharing agreements associated with school yards that can also function as Neighbourhood Parks. Moreover, Neighbourhood Parks may act as an extension of school yards, providing school-age children and their families' safe and easy access.

3.3.2.2. Trails

The University Heights Neighbourhood Plan has incorporated the Trails Master Plan into the proposed trail network, as illustrated on **F10: Proposed Parks and Major Trails**. **F10** demonstrates the extensive proposed trail system, augmented in some cases by sidewalk connections providing connectivity between natural green spaces and built areas within the University Heights Neighbourhood Plan. These trails also connect users to adjacent areas, including Upper and Lower College Heights, South Ospika Neighbourhoods, the University of Northern BC, and the Cranbrook Hill Greenway. Proposed trails within University Heights are comprised of all three standards provided by the Official Community Plan, including Multi-Use, Local and Rustic.

Located adjacent to the Plan boundary, the Cranbrook Hill Greenway is an essential part of the City's recreational trail system and connections to the Greenway from University Heights are essential. Currently, there are inadequate parking facilities at the trailhead of the Greenway located at the end of Kimball Road. Provision of adequate parking comparable to that at the Forests for the World Trailhead near UNBC should be provided by this Neighbourhood Plan. Existing trail connections along the eastern boundary of the plan area lead to the Pinecone and Charella Neighbourhoods as well as the Exhibition Grounds through the Cranbrook Hill Escarpment area and should be maintained as part of this Plan.

3.3.2.3. Informal Trails along Cranbrook Hill Escarpment

The steep slopes of the Cranbrook Hill Escarpment are being proposed for a City Park / Recreation Area. This area would permit non-motorized use of the area for hiking, biking and equestrian activities. This proposed land use acknowledges the existing use of the area by City residents; its ideal location for providing connectivity from Ginter's Field to the Cranbrook Hill Greenway and Forests for the World; as well as the fact that the majority of this area is steeply sloped and likely undevelopable. However, some of the area identified as *Greenbelt* is developable land, subject to constraints such as riparian protection, flood and erosion hazards, geotechnical terrain stability and topography. In addition, the land has value as an alternative form of parkland that provides opportunity for active recreation use as well as inherent value as greenbelt. As such, it is recommended that the property owners and the City of Prince George consider options with respect to the area identified as the Cranbrook Hill Escarpment proposed for City Park that exceeds the 5% parkland dedication requirements to protect the area for continued future public use.

It is further recommended that a strategy be created as part of the Trail Implementation Plan being completed by the Trails Task Force for the acquisition, development and maintenance of the Cranbrook Hill Escarpment area generally, as well as for the trails within this area.



3.3.3. Trail Design Guidelines

1. All trails are to be designed to the City's standards, as outlined in the Prince George City Wide Trails Master Plan and the Trail Implementation Plan, when it is developed.
2. Wildlife should be considered in all stages of design when parks and trails share land or boundaries with natural greenbelt or when open space is preserved near neighbourhood development.
3. Where applicable, Winter Cities design guidelines for trails should be followed as outlined in **Table 3 – Winter Cities Design Considerations**.
4. Connections should be designed to connect trail standards, i.e. sidewalk to trail and bike route to multi-use trail.
5. Trails should consider safe crossings and, whenever possible, cross roads at intersections and always cross roads where there is an appropriate line of sight for both pedestrian and driver.

3.3.4. Equestrian Network

3.3.4.1. Neighbourhood Plan Principles

Equestrian trails require unique considerations, particularly in crossing major roads. Members of the Prince George Horse Society have been working closely with the Trails Task Force of the City of Prince George to ensure safe equestrian access between the Agriplex in Exhibition Park and the Cranbrook Hill Greenway. Such trails have been identified on **F10: Proposed Parks and Major Trails**; including a perimeter trail through the eastern escarpment and connecting to the existing Blue Spruce campground entrance to the Greenway; a connection to the University near Shane Creek; and a connection along University Way between the University lands and Parkridge Creek. A large section of the trails already exists through the Cranbrook Hill escarpment. Again, it is recommended that a strategy be included as part of the Trail Implementation Plan, for the acquisition, development and maintenance of the trails within the Greenbelt of the Cranbrook Hill Escarpment.

If horses are to be safely accommodated as a recreational activity and trail user, then the design of some multi-use trails need to consider their needs. The development of city-wide standards for equestrian trails is currently being completed by the Trails Task Force and, as a result, Equestrian Trail Designs Guidelines have not been included as part of this Neighbourhood Plan. The development of equestrian trails within the University Heights Neighbourhood Plan area will be subjected to the city-wide standards when they are developed.

3.3.5. Parkland and Trail Policy Recommendations

1. 11 Neighbourhood Parks shall be provided in the University Heights Neighbourhood adjacent to elementary school sites, if possible, with the remainder to be sited to maximize connectivity with the trail network and within areas bounded by geographical or manmade features such as steep slopes or roadways.
2. As outlined by Policy 9.5.4 of the OCP, Neighbourhood Parks shall be developed with a target of one park per 1,000 residents.
3. 2 District Parks shall be provided in the University Heights Neighbourhood Plan, one adjacent to a secondary school site, if possible, and the other located in the area identified on **F10: Proposed Parks and Major Trails**, with access to the site from the Massey Extension.
4. The 5% land dedication requirement shall generally be used by the City to acquire the necessary land for Neighbourhood Park development. The future District Parks shall be located on land currently owned by the City, and will be

-
- retained by the City so that they can be developed at the appropriate time. Any land identified as park that exceeds the 5% requirement shall be subject to negotiation between the land owner and the City of Prince George. This includes parkland and lands provided for parkland support (i.e. parking lots).
5. A trail shall be developed within the 15-30 metres of riparian zone from the Top of Bank of Stream A. Connections to the Cranbrook Hill Greenway will be facilitated through the eastern riparian area. The trail standard is to be determined during rezoning.
 6. A gravel parking area is to be developed off Kimball Road at the entrance to the Cranbrook Hill Greenway. Methods of funding the development of this parking lot will be addressed by the City through established procedures.
 7. Trails shall be planned and developed as part of each phase of subdivision with the objective of facilitating the easy movement of people throughout the Neighbourhood and to adjacent areas. The standard of trails will be determined during the rezoning phase.
 8. As a guiding policy, trails connecting parks, schools, and streets shall be designed to the multi-use standard.
 9. As a guiding policy, trails connecting neighbourhoods shall be designed to the local standard, at a minimum.
 10. As a guiding policy, trails developed within riparian and greenbelt areas shall be developed to the rustic standard.
 11. The Trail Implementation Plan, currently being developed by the City of Prince George shall provide direction for funding for trail development, and may include design guidelines in addition to those already included in the Trails Master Plan.
 12. Many of the existing trails on the Cranbrook Hill Escarpment on the eastern boundary of the Plan are in trespass of private land. It is recommended that the City enter into discussions with the owners, with the intent of ensuring long term public use in this area.
 13. The off-street trail along Tyner Boulevard should be set at least 3 meters from roads, where possible, with planting strips located between the two. This increased level of landscaping provides shade and weather protection for pedestrians, reduces ambient temperatures, and reduces the amount of road salt infiltrating into subsurface run-off.
 14. All trails should be designed as per the Prince George City Wide Trails System Master Plan design guidelines and the Trail Implementation Plan, when it is developed.
 15. City standards for horse trail design needs to be clearly defined.
 16. The construction of the horse trails identified on **F10: Proposed Parks and Major Trails** should form part of the City of Prince George's Capital Expenditure Plan.
 17. The purchase of private property required to accommodate horse trails will be subject to negotiation of the property owner and the City of Prince George.

3.4. Transportation

The transportation system acts as a major organizing feature, both within and surrounding the University Heights Neighbourhood Plan area, coordinating automobile, pedestrian, cycle, transit and other non-motorized activity. Transportation networks also facilitate the arrangements of residential, commercial and institutional development and have the ability to support natural features, including waterways, greenways, trails and parks. This section of the plan addresses the University Heights transportation network, including its relation to all of these land use features.

3.4.1. Road Network

3.4.1.1. Official Community Plan Policies

The Transportation section of the Prince George OCP identifies the City's intentions with respect to arterial, collector and local roads. Listed below are descriptions of these road types as outlined in the OCP's policies (City of Prince George, 2001b, p85):

- *Arterial roads which serve as major traffic routes in the city, with limited access.*
- *Collector roads, the principal roads within neighbourhoods designed to collect and distribute traffic offering a medium level of mobility and access.*
- *City local roads, offering low mobility and high access.*

Map 9 of the OCP, *Major Road Network*, identifies a number of principal current and projected roads. Of these roads, two current and three projected roads are located within the University Heights Neighbourhood Plan area and have been illustrated on **F7: Proposed Major Roads** of the University Heights Neighbourhood Plan. These roads include Tyner Boulevard, University Way, the University Way Extension, Cranbrook Drive, and the Massey Drive Extension west of Tyner Boulevard. Also recommended in the Official Community Plan is for Tyner Boulevard to be developed into a four-lane arterial road. These roads play an important role in achieving major road links and improving road connectivity in Prince George.

The OCP outlines provisions for sidewalks and supports multiple-use of roads such that they accommodate various modes of transportation, including vehicles, cyclists, transit, and pedestrian movement. Similarly, it is recommended by the OCP that local streets and lanes be given priority for access to housing along arterial roads. Also in support of alternative transportation, the OCP states that (City of Prince George, 2001b, p85-86),

Future Neighbourhood Plans should support small-scale commercial nodes, emphasize pedestrian and cycling routes, and address local traffic needs. It is recommended that traffic-calming techniques be considered

to minimize the potential for through traffic infiltration in established or proposed neighbourhoods.

3.4.1.2. Neighbourhood Plan Principles

3.4.1.2.1 Arterial and Collector Roads

The University Heights Neighbourhood Plan road network consists of logically spaced arterial and collector standard roads. Typically arterial roads are spaced at 400 to 800 meter intervals. The Neighbourhood Plan has identified three new arterial roads or extensions.

1. University Way has been extended from the current intersection of University Way and Tyner Boulevard along the western edge of the study boundary, with a connection to Highway 16 at Bear Road. This intersection was upgraded in the past 10 years in conjunction with Bon Voyage commercial development. At the time of construction it was pre-ducted for future signalization. The connection of University Way to the Highway 16 will require the installation of signals. The routing of the University Way extension was influenced by topography and the avoidance of the headwaters of Parkridge Creek in the southwestern portion of the study boundary. Preliminary profiles were prepared which confirmed that the road grades for the selected alignments are within acceptable limits for an arterial road (less than 7.0% gradient). The connection to Highway 16 will require significant earthworks as the road traverses along the hill behind Art Knapps.
2. Massey Drive has been extended from its current terminus just west of Ospika Boulevard through Tyner Boulevard and connecting to Highway 16 at the existing Westgate Avenue intersection. The Westgate Avenue intersection is a logical location to connect to Highway 16 as the intersection is already signalized and the gradient of the highway is less than 3.0%. This intersection is located approximately 1.0 kilometer from Bear Road and 1.7 kilometers from Domano Boulevard and exceeds minimum arterial intersection spacing requirements.

The necessity to extend Massey Drive to Tyner Boulevard has not yet been determined. Network modeling will be required to determine whether or not this link will be required and, if so, at what stage of development. The preliminary alignment shown on **F7: Proposed Major Roads**, while technically feasible, may not be economically viable due to extensive earthworks. In addition, this area has several geotechnical issues that will need to be more fully explored. If this link is required geotechnical input will, in all likelihood, necessitate realignment of Massey Drive extension.

The construction of the extension of Massey Drive may provide the potential for a small area of the lower portions of the Cranbrook Hill Escarpment (the north east corner of the Plan area) to be serviceable from the Bowl area of Prince George. Development in the northeast corner will be subject to the construction of the Massey Extension, as well as to more detailed geotechnical investigation.

3. Tyner Boulevard has been extended from the current intersection of Tyner Boulevard and University Way to connect to Kueng Road on Cranbrook Hill. This connection is consistent with the Major Street Network Plan of the City of Prince George. The alignment shown is feasible with grades less than 6.0%.
4. Although outside of the Neighbourhood Plan boundary, the extension of Ospika Boulevard between Tyner and Highway 16 is also a critical connection for the overall transportation network in the University Heights Neighbourhood area.

In addition to the arterial road alignments, a collector (Cranbrook Drive) has been shown between the University Hill and the Massey Drive Extension. This collector location was selected as a result of topographical constraints. Further collector roads will be required and will be identified as development proceeds.

3.4.1.2.2 Trip Generation and Network Modeling

To determine the impact of the traffic generated by the proposed Neighbourhood Plan modeling of the road network is required. The City of Prince George developed a road network model in 2001 using EMME/2 software. The model is currently being updated to reflect current conditions. As part of this general updating, the City will be including traffic generated by the proposed University Heights Neighbourhood Plan. The model will analyze and confirm the scope and timing of all major network improvements required by the Plan, both within and without the Plan area. The model will determine if, and when, the Massey Extension is required. It will also determine at what stage Tyner Boulevard will be required to be upgraded from the current two lanes to a four lane arterial standard.

To provide input for the network modeling, trip generation rates and volumes have been calculated. The trip generation rates used are based on the Ministry of Transportation (MOT) Parking and Trip Generation Rates Manual and the Institute of Transportation Engineers (ITE) Trip Generation, 7th Edition. Eight different trip generation rates have been applied to calculate the anticipated traffic volumes and are as follows:

Table 7: Trip Generation Rates

ITE/MOT Description	Table	Land Use Designations
Single Family Housing	MOT Table 7-1	Single Family Residential
Multi-Family Housing	MOT Table 7-1	Multiple Family Residential
Regional Commercial	MOT Table 7-2	Highway Commercial
Regional Commercial	MOT Table 7-2	Neighbourhood Commercial
Neighbourhood Commercial	MOT Table 7-2	Local Commercial
Elementary Schools	ITE Code 520	Elementary Schools
High Schools	MOT Table 7-5	Secondary Schools
Office	MOT Table 7-3	University Support Services

A copy of the applicable MOT and ITE trip generation tables are included as **Appendix D – Trip Generation Volumes**.

For commercial uses, a site coverage of 30% was used to convert hectares to gross leasable area. For the University Support Services the allowable uses were grouped into four categories to simplify the traffic generation. It was assumed that 20% would be single family, 40% multi-family, 30% office and 10% commercial. The ITE rate for elementary schools did not have pm peak hour rate for adjacent street traffic. As such, the MOT rate for a high school was used instead.

3.4.2. Pedestrian Network

3.4.2.1. Official Community Plan and Pedestrian Network Study

OCP policies relating to pedestrian networks include the development of sidewalk connections to a well-designed road network. The City of Prince George has further addressed pedestrian accommodation by undertaking the 2004 Pedestrian Network Study. The City of Prince George has thereby indicated that the creation of pedestrian facilities is a priority of transportation planning. The Study notes that (Geddes & Fjellstrom 2004, p. 1),

Walking is increasingly recognized as an essential and healthy transportation mode. To support walking, areas that generate walking trips and attract pedestrians need to be easy and safe for pedestrians to negotiate. As vehicle volumes and speeds increase, pedestrians are not comfortable walking without designated and safe routes. The presence of quality facilities can facilitate walking and increase safety for pedestrians.

3.4.2.2. Neighbourhood Plan Principles

Walkability will be an important component of University Heights, allowing commuters and recreationists the option to safely and comfortably travel within, and connect to, road networks outside of the Plan boundary. In addition, the combination of mixed local commercial, institutional, and residential land uses connected by sidewalks, multi use trails, and greenways will create a pedestrian friendly environment within the University Heights Neighbourhood Plan area, as well as link the Plan area to surrounding neighbourhoods. Alternative design standards, such as Winter Cities guidelines are suited to pedestrian accommodation and should be included, where possible. The Neighbourhood Plan also recognizes that development of these pedestrian connections will not be the sole responsibility of private developers and, therefore, development options should be further explored with the City of Prince George. For example, gaps exist between the Plan area and the termination of the City sidewalks on University Way and Massey Drive west of Ospika Boulevard. As roads and sidewalks within University Heights are developed, the extension of these sidewalks to facilitate pedestrian connections should be considered by the City of Prince George.

3.4.2.3. Pedestrian Network Design Guidelines

1. Pedestrian infrastructure should be designed to the standards established by the Subdivision and Development Servicing Bylaw No.7652 (2004a), with consideration given to Winter Cities design guidelines and accessibility for those with limited mobility.

3.4.3. Cycle Network

3.4.3.1. Official Community Plan and Cycle Network Policies

Another component of providing for multiple modes of transportation involves planning for the bicycle. Providing opportunities for safe cycling is highlighted in the following excerpt from the 2000 Cycle Network Plan (City of Prince George, 2000, p.2),

Planners and designers should work to fully integrate the bicycle into the existing transportation systems, and to encourage the acceptance of the use of the bicycle as a safe and convenient mode of transportation...

Properly engineered facilities encourage the cyclist to use them because it is easy, convenient, and demonstrates that cycling has a place in the transportation network.

The OCP supports the Cycle Network Plan, as illustrated on Map 10: Bicycle Network. Although the University Heights Neighbourhood Plan area is not reflected on the conceptual cycle network, as proposed on Map 10 of the OCP, once developed, this road network will serve as an important cycling link. As per the Cycle Network Plan, bicycles should be accommodated as vehicles and constructed facilities should not only facilitate, but encourage cyclists to use the municipal transportation system.

3.4.3.2. Neighbourhood Plan Principles

Not only does a well-designed and well-constructed bicycle network facilitate an active lifestyle but it also reduces vehicle use, congestion, as well as air pollution. The University Heights Neighbourhood Plan proposes a comprehensive cycle network to address these issues of health and alternative transportation.

Designed to the Divided Arterial Standard, Tyner Boulevard acts as the primary connector to UNBC from the south and will include a dedicated cycle lane in both directions. All other collector and arterial roads will also feature dedicated bike lanes and, in order to facilitate the on- and off-road cycle experience, these cycle lanes will connect to:

- The existing cycle lanes on University Way;
- The existing cycle lanes on Ospika Boulevard; and
- Forests for the World.

In a comparable manner to the walking trails within the Cranbrook Hill Escarpment, it is recommended that the trail acquisition strategy for the Cranbrook Hill Escarpment address the needs of bicycle users. It is recommended that the City enter into discussions with the property owners, with the intent of ensuring long term public use in this area.

3.4.3.3. Cycle Network Design Guidelines

1. On-street bicycle infrastructure should be designed to the standards established by the City of Prince George Subdivision and Development Servicing Bylaw No.7652 (2004a).
2. Bikes should be considered throughout the development of all trail standards.

3.4.4. Transit Network

3.4.4.1. Official Community Plan and Transit Service Review Policies

Policy 11.6.9 of the Official Community Plan states that (City of Prince George, 2001b, p. 86),

New neighbourhoods shall be designed to facilitate public transit and access to transit, including the incorporation of looped roads designed to link internal residential sectors.

In combination with this policy of the OCP, the 2003 Prince George Transit Service Review outlines design standards the transit system should strive to attain, including:

- Service within 400 metres walking distance of 90% of all residences;
- Service within 150 metres walking distance of major senior residences and other institutional facilities; and
- Service within 250 metres of all future medium and high density residential developments.

The Official Community Plan recognizes that existing transit service is limited and that concentrated growth, as outlined elsewhere in the OCP, should increase transit service opportunities in the future. In addition, the 2003 Prince George Conventional Transit Service Policy outlines the staging of new transit services in Prince George, and is as follows:

- Weekday peak period services when the subdivision is in the early stages of development;
- Weekday daytime services and Saturday daytime services during the middle stages of development; and
- Evening services when the subdivision is nearing completion.

How and when the provision of direct transit service to University Heights will be supplied will be evaluated by the City of Prince George against these criteria. However, the University Heights Neighbourhood Plan must demonstrate that there are suitable pedestrian and cycle links from the Plan area to the existing transit service in the surrounding area. **F7 – Proposed Major Roads** and **F10 – Proposed Parks & Major Trails** demonstrate these links.

3.4.4.2. Neighbourhood Plan Principles

The above goals are facilitated by the proposed collector and arterial roads located throughout the University Heights Neighbourhood Plan. In addition, the majority of the medium and high density developments, as well as schools and commercial areas, are recommended for construction adjacent to arterial or collector roads.

Currently, public transit services Tyner Boulevard on a weekday frequency of twice per hour. How and when the provision of direct transit service to neighbourhoods within University Heights will be supplied will be evaluated by the City of Prince George against the above-noted criteria. However, the University Heights Neighbourhood Plan must demonstrate that there are suitable pedestrian and cycle links from the University Heights Neighbourhood Plan area to the existing transit service in the surrounding area.

F10: Proposed Parks and Major Trails demonstrates these links.

Ensuring that public transit services are available to all members of society is a fundamental component of complete, connected and compact neighbourhoods. Nonetheless, transit services require use in order to be supported financially. University Heights will follow City standards with bus services augmented as warranted by ridership or City support.

3.4.4.3. Transit Network Design Guidelines

1. Transfer nodes should be created in areas expected to provide high volumes of transit riders.
2. Stop locations should be located near intersections and follow the design standards outlined in the 2003 Prince George Transit Network Study.
3. The development of transit services should consider the 2003 Prince George Conventional Transit Services Policy.
4. High quality pedestrian access should be provided to all transit stops both on- and off-streets.
5. Daily commercial needs should be met with shops along the transit route, resulting in a reduced number of vehicle trips required.
6. Bicycle parking should be required at all transfer stations until such a time as bike-and-board services are guaranteed on all transit trips.
7. Bus shelters should be constructed to protect transit-users from the elements and to encourage use by all segments of society.

3.4.5. Transportation Network Policy Recommendations

1. Tyner Boulevard shall be upgraded from an arterial undivided to an arterial divided road, as detailed on **F7: Proposed Major Roads**.
2. An off-street trail, as defined by the Prince George City Wide Trail System Master Plan, shall be constructed adjacent to Tyner Boulevard on the east side, with connections to adjacent pedestrian and cycle routes.
3. The Massey Extension and the University Way Extension shall be built to a four-lane divided arterial standard, as detailed on **F7: Proposed Major Roads**.
4. Cranbrook Drive connecting the University Way Extension with Tyner Boulevard shall be built to a collector standard, as detailed on **F7: Proposed Major Roads**.
5. The City of Prince George is to complete transportation network modeling to determine the need for the Massey Extension. The modeling will review and confirm scope and timing of all necessary on- and off-site improvements.
6. The extension of Massey Drive is recognized as 'extraordinary works' and will likely be a project identified in the City of Prince George Capital Expenditure Program.
7. Roads will be built in accordance with the City of Prince George Subdivision and Development Control Bylaw, No. 7652, 2004.
8. Alternative Development Standards, as applied in Prince George, should be the subject of a separate study that examines Alternative Development Standards in winter cities. Prior to policy implementation with respect to Alternative Development Standards, consensus of the City of Prince George will be required.
9. As required by the Subdivision and Development Servicing Bylaw No.7652, sidewalks will be provided on both sides of arterial roads, on one side of urban collector roads and on one side of urban local roads.
10. Subdivision design will give consideration to the creation of a safe, pedestrian-oriented environment where traffic speeds and conflicts are managed.
11. Additional pedestrian connections to the existing trail network should be encouraged at the time of subdivision.
12. Links from trails to roadways will be appropriately designed in accordance with the design standards outlined within the City Wide Trail Master Plan.
13. In accordance with the City's transit policies, public transit may be provided on collector and arterial roads as warranted by demand.
14. Marking of the cycling network is an endeavour to be undertaken by either the City of Prince George or the developer, as outlined in Policy 11.6 (13) of the OCP, with efforts to extend the network into the proposed development area.
15. Provision of street furniture, including but not limited to, bus shelters, benches and garbage receptacles, should be determined between the City of Prince George and the developer.
16. Transit networks should be developed in conjunction with higher density residential development, as well as with commercial, civic and institutional development.

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17. Effective transit service to high schools should be provided from all medium- and high-density residential developments.
 18. Connectivity between bus stops and trails should be considered when locating bus stops and designing municipal trails.



3.5. Residential

3.5.1. Official Community Plan Policies

The OCP emphasizes the importance of striving to ‘build strong neighbourhoods’ when undertaking new residential development in Prince George. Policy 6.3.2 of the OCP calls for the rational development of new neighbourhoods in a logical and phased manner and Policy 6.3.3 further emphasizes the City’s preference for compact development that provides a variety of housing types and densities. The residential mix for the southwest sector of Prince George (within which the University Heights Neighbourhood is located) is proposed to have a higher proportion of multiple-family development as compared to other sectors of the City. More specifically, a housing density mix of 65% single family and 35% multiple family is desired for the University Heights Neighbourhood (OCP, Table 5).

The OCP pays particular attention to residential development in this area by explaining that (City of Prince George, 2001b, p. 45),

The Tyner Boulevard Area has significant topographic issues, which should be considered and reflected in appropriate design. Innovative housing such as clustering and terraced townhouses which blend with the slope gradient is desirable. Retention of maximum vegetation to combat erosion and minimize stormwater runoff also provides environmental integrity. Pathways developed within green landscape buffers offer added amenities linking nearby housing areas.

3.5.2. Neighbourhood Plan Principles

The vision for the University Heights Neighbourhood Plan reinforces the residential policies of the OCP, in that the Plan is intended to create:

- A compact residential neighbourhood that is characterized by an identifiable sense of place;
- A variety of housing forms to ensure diversity in both the form and function of residential design so that people of all ages and socioeconomic groups can be represented within the Plan boundary;
- Proximity of residential subdivision to Local Commercial services;
- Mixed use Local Commercial and medium-high density residential development;
- Pedestrian connectivity; and
- Retention of natural features.

In order to achieve these objectives, the University Heights Neighbourhood Plan must contain policies that can influence the intended residential character of University Heights. There are several tools available to assist with attaining these objectives, including design guidelines, covenants and building schemes. The following sections outline recommendation for the following: (1) Range of Densities, (2) Housing Forms, (3) Proposed Design Guidelines for the University Heights Neighbourhood Plan and (4) Policy Recommendations.

3.5.3. Range of Densities

The University Heights Neighbourhood Plan proposes an overall housing ratio of 64% single family dwellings and 36% multiple family dwellings. **Chart 2: Dwelling Density Ratios** details the relation between dwelling densities by dwelling units as compared to dwelling densities by land area. This table demonstrates that the proposed mix of 64% single family dwelling units: 36% multiple family dwelling units in the University Heights Neighbourhood Plan equals a mix of 84% single family land area: 16% multiple family land area.

As demonstrated in **Table 8: Ratio of Residential Development**, these ratios have been calculated based on the housing density objectives provided by the Official Community Plan, as well as the City of Prince George Design Guidelines. Thus, using an estimate of 10 dwelling units per hectare for single family residential development and 30 dwelling units per hectare for multiple family residential development, the total proposed number of dwelling units is 3,850, of which 2,440 will be single family dwellings and 1,410 multiple family dwelling units.

Chart 2: Dwelling Density Ratios

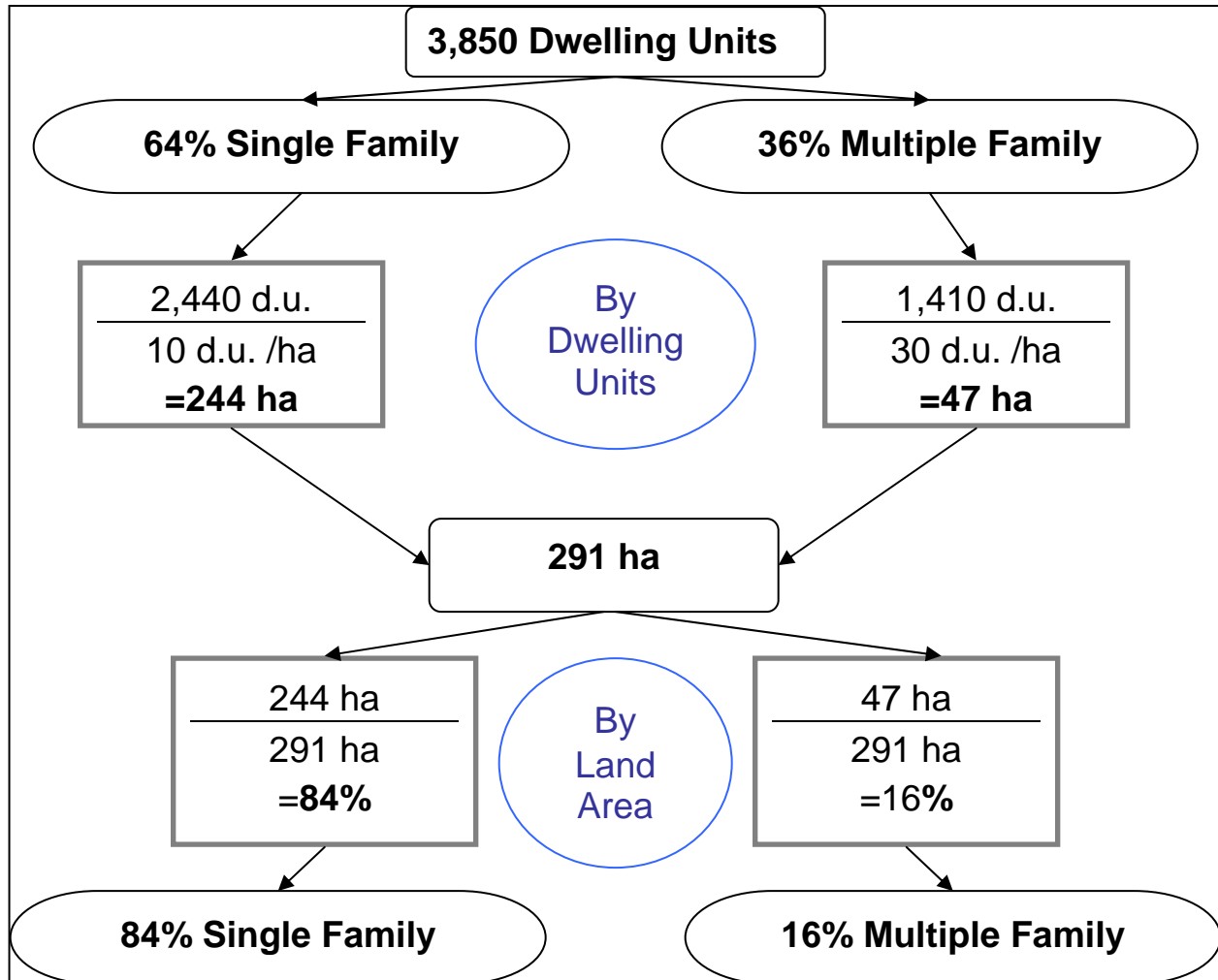


Table 8: Ratio of Residential Development

Residential Designation	Total Area (ha)	Percentage of Total Plan Area	Dwelling Units / ha	Number of Dwelling Units
Single Family	244	36	10	2,440
Multiple Family	47	7	30	1,410
Total	291			3,850

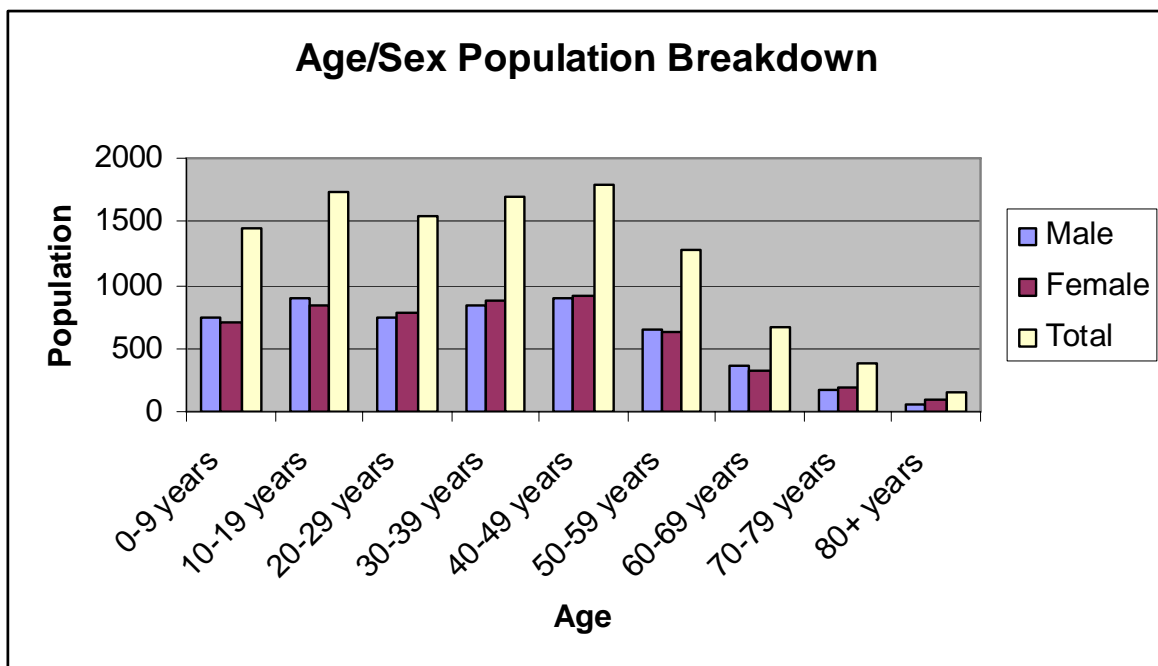
Based on housing data for newer residential areas of Prince George, it is estimated that the average number of persons per household will be 2.5 for multiple family dwellings and 3.2 for single family dwellings. Using these figures, **Table 8** demonstrates that the population for the University Heights Neighbourhood Plan will be approximately 10,692 people, while **Chart 1** below provides the age/sex breakdown of population.

Table 9: Estimated Population

Housing Form	Total Area (ha)	Dwelling Units / ha	Number of Dwelling Units	Persons / Dwelling Unit	Estimated Population
Single Family	244	10	2,440	3.2	7,392
Multiple Family	47	30	1,410	2.5	3,300
Total	291		3,850		10,692

Chart 1: Age/Sex Population Breakdown

	0-9 years	10-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70-79 years	80+ years	Total
Male	747	888	750	835	889	651	358	176	57	5,351
Female	697	837	784	867	907	634	317	196	102	5,341
Total	1,444	1,725	1,534	1,702	1,796	1,285	675	372	159	10,692



3.5.4. Housing Forms

In order to achieve a complete neighbourhood that includes housing forms that will accommodate people from all age brackets and socio-economic groups, the University Heights Neighbourhood Plan is proposing a variety of housing forms be permitted within the Plan boundary. The types of proposed housing forms are listed below. The densities noted are maximum densities and are rarely achievable. The densities would not be supportable over large areas.

Low density residential (minimum lot size 400m² – density maximum 22 dwelling unites per hectare): Low density and small lot single family residential development is proposed throughout the Plan and will be the most common land use category. It is expected that single family will continue to be the preferred housing form, with smaller lots beginning to become the urban norm. Secondary suites are to be permitted on lots containing low density single family housing. Single family housing is ideally situated where the vistas of the foothills of the Rocky Mountains are most prominent and can take the form of fee simple, strata, or bareland strata development. Strata and bareland strata developments area subject to a Development Permit, as per Section 6.4 ‘Residential Development Permit Areas’ of the OCP. This housing form is also to be developed in accordance with the design guidelines found within the University Heights Neighbourhood Plan.

Medium density residential (density range of 20 - 40 dwelling units per hectare): Two-family dwelling units shall be permitted on a cluster and scatter-site basis throughout the plan boundary. Secondary suites are not supported within this housing form. Row housing and stacked row housing can be developed at this density designation and shall be situated based on the siting criteria outlined in Policies 6.3.12 and 6.3.13 of the OCP. Such clustered forms of housing are subject to a Development Permit as per Section 6.4, “Residential Development Permit Areas,” of the OCP. This housing form is also to be developed in accordance with the design guidelines found within the University Heights Neighbourhood Plan.

Medium-High density residential (density range – 40 – 90 dwelling units per hectare): This housing form will primarily consist of fourplexes, condos, stacked row housing, and up to 4 storey apartments. This housing density may include provisions for university-related residences. The siting and development of these housing forms shall be guided by Policy 6.3.12 of the OCP, Policy 6.4 Residential Development Permit Areas, as well as the design guidelines found within the University Heights Neighbourhood Plan.

Mixed Use Local Commercial-Medium-High residential (density range – 40 – 90 dwelling units per hectare): This housing form will incorporate mixed-use development options wherein multiple family housing is located above local commercial

or institutional uses. The siting and development of this housing form shall be guided by Policy 6.4: Residential Development Permit Areas of the OCP, as well as the design guidelines found within the University Heights Neighbourhood Plan.

F9: Proposed Land Use demonstrates land use within the University Heights Neighbourhood Plan at full build out and the discussion above provides details regarding the variety of housing forms and the corresponding siting criteria available for residential land use. The more detailed level of planning that will occur at the rezoning stage will result in refinement to the number and mix of dwelling units when details such as site-specific conditions and market demand are influencing decisions concerning housing forms and lot sizes. Specific development proposals are to be evaluated based on the policies within this Neighbourhood Plan and within the context of site specific conditions surrounding specific development proposals.

3.5.5. Design Guidelines

Residential development in the University Heights Neighbourhood is intended to create a neighbourhood that provides a range of density options and housing forms within an overall framework that focuses on single family development. Residential development should encourage a strong identity for the Neighbourhood, allow for climate sensitive design, and create high quality higher density development as well as ecologically responsible land use patterns. Specific design guidelines will be created through the rezoning process for individual subdivisions, but should incorporate the following objectives:

1. Residential housing forms and subdivisions should be designed utilizing the principles of *Winter Cities Design Guidelines*, as outlined in **Section 1.4.2** of this document.
2. Residential housing forms and subdivisions should be designed utilizing the principles of *Crime Prevention through Environmental Design*, as outlined in **Section 1.4.3** of this document.
3. Residential subdivision should be designed utilizing the principles of the *Healthy Communities*, as outlined in **Section 1.4.3** of this document.
4. Residential housing forms, subdivision design, and zoning regulations should emphasize streetscape through reduced front yards while providing a clear demarcation between public and private space.
5. Multiple family dwellings are encouraged to develop underground or semi-underground parking.
6. Similar to the guidelines of the Residential Development Permit Areas outlined by Section 6.4 of the OCP, two-family housing cluster developments that include fewer units which are spaced to take advantage of views and natural vegetation should be given preference.
7. Sites should be generously landscaped in a manner which is appropriate to a northern, winter climate.

8. Building facades should be similar in character with surrounding residences but have variety in architectural features and colouring.
9. Mixed use multiple family residential buildings should emphasize street access, wherein ground-floor setbacks should exist adjacent to sidewalks allowing for further setback of additional storeys.
10. Residential development is encouraged to occur along a modified grid pattern.

3.5.6. Residential Land Use Policy Recommendations

1. Single family residential zoning should consider maximum lot sizes to encourage compact development.
2. Secondary suites are only permitted within single family dwellings as per the City of Prince George Zoning Bylaw No. 7850, 2007.
3. Limits on density should be considered for the clustering of two-family residential units, which is to be permitted within the medium density residential density range of 20-40 units per hectare.
4. Where possible, medium density housing development should be maximized to increase residential densities.
5. A variety of housing options should be provided throughout the University Heights Neighbourhood, including rental opportunities.
6. 1 of every 200 properties shall have Community Residential Facility as a permitted use.
7. Siting and building criteria for medium density housing shall be incorporated as outlined in the policies of the Official Community Plan.
8. Building schemes that promote Winter Cities Design principles shall be considered for residential subdivisions.
9. Further policy development regarding the use of alternative design standards as they are to be applied to the development of residential subdivisions within University Heights needs to be examined in conjunction with the City of Prince George.
10. Residential development will follow the phasing plan presented in this document.
11. Existing trees, natural features, and significant slopes should be retained where feasible.
12. Detailed geotechnical investigation will be required prior to subdivision where indicated on **F6: Geotechnical Overview** and confirmed by GeoNorth's Engineering report included as **Appendix C – Geotechnical Overview**.
13. Detailed geotechnical and topographical investigation may reveal additional small development areas where this Plan shows Greenbelt with a slope of greater than 20%
14. Lot configurations will be designed at the subdivision stage of development.
15. All multiple family, strata and bareland strata developments are subject to a Residential Development Permit, as outlined in Policy 6.4 of the OCP.

16. The Neighbourhood Plan achieves a residential density of 64% single family and 36% multiple family, as outlined by the OCP. Notwithstanding that objective, the City of Prince George may consider residential densities that surpass this objective.

3.6. Commercial

3.6.1. Official Community Plan Policies

The City of Prince George OCP outlines the intended direction for commercial growth in Prince George. Included in this future direction is a provision acknowledging that commercial development is a function of market and consumer demand. Therefore, the commercial land use policy included within the OCP is meant to guide the location and character of commercial development when sufficient market forces are present to warrant the development.

Though much of the OCP policy relating to commercial use focuses on future regional shopping and commercial redevelopment of the downtown core, some attention is given to commercial uses required within new neighbourhoods. Schedule C – Long Range Land Use Map included in the OCP locates a Neighbourhood Shopping Centre, which is intended to serve local neighbourhoods, within the boundaries of the University Heights Neighbourhood. In addition, Policy 7.3.20 of the OCP addresses the intended siting of commercial and higher residential development and recommends these uses be located in proximity of one another (City of Prince George, 2001b, p. 59),

All existing commercial centres in Prince George would benefit from additional housing density in the nearby area. Redevelopment which integrates housing as part of the design, either upper storey or higher density on adjacent sites, is supported.

The Commercial Land Use Strategy for the City of Prince George acknowledges different commercial categories, including Downtown, Regional Commercial, Neighbourhood Shopping, Arterial Commercial, Local Commercial and Commercial Recreation.

3.6.2. Neighbourhood Plan Principles

The University Heights Neighbourhood Plan recognizes the need to provide commercial uses in conjunction with residential development. This approach permits a mixing of land uses to allow for local commercial needs to be met within a walkable area. The University Heights Neighbourhood Plan is proposing four levels of commercial development within the plan area, including Neighbourhood Commercial, Highway

Commercial, Local Commercial and Mixed-Use Commercial. These levels of commercial uses have been considered in conjunction with recommended land use policy set out in the OCP, the future needs of residents, and appropriate siting and design considerations to support the development of a complete and liveable community.

In addition, the Neighbourhood Plan also contains a property that is currently zoned C5 (Visitor Commercial). The property is adjacent to Hwy 16 and the Art Knapp's Plant Land on Kimball Road. The Neighbourhood Plan respects the inherent value of this existing zoning district and, therefore, proposes that this existing land use regulation remain intact.

3.6.2.1. Neighbourhood Shopping Centre

Neighbourhood Commercial land uses are defined in the OCP as Neighbourhood Shopping Centres and are meant to service local neighbourhoods (Section 7.3). Primary uses include food stores and other compatible uses such as small retail, restaurants/cafes, medical offices and personal services. 'Box stores' are not permitted, nor are any single retail stores occupying over 5,500 m². In addition, the OCP has outlined appropriate areas for future neighbourhood commercial development, including an unspecified location with the University Heights plan boundary.

One Neighbourhood Shopping Centre is therefore being proposed for the University Heights Neighbourhood, representing approximately 10 hectares of land, as is comparable to other Neighbourhood Shopping Centres in the City (see **F9: Proposed Land Use**), although exact land areas will be further refined as development proceeds. This site has been selected because of the projected phasing of development and its proximity to the intersection of two major roads, allowing this commercial use to be developed in a latter phase of the Neighbourhood Plan and to be a centrally located facility at full build out of the neighbourhood.

3.6.2.2. Highway Commercial

Highway commercial development is intended to accommodate the demand for a wide variety of automobile oriented retail, services and office uses. The recommended site for Highway Commercial uses with the UHNP, as demonstrated on **F9: Proposed Land Use**, is fronting the proposed University Way Extension near the existing Art Knapp's Plant Land.

3.6.2.3. Local Commercial

Local Commercial development is meant to provide neighbourhood-level convenience retail and services within residential areas. Primary uses include convenience stores,

small offices and clinics. Recommended siting criteria for Local Commercial development include providing access that is in proximity to arterial and collector roads and developments that do not exceed 3,000 m² (City of Prince George OCP, 2001b, p.53). The inclusion of Local Commercial developments throughout the University Heights Neighbourhood will be based on market opportunities that are in keeping with Policies 7.3.15 of the Official Community Plan, limiting the maximum site area to 3,000 m² and establishing siting criteria for including commercial uses in established neighbourhoods. Approximately 5 hectares of land has been designated in this Plan for Local Commercial uses although exact sizes will be further refined as development proceeds (see **F9: Proposed Land Use**).

To assist in ensuring a walkable neighbourhood and residential access to basic retail and services, the University Heights Neighbourhood Plan is proposing that further siting criteria for local commercial uses be established recognizing the value of residences being located within 500 meters of a Local Commercial facility. It is understood that 500 metres is the average distance most individuals are willing to travel on foot and this provision not only encourages active lifestyles but also increases social connections and reduces automobile usage.

3.6.2.4. Local Mixed-Use Commercial

As a measure to incorporate Smart Growth design into the University Heights Neighbourhood, this Plan calls for a portion of Local Commercial uses to occur in combination with residential development. Mixed-use commercial/residential developments will be located near areas of higher activity and where development of a greater intensity is proposed to occur, such as in proximity to multiple family developments and within the University Support Services area, indicated on **F9: Proposed Land Use**.

3.6.3. Design Guidelines

The commercial strategy contained within the Prince George OCP states the importance of encouraging variety in new commercial developments. Allowing for Neighbourhood Commercial, Local Commercial and Local Commercial/Mixed-Use development in the University Heights Neighbourhood Plan will provide for a variety of commercial opportunities within the Neighbourhood boundaries. Integral to any new commercial development occurring within the plan area are the following guidelines for the character and aesthetics of the site layout and building design:

1. Parking should be located to the side or to the rear of the building.
2. Design should emphasize pedestrian and bicycle access and provide appropriate sidewalks, bike racks and crosswalks.
3. Sites should be generously landscaped in a manner which is appropriate to a northern, winter climate.

4. Building design should be compatible with surrounding character of the residential neighbourhood.
5. Natural features such as trees, topography and watercourses should be preserved, where possible.

3.6.4. Commercial Land Use Recommendations

1. Neighbourhood Commercial development shall occur at the intersection of Tyner and Massey Boulevards utilizing approximately 10 hectares of land.
2. Highway Commercial development shall occur at one location utilizing approximately 6 hectares of land.
3. Local Commercial development shall be permitted as part of mixed use developments where higher density residential and more intensive land uses are in proximity.
4. Rezoning applications for Local Commercial shall be considered on a case by case basis and shall include proximity to residential development within 500 metres as a criterion for decision making.
5. Recommended design guidelines shall be incorporated.
6. Neighbourhood Commercial development will accommodate permitted uses, as defined in Section 7.3 of the OCP, and will integrate design recommendations, as outlined in Section 7.3.11 of the OCP.
7. Local Commercial development will accommodate permitted uses, as defined in Section 7.3.15 of the OCP.
8. All commercial development is subject to a Commercial Development Permit, as outlined in Policy 7.4 of the OCP.
9. Site areas for mixed use commercial – residential development shall limit the commercial site area to 3,000m².



3.7 Institutional

Policy 10.4.7 of the Official Community Plan directs that government institutional uses, such as hospital facilities, administrative buildings, and cultural facilities should be located in the City Centre of Prince George. Therefore, the Institutional uses appropriate for the University Heights Neighbourhood include places of worship, educational facilities and civic buildings. A total of 17 hectares, or 2.5% of the total plan area, has been set aside for future Institutional uses, including approximately 13 hectares of land for future school uses and 4 hectares of land for other institutional uses, such as places of worship, community centres or a public library.

3.7.1 School Sites

3.7.1.1. Official Community Plan Principles

The Prince George Official Community Plan allows the development of schools within any OCP designation and does not stipulate future locations for schools within City boundaries. Instead, projected school requirements are included in Table 10 of the OCP (Policy 10.4.10) and are broken-down by area of the City. For the Southwest/UNBC area of the City (within which the University Heights Neighbourhood is to be located), 12-13 elementary schools and 3-4 secondary schools are projected to be required. These numbers are based upon an enrolment projection based on 0.4 elementary students and 0.28 secondary students per housing unit and a projected school size of 400 students per elementary school and 1,000-1,200 students per secondary school. The OCP recognizes the City of Prince George's responsibility to work with School District No. 57 in school planning matters in order to maximize joint opportunities and to work toward mutually beneficial goals.

3.7.1.2. School District No. 57 Policies

When the need for a new school is determined, School District No. 57 is responsible for land acquisition and school planning. According to Policy 7220 of the Board of School Trustees Policy Manual, land acquired by the School District can be held in reserve until the time of school development (School District No. 57, no date). If it is determined that a school is no longer required, the land will be disposed of in accordance with the *School Act*. The Policy Manual for School District No. 57 also acknowledges the community benefits that arise from joint-use agreements between the School District and the larger community.

In addition, discussions with the School District have indicated that future school development will likely take a different form than the traditional elementary/secondary school model presented here. However, until these new models are determined by the School District it is imperative that this document ensure that adequate land has been provided for the development of schools.

3.7.1.3. Neighbourhood Plan Principles

The allocation of land for school uses is premised upon projected enrollment and school requirements included in Policy 10.4.10 of the OCP. In addition, School District No. 57 has indicated that estimated school lots of 2 hectares per elementary school and 5 hectares per secondary school are appropriate amounts of land to allocate. As noted in **F9: Proposed Land Use**, sites have been designated for a total of five future schools, including four elementary and one secondary, to serve the University Heights Neighbourhood. Development of these schools is contingent upon catchment areas and enrollment requirements of School District No. 57. **Table 10 – Capacity and Enrolment Statistics of Existing Schools** shows the current and projected enrolment requirements for existing schools in proximity to the University Heights Neighbourhood. These statistics support the need for additional schools as indicated by the projected school requirements of 4 elementary and 1 secondary school.

Table 10 - Capacity and Enrolment Statistics of Existing Schools

School	Capacity	Current Enrolment (2006-2007)	Projected Enrolment			
			07/08	08/09	09/10	10/11
Peden Hill Elementary	247	196	191	190	189	186
Vanway Elementary	270	296	301	309	327	336
Westwood Elementary	332	291	286	276	280	275
College Heights Secondary	850	851	851	807	771	766
John McInnis Secondary	425	449	458	463	429	416

(Source: School District No. 57, 2006)

The siting of elementary schools, as identified on **F9: Proposed Land Use**, has considered issues of access, safety and overall functionality. These locations are within established neighbourhoods and are removed from major roadways. Every elementary school will be adjacent to a 2 hectare Neighbourhood Park unless otherwise agreed to by the City of Prince George and School District No. 57 and will be accessible by sidewalks and trail networks throughout the Neighbourhood. Recent discussions with both School District No. 57 and the City of Prince George have indicated a desire for sharing parkland and school yard.

School District No. 57 and the City of Prince George are encouraged to increase cooperation in the provision of park and school yard space, as this shared-use approach

has the potential to maximize land use, to minimize costs and to optimize the benefits accrued to the community. Until School District No. 57 and the City of Prince George clarify this proposal and establish policy, the Plan must continue to show 2 hectares of parkland adjacent to neighbourhood schools in order to provide certainty for property owners and to ensure that park planning needs are accommodated.

Siting of the secondary school is based upon the development of a later phase of the University Heights Neighbourhood, allowing the demand for a secondary school to develop. This school is intended to be located near a major intersection and adjacent to a District Park, as recommended by Policy 9.5.3 of the OCP. Also considered as part of siting criteria for the secondary school is the potential for synergy with UNBC and the proximity of the school to multiple family residential developments.

The following table summarizes the projected requirements for both elementary and secondary schools located within the University Heights Neighbourhood.

Table 11: Projected School Requirements

	Total Dwelling Units	Average Students / Dwelling Unit	Number of Students	Average Students / School	Total Schools
Elementary Schools	3,850	0.4	1,540	400	4
Secondary Schools	3,850	0.28	1,078	1,100	1

3.7.1.3.1. Elementary Schools

The projected residential development for the University Heights Neighbourhood is 3,850 dwelling units. Using the OCP standard of 0.4 elementary students per household, a total of 1,540 elementary students are predicted to reside in the area. If the average number of students per elementary school is 400, a total of four elementary schools within the total Neighbourhood area is required (See **Table 11 – Projected School Requirements**). **F9: Proposed Land Use** identifies potential locations for these four elementary schools. In determining these locations, consideration has been given to access, appropriate catchment areas, walkability, and proximity to park space. The proposed locations have been identified because of their location in the heart of each ‘sub-neighbourhood’, bounded by major roads, and adjacent to a 2 hectare Neighbourhood Park.

3.7.1.3.2. Secondary Schools

Using the projected dwelling units of 3,850, the OCP standard of 0.28 secondary school students per household and an average number of students per school of 1,100, the

University Heights Neighbourhood falls just short of the requirement of a secondary school. However, in an effort to ensure adequate school sites are maintained throughout the City, a total of one secondary school is projected for the University Heights Neighbourhood (See **Table 11 – Projected School Requirements**). Siting considerations for the secondary school are premised upon the proximity of the school to a major intersection, connections to UNBC, proximity to a District Park and the proposed phasing of the Neighbourhood Plan.

3.7.1.3.3. Other Educational Opportunities

The land areas included in this plan for school uses have been projected based on the assumption that developed schools will be one of two types: elementary or secondary. Given the uncertainty of school planning and the inability to accurately predict school needs in the future, the policies of the University Heights Neighbourhood Plan need to accommodate the potential for alternative forms of educational institutions, such as a middle school or a First Nations' education facility. The allocation of space for these alternative educational uses would be determined by School District No. 57 in consultation with other interests such as the City of Prince George and the Lheidli T'enneh Nation.

Should opportunities arise for alternative educational facilities, such as middle or First Nation schools, development would likely occur in place of the elementary or secondary school. The most appropriate type of educational use will be determined based on the needs and demands, as identified by School District No. 57.

3.7.1.4. Design Guidelines

Future design of educational facilities should incorporate the following provisions:

1. Parking should be located to the side or to the rear of the building.
2. Design should emphasize pedestrian and bicycle access and provide appropriate sidewalks, bike racks and crosswalks.
3. Sites should be generously landscaped in a manner which is appropriate to a northern, winter climate.
4. Opportunities to integrate energy-efficient or innovative technologies and design should be maximized, such as geothermal heating and extensive use of glass ceilings/walls to maximize heat retention.
5. Building design should be compatible with surrounding character of the residential neighbourhood. An Aboriginal education facility should integrate traditional First Nation's architecture and design principles.
6. Parks and open spaces should preserve natural features such as existing trees, ponds and grassy areas, and playgrounds should incorporate natural elements as much as possible into their design.

3.7.2. Places of Worship

3.7.2.2. Official Community Plan Policies

Policy 10.4.9 of the Official Community Plan permits places of worship to be located in any OCP designation, assuming that siting will occur in general accordance with the same criteria applied to multiple family developments.

3.7.2.3. Neighbourhood Plan Principles

The University Heights Neighbourhood Plan recognizes that provision of space for places of worship will be required on an as-needed basis. For this reason, specific locations for places of worship have not been included in the Neighbourhood Plan.

3.7.2.4. Design Guidelines

Siting recommendations for places of worship are in accordance with Policy 10.4.9 of the Prince George OCP, which advises that places of worship be sited in accordance with the siting requirements for multiple family residential developments. The following guidelines are outlined for multiple family developments (City of Prince George, 2001b, p. 44):

- Located near collector or arterial roads;
- Located near the entrance of a new neighbourhood;
- In proximity to commercial uses and community amenities; and
- Located near access to public transit.

In conjunction with siting requirements, this plan also recommends the following design guidelines be incorporated:

1. Parking should be located to the side or to the rear of the building.
2. Design should emphasize pedestrian and bicycle access and provide appropriate sidewalks, bike racks and crosswalks.
3. Sites should be generously landscaped in a manner which is appropriate to a northern, winter climate.
4. Building design should be compatible with surrounding character of the residential neighbourhood.
5. Preservation of existing natural features such as trees, topography and watercourses, where possible.

3.7.3. Civic Buildings

3.7.3.2. Official Community Plan Policies

The Prince George OCP supports Institutional development where uses are compatible with the general character of the area. The inclusion of civic buildings as part of development is encouraged and is thought to “represent a major contribution to the overall fabric of the city” (City of Prince George, 2001b, p. 81).

3.7.3.3. Neighbourhood Plan Principles

The University Heights Neighbourhood Plan does not designate future locations for civic buildings, such as libraries and community centres, but recognizes that these land uses are important to achieving a sustainable and livable neighbourhood. Provision of space for Institutional needs of this nature has not been identified in the Plan as the development of these uses is contingent upon expressed public interest and is most often developed by the demands and volunteer efforts of local residents.

3.7.3.4. Design Guidelines

The overall design of civic buildings should aim to create a presence in the community. Policy 10.4.8 of the OCP states that civic buildings should be situated near or within public squares, major streets, or high use areas where the buildings can anchor supportive uses. Given the significance of civic buildings, the following guidelines should be included in the design of civic buildings within the University Heights Neighbourhood:

1. Strong attention to the overall aesthetic of the building should be considered.
2. The building aesthetic should be representative of the surrounding neighbourhood and should be reflective of the northern location of Prince George.
3. Parking should be located at the side or the rear of the building.
4. The site should emphasize public access and include outdoor spaces to encourage public use such as walkways, benches, flower gardens and open spaces.
5. Preservation of existing natural features such as trees, topography and watercourses, where possible.

3.7.4. Institutional Land Use Policy Recommendations

1. Siting of elementary schools shall occur adjacent to a Neighbourhood Park.
2. Siting of secondary schools shall occur adjacent to a District Park.
3. Places of worship, civic buildings and other institutional uses should be developed in response to needs, as expressed by the community. It is recommended that the City of Prince George establish policy regarding the retention of land and funding to assist with the development of neighbourhood-level civic facilities in the future.
4. Recommended design guidelines shall be incorporated.

3.8 University Support Services

3.8.1 Official Community Plan Policies

Section 10.1 of the OCP recognizes the significant presence which the University of Northern B.C. (UNBC) has in Prince George, as well as future opportunities for growth that may occur as a result of University expansion. Further, Policy 10.4.2 of the OCP states:

Council is supportive of initiatives by the University of Northern BC to expand its campus, and to allow for the university associated economic development objectives (e.g. research institutions and businesses) which have a direct link to the research capacity at the university, such as its academic and learning infrastructure.

Accordingly, the OCP provides policy direction for land uses adjacent to UNBC that are supportive of its development and that, "...allow for university associated economic development objectives" (City of Prince George, 2001b, p. 80). The OCP is also clear in articulating that the preferred location for significant future office development be located in the downtown core of Prince George and that both UNBC and the College of New Caledonia locate some campus/study uses downtown (City of Prince George, 2001b, p. 79). These policies communicate a desire to enhance the presence of UNBC and support ancillary commercial and office uses for the University while, at the same time, directing the majority of office, commercial, and entertainment uses downtown.

3.8.2 Neighbourhood Plan Principles

Building upon the policies of the OCP and looking to the future growth of UNBC, the University Heights Plan is proposing the creation of a new land use designation called *University Support Services*. The intent of this designation is to develop a mixed use area to **connect** UNBC to greater Prince George, to **reciprocate** positive aspects of both UNBC and greater Prince George and to **support** the activities of campus life.

The University of Northern British Columbia is represented on the University Heights Neighbourhood Plan Steering Committee and has been intimately involved in the evolution of the University Support Services land use designation. In fact, discussion regarding University Support Services has, among other factors, contributed to the decision of the University to begin the UNBC master planning process in order to identify core areas in which the University would like to develop with respect to institutional, residential and commercial land uses. UNBC's master planning process will result in a specific set of land uses relating to the needs of UNBC that will likely be comparable to the uses permitted within the University Support Services. Discussions with UNBC have indicated the desire for a reasonably seamless transition between the University Support Services area of this Neighbourhood Plan and UNBC, and development within both areas will have strong influences on each other. Accordingly, the intention of the University Support Services land use is not to detract from University-specific uses, nor to preclude the ability of the University to encourage private investment on University lands under the 99 year lease agreements permitted by the University Act. Rather, the intention of the University Support Services is to allow for the private development of higher density residential housing, mixed use commercial/residential opportunities, and limited commercial and office uses that are directed towards both formal and informal users of the University, as well as to compliment the needs of the residents of the University Heights Neighbourhood.

3.8.3 Performance Objectives

The following three performance objectives outline the desired outcomes of the University Support Services area:

1. **Linkages** – A goal of the University Support Services area is to provide an interface between UNBC and the greater community of Prince George. This area will act to blend the adjacent residential uses contained within the University Heights Neighbourhood with the institutional focus of UNBC. The University Support Services area will act as a corridor of activity to compliment land uses in both areas, through a mixed use development that will service both community sectors. An attribute of UNBC which sets it apart from other post-secondary institutions is its proximity to a rural setting and its non-urbanized character. The

University Support Services area can act as an appropriate medium by which to blend the rural with the urban and to create a corridor by which surrounding spaces are formalized to an urban setting upon leaving UNBC and entering the University Heights Neighbourhood.

2. **Reciprocity** – The mixed-use character of the University Support Services area is intended to provide higher density residential, limited commercial and service-based office uses that employ and house members of both the University community and those residing in University Heights. Shared use of trail networks, public spaces, local shopping areas and personal services will reinforce a sense of community and will act to strengthen a connection between the two adjacent areas.
3. **Support** – The nature of activity that occurs at UNBC results in some very clearly-defined needs of the University community. The University Support Services area intends to encourage campus life that continues throughout the day and into the evening on a year-round basis. Many support services that students, instructors and visiting instructors require are not currently provided for on the UNBC campus. The UNBC Master Plan will identify core areas in which the University would like to develop, institutionally, residentially and commercially, and how the intended direction of development can address these un-met needs on campus and will thus influence what will be developed within the University Services area. For example, services such as banking, groceries and shorter-term, affordable accommodation are all currently un-met needs that the University Support Services area intends to provide. In addition, there are also opportunities for the development of businesses that are supportive of the University, such as laboratories, research facilities, specialized high-tech industries and service-based office use.

3.8.4 Land Uses

The University Support Services area will be a mixed-use development characterized by higher density housing, service-based office uses, some commercial uses and business development ancillary to the University. The provision of higher density residential opportunities is intended to allow for affordable housing options as well as temporary residencies for visiting professors who require shorter periods of accommodation.

Commercial and service-based office activity included within the University Support Services area should satisfy a demand expressed by the University community and, at the same time, benefit the greater University Heights Neighbourhood. Potential uses may include the following, as defined by the City of Prince George Zoning Bylaw No. 7850, 2007:

- Apartment, Hotel
- Business of Office Supplies
- Club

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- Community Care Facility, Major
 - Community Care Facility, Minor
 - Education
 - Education, Commercial
 - Health Service, Minor
 - Hotel
 - Housing, Apartment
 - Liquor Primary Establishment, Minor
 - Service-Based Office Supportive of the University
 - Recreation, Indoor Minor
 - Religious Assembly
 - Restaurant
 - Retail, Convenience
 - Retail, General
 - Retail, Liquor
 - Service, Financial
 - Service, Personal

The provision of greenbelt and a pedestrian corridor as well as appropriate trail linkages and open spaces is important to the University Support Services area. A strong connection between UNBC and University Heights is appropriately defined through a public walkway located within an urban plaza located at the centre of the Support Services area.

The University Support Services area is not intended to be interpreted as an extension of the institutional role of UNBC nor as an attempt to redirect university expansion from the downtown core (as discussed in Section 10.2 of the OCP). Rather, the University Support Services area is meant to compliment the existing and future activities of UNBC and to encourage a physical and social connection between UNBC and University Heights.

3.8.5 Design Guidelines

The University Support Services area has a prominent role in the University Heights Neighbourhood. For this reason, significant consideration should be given to the design and character of the area. The overall image for the area should be representative of UNBC, the University Heights Neighbourhood, the Lheidli T'enneh Nation and the geography and climate of northern B.C. In an effort to further characterize the University Support Services, the following design guidelines should be followed:

1. The area should be anchored by a pedestrian corridor, connecting UNBC to University Heights. This corridor should consist of a public walkway and a streetscape with storefronts, appropriate landscaping and street furniture present. Consideration should be given to maintaining this corridor as a

pedestrian-only connection, with automobile connections available on parallel streets.

2. The design of buildings and streetscapes should integrate Winter Cities design principles and should be reflective of the adjacent academic uses through the application of innovative and ecological design principles.
3. Parking is encouraged to be located at the rear or side of the buildings and to be located underground for higher density, multiple-family dwellings.
4. The area should emphasize public access and include outdoor spaces to encourage public use, such as walkways, benches, flower gardens and open spaces.
5. Preservation of existing natural features such as trees, topography and watercourses, where feasible.
6. Design of the University Support Services area should look to the UNBC Design Guidelines that will be developed as part of the UNBC Master Plan to ensure the character of design appropriately blends with the character of UNBC as well as with the adjacent University Heights Neighbourhood development.

3.8.6 University Support Services Land Use Policy Recommendations

1. The University Support Services uses shall not detract from the institutional uses of the University of Northern B.C. nor from the cultural, office and government activity intended for the downtown core.
2. Decisions surrounding University Support Services should involve input from UNBC, the City of Prince George, the Lheidli T'enneh Nation and residents of Prince George.
3. Commercial and multiple family developments shall be subject to the Development Permit process through the City of Prince George.
4. Recommended design guidelines shall be incorporated.



4. Neighbourhood Servicing

The focus of this section is to provide preliminary servicing direction to the City of Prince George, as well as to the potential developers of the University Heights Neighborhood Plan area. The proposed development area is approximately to 351 hectares with a potential for as many as 3,850 dwelling units. The topography of the development area, combined with the vast size of the development area, provides a number of significant development constraints with respect to water, sanitary sewer and storm water management. The key to the overall servicing of the University Heights development area is the timing and phasing of the logical extensions of existing municipal infrastructure. The proposed development phasing is illustrated in **Figure 11 - Proposed Development Phasing** and the overall servicing strategy is summarized in **Figure 12 – Proposed and Existing Service Mains**.

The University Heights Neighbourhood Plan area is entirely undeveloped at this time. In 1995 the City of Prince George identified the need for an overall servicing strategy for a part of this future development area. The ID Group of Surrey, British Columbia was commissioned by the City of Prince George to undertake a land use and servicing analysis of a portion of the Neighbourhood Plan area in the fall of 1995. This particular study has formed the basis for many of the servicing recommendations contained in this Neighbourhood Plan. It should be noted that many of the recommendations formulated by the ID Group have already been implemented, such as the construction of the new water storage reservoir (PW 836) located close to the intersection of Ospika and Tyner Boulevards.

4.1 Water System

The majority of the University Heights Neighbourhood Plan area is contained within Pressure Zone 6 (PZ6). Lower portions of the Neighbourhood Plan area, closer to the existing portion of Ospika Boulevard, are located within Pressure Zone 4 (PZ4). Higher areas of the Neighbourhood Plan area, located closer to the University, are contained within Pressure Zone 7 (PZ7). Areas within PZ4 are presently served by water storage reservoir PW 836, which has a top water level of 735 meters. (Refer to Figure 12 entitled “*Proposed and Existing Service Mains*”.) **Figure 11: Proposed Development Phasing** identifies the upper service boundary of PZ4 and further identifies a small area (Phase A1 - 18.23 hectares) that can be easily serviced without the extension of new trunk water mains.

As noted, the majority of lands contained within the University Heights Neighbourhood Plan area are contained within PZ6. At the present time, the PZ6 area is not connected to a water storage reservoir, which will provide sufficient water for the purposes of

domestic consumption and fire protection. The ID Group water study identified that the PZ6 area can best be served by constructing a new 600mm diameter trunk watermain from the existing UNBC water storage reservoir (PW 830) to connect with the lower water storage reservoir (PW 836) located at the intersection of Tyner Boulevard and Ospika Boulevard. Because of the significant difference in elevation between PW 836 (735 meters) and PW 830 (835 meters), at least one major pressure reducing station will be required. **Figure 12: Proposed and Existing Service Mains**, illustrates the approximate location of the proposed 600 mm diameter trunk watermain, which generally follows the existing Tyner Boulevard alignment. The City of Prince George has indicated that they have a very strong preference for the servicing option that includes the construction of the new 600 mm diameter trunk watermain along Tyner Boulevard from PW 830.

This trunk watermain is presently included in the City's current Capital Expenditure Plan, and was identified to cost approximately \$3.6 million. The City of Prince George is supportive of this particular option for a number of reasons, including low reservoir 'turnover' at existing reservoir PW 830 and also because this option provides better looping opportunities and security of supply for other areas of the City. In addition, it is noted that this particular servicing option will have additional cost-sharing opportunities. For example, UNBC will benefit significantly from this option, and as a result, additional UNBC lands may become available for development if the trunk watermain is extended through UNBC lands as illustrated in **Figure F12**. It is also noted that the construction of the new trunk 600 mm watermain along Tyner Boulevard is included as an eligible project within the new Development Cost Charge (DCC) Bylaw recently adopted by the City of Prince George. Previously collected DCC monies can be used as a catalyst, to fund the trunk watermain extension project. The watermain project may proceed once there are sufficient funds available in the water DCC reserve. If the watermain is needed before DCC reserves are sufficient, the developer may construct the project and recover some or all of their construction costs through water DCC reductions at the time of subdivision or development. It is recommended that the design of the trunk watermain be commenced immediately so that construction can occur during the 2008 construction season. This timing will allow the concurrent development of the first subdivision phases, also proposed to occur in 2008.

In summary, the University Heights Neighbourhood Plan area is an extremely large area which encompasses three distinct water pressure zones spanning significant changes in elevation. The proposed development area contains a mixture of residential, commercial and institutional land uses, which in accordance with the City of Prince George Servicing Bylaw No. 7652, 2004, must be fully serviced and all parcels must be connected to the municipal water distribution system. In summary, water services will be provided to the different pressure zones as follows:

- PZ4 - this relatively small area (Phase A-1) can be serviced without any major infrastructure or watermain extensions or reservoir construction. This

small area can be developed by extending appropriately sized new watermains from existing trunk watermains located along Ospika Boulevard.

- PZ6 - This future development area will be serviced by constructing a new 600 mm diameter trunk watermain along Tyner Boulevard, in order that water can be supplied from existing water storage reservoir PW 830. In order to provide appropriate water pressures, a pressure reducing station will be required. The construction of the required 600 mm diameter trunk watermain will allow development along both sides of Tyner Boulevard, and will primarily service Phases A-2, B and C as illustrated on **Figure 11: Proposed Development Phasing**.
- PZ7 - This area will also require the extension of the new 600 mm trunk watermain from the existing University water storage reservoir (PW 830). This area can probably be serviced without any requirement for a pressure reducing station; however, this information needs to be confirmed. The primary beneficiaries of this portion of the proposed trunk 600 mm diameter watermain will be UNBC and the adjacent University Support Services areas.

4.2 Sanitary Sewer System

As previously noted, the University Heights Neighbourhood will contain a mixture of residential, commercial and institutional land uses. In accordance with the City of Prince George Servicing Bylaw No. 7652, 2004, all new development will be fully serviced, and all parcels will be connected to the municipal sanitary collection system.

At the present time, a 600 mm trunk sanitary sewer main stub is located on the west side of Ospika Boulevard, adjacent to the lower portions of the overall development area. Thus, Phase A-1 and A-2, as identified on the development phasing map (**Figure 11**), can be easily serviced by extending these existing sanitary sewer mains. It is envisaged that the remainder of the development area will be serviced when sanitary sewer mains are extended from south to north. In other words, new trunk sanitary sewer collection mains will be extended in a northerly direction from the existing trunk sanitary main on Ospika Boulevard. These new trunk sanitary sewer mains will traverse the Neighbourhood Plan area and will convey sewage by gravity from the northern areas closet to UNBC towards Ospika Boulevard. It is envisioned that one of the sanitary trunk sewer mains would be constructed along the top of the eastern escarpment, and located as far east as possible within the overall development area. It is further envisioned that an additional trunk sanitary main will be constructed along Tyner Boulevard. It is important to situate the new trunk sanitary sewer mains in locations where the majority of the development areas can be serviced with conventional gravity sanitary sewer connections. In undertaking the detailed design of the sanitary sewer system, the requirement for sanitary sewage lift stations should be minimized.

UNBC may also benefit significantly from the construction of the new trunk sanitary sewer mains. The new sewer extensions may be extended to UNBC to provide an alternate sewer service for UNBC Expansion when the Massey sewer reaches capacity. Once the new trunk sanitary sewer mains have been constructed, additional collector mains installed along future roadways and generally flowing from west to east, would connect to the trunk sewer mains at various points along the trunk sanitary sewer main routes.

To a large extent, the phased construction of the trunk sanitary sewer mains (and trunk storm sewer mains) will determine the overall phasing of the University Heights Neighbourhood Plan area. As illustrated in **Figure 11: Proposed Development Phasing**, initial development will start in the lower development areas and will extend northwards (uphill) into Areas B and C. Portions of the Phase D and Phase E areas can be serviced towards Highway 16 West.

4.3 Storm Water Management

As previously noted, the University Heights Neighbourhood Plan area is topographically challenging. The area has significant elevation changes, ranging in elevation from a high of 830 meters to a low of approximately 700 meters. In addition, the eastern portion of the development area contains a number of deep escarpments which are classified as 'undevelopable', as illustrated on **F7: Proposed Major Roads**. The geotechnical overview (see **F6: Geotechnical Overview**) identifies these steep escarpment areas as not recommended for development without further stability assessment. The steep escarpment areas are traversed by a number of minor streams which shall be retained in a natural condition. The geotechnical overview has determined that some risk exists for unbalanced soil pressures within areas of the plan that have steep escarpments. As such, no ground infiltration systems will be planned within these areas. The geotechnical overview also identifies limited areas, which can be used for possible gravel borrow and for possible onsite storm water drainage disposal. The location of these gravelly areas will not benefit the entire development area, and storm water runoff must be reduced and controlled by other means including onsite storage, provision of detention ponds and the utilization of Smart Growth principles. However, the more detailed report recently commissioned by the City of Prince George indicates that stormwater retention rather than stormwater infiltration is the preferred management option within the University Heights Neighbourhood Plan area. The City of Prince George will complete a Watershed Drainage Plan for this catchment area in 2008 that will address stormwater regimes more specifically, including size and approximate location of stormwater detention ponds.

No major drainage study for the University Heights Neighbourhood Plan area has been completed. Accordingly, it is the recommendation of this Neighbourhood Plan that a Watershed Drainage Plan be completed, prior to the development of Phases B, C, D

and E. At this time, only Phase A-1 and Phase A-2 can be developed prior to the completion of the Watershed Drainage Plan.

As with the sanitary sewer system, a 1050 mm trunk storm sewer main is located on Ospika Boulevard, immediately downstream of Phase A-1. Thus Phase A-1, comprising 18.23 hectares, as well as Phase A-2, comprising approximately 50 hectares, can be developed by the relatively simple extension of these existing trunk storm sewer mains. Even with the adoption of modern storm water management techniques, it is envisaged that a new trunk storm sewer will be required to service the entire development area. As with the trunk sanitary sewer mains, it is envisaged that the trunk storm sewer mains will be located as close as possible to the top of the escarpment at the eastern edge of the development area as well as along the existing Tyner Boulevard alignment. This location will ensure that the majority of the development area can be connected to trunk storm sewermain with conventional gravity connections.

4.4 Phasing of Development

By necessity, and because of significant topographical constraints, the phasing of development will extend from south to north, as illustrated on **Figure 11 – Proposed Development Phasing**.

Phase A-1 (18.23 hectares) can be serviced by extending the existing water, sanitary sewer and storm sewer facilities which are located on Ospika Boulevard. A limiting development factor for the development of Phase A-1 is the restriction on available water pressure provided by existing water storage reservoir PW 836. Essentially, the upper boundary of Pressure Zone 4 establishes the western boundary of Phase A-1. It should be noted that Phase A-1 can be serviced without extending the 600 mm diameter trunk watermain from the UNBC water storage reservoir (PW 830).

Phase A-2 and Phase B will require the extension of the new 600 mm diameter trunk watermain from the UNBC water storage reservoir. This watermain must be constructed in its entirety, including a pressure reducing station, prior to the development of Phase A-2 and Phase B. It is envisaged that Phase A-2 (50 hectares) and Phase B (189.92 hectares) will be developed from south to north, straddling Tyner Boulevard. Once the Tyner Boulevard trunk watermain has been constructed, the limiting factor for Phase B will be the construction of new trunk sanitary sewer mains and trunk storm sewer mains along the top of the eastern escarpment and along Tyner Boulevard.

Phase C (115.48 hectares) will logically follow the completion and full development of Phase A-2 and Phase B. Prior to the construction of Phase C, the trunk sanitary sewer mains and trunk storm sewer mains must be extended northwards along the top edge of the eastern escarpment and along Tyner Boulevard.

Phase D (180.18 hectares) will again require the extension of trunk watermains from the University water storage reservoir (PW 830). It is possible that portions of Phase D and Phase E can be serviced from the existing water storage reservoir (PW 828). For sanitary sewer and storm sewer, portions of Phase D and Phase E may be serviced from existing trunk facilities located on Highway 16 West.

Phase E (39.07 hectares) will most likely be serviced from Highway 16 West, and can proceed independently of the other development phases. The development of Phase E can proceed at any time, provided the appropriate water, sanitary sewer and storm sewer services are available within the Highway 16 West corridor. As previously noted, the construction of the trunk 600 mm diameter Tyner Boulevard watermain will be the catalyst for the development of Phases B, C and D. If the required watermain is not constructed in a timely manner, it is possible that Phase E may proceed these other development phases.

A final development phase, which has not been indicated on **Figure 11: Proposed Development Phasing**, involves the potential development of the north-east portion of the Plan that is included within the lower portions of the Cranbrook Hill Escarpment. This development phase is subject to the construction of the Massey Drive Extension, as well as to additional detailed geotechnical investigation, and would allow for access to servicing from north or the Plan area within the Bowl of Prince George.

4.5 Neighbourhood Servicing Policy Recommendations

The servicing of this large Neighbourhood Plan area is technically complex, and is further complicated because of a combination of topography and the diverse land ownership. Following adoption of the Neighbourhood Plan, the landowners and the City of Prince George should coordinate the structuring of a Development Works Agreement (DWA). The DWA will calculate the cost of the required trunk services and roads, and will allocate these costs to all development within the benefiting area. In addition to the creation of a DWA, the following policy recommendations are provided:

1. The City of Prince George requires that a Watershed Drainage Plan be undertaken for the entire development area. The cost of this plan will be the responsibility of the City of Prince George. There remains the opportunity for a cost-sharing agreement to be developed between the City of Prince George and the current landowners. The Watershed Drainage Plan will identify all drainage issues and provide comments and recommendations with respect to storm water management, the location of storm water ponds, the use of existing creeks and streams for storm water discharge, the phasing of the construction of the storm water infrastructure and the possibility of in-ground storm water infiltration at selected locations.
2. Phase A-1 and A-2 can proceed prior to the completion of the Watershed Drainage Plan.

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3. The City of Prince George should expand existing Water System studies and existing Sanitary Sewer System studies to include the University Heights Neighbourhood Plan area.
 4. As noted in the Neighbourhood Plan, Development Cost Charge monies can be used to fund the trunk watermain extension project, as described in **Section 4.1**.
 5. The City of Prince George should ensure that all major capital works, including trunk watermains, trunk sanitary sewer mains and major roads are included in the City of Prince George Capital Expenditure Program for development within the next 10 years. These capital works projects will also be referenced in the required Development Works Agreement, and should also be included in the next update of the Development Cost Charge bylaw.

5. Implementation

The purpose of this Neighbourhood Plan is to compliment the Official Community Plan as the policy framework for the development of the University Heights area within the City of Prince George. As such, the plan has been developed in accordance with the principles and policies of the Official Community Plan and is intended to provide clear direction to decision makers, residents, and developers regarding the vision for the University Heights area. As the guiding policy document, this plan will be consulted during the rezoning and subdivision phases of development to ensure conformity with its intentions.

It is recommended that the University Heights Neighbourhood Plan be adopted by Prince George City Council through resolution, allowing the plan to act as a policy guide, rather than as a regulatory document. Adopting the plan by resolution gives Council the opportunity to consider development proposals that may be inconsistent with the plan but which Council considers to be in the public interest.

The size of the Plan area, as well as the number of property owners located within the Plan boundary, creates the need for this Plan to provide some direction as to how the neighbourhood planning stage can transition appropriately and effectively into the rezoning and subdivision stages of development. In order to ensure that future development within the Plan boundary conforms to this neighbourhood planning document, the rezoning stage of development should be expanded. An expanded rezoning process may include additional reporting from the developer that would be submitted during the application process, in an effort to articulate steps that will be taken to ensure consistency with the Neighbourhood Plan. For example, rezoning applications within the University Heights Neighbourhood Plan area must clearly demonstrate connectivity to the transportation network, traffic impacts, trail and open space connections and school siting. Rezoning applications must also demonstrate that development proposals are in keeping with the Watershed Drainage Plan and all geotechnical considerations.

Given the size of the area, the nature of the expansion of infrastructure that is required, the need for geotechnical investigation, the number of property owners and the public amenities that will cross private property lines, should Prince George City Council adopt the University Heights Neighbourhood Plan there are a number of studies, actions and negotiations that should be completed prior to land development. These activities include:

1. Completion of a Watershed Drainage Plan for the University Heights area by the City of Prince George.

2. Completion of the Water Service Pre-Design Study and water modeling confirming flows. Completion of this study does not preclude development within Phase A1 and A2.
3. Completion of the Sanitary Service Pre-Design Study.
4. Completion of the Transportation Network Modeling Study by the City of Prince George. The completion of this study does not preclude development with the University Heights Plan boundary. Traffic Impact Studies may be required to address operational issues and impacts around specific phases of development.
5. Establishment of Development Works Agreements between private property owners and the City of Prince George.
6. Completion of the University of Northern British Columbia Master Plan. Completion of this plan does not preclude development within the University Heights Neighbourhood Plan area.
7. The University of Northern British Columbia will likely be developing similar uses to those that are proposed in the University Support Services designation. UNBC will have opportunity to develop these uses before the phased development reaches the area designated by this Plan for University Support Services. As a result, development proposals within the University Support Services area will need to be evaluated based upon development within the UNBC lands and the University Support Services designation.
8. Completion of the City of Prince George Trail Implementation Plan. The completion of this study does not preclude development with the University Heights Plan boundary.
9. Completion of Alternative Development Standards Study. The completion of this study does not preclude development with the University Heights Plan boundary.
10. Completion of detailed geotechnical investigations where warranted.
11. Negotiations between the City of Prince George and private property owners with respect to land dedication for parks, trails, and open space that is beyond the mandated 5% parkland dedication but that meets the City's parkland acquisition policies.
12. Comprehensive rezoning applications that detail local roads, parks, trails, and school sites and may also include, but not be limited to, traffic, geotechnical, water and sanitary modeling, stormwater and environmental studies.
13. Phased subdivision applications that may also include, but not be limited to, detailed traffic, geotechnical, water and sanitary modeling, stormwater and environmental studies.