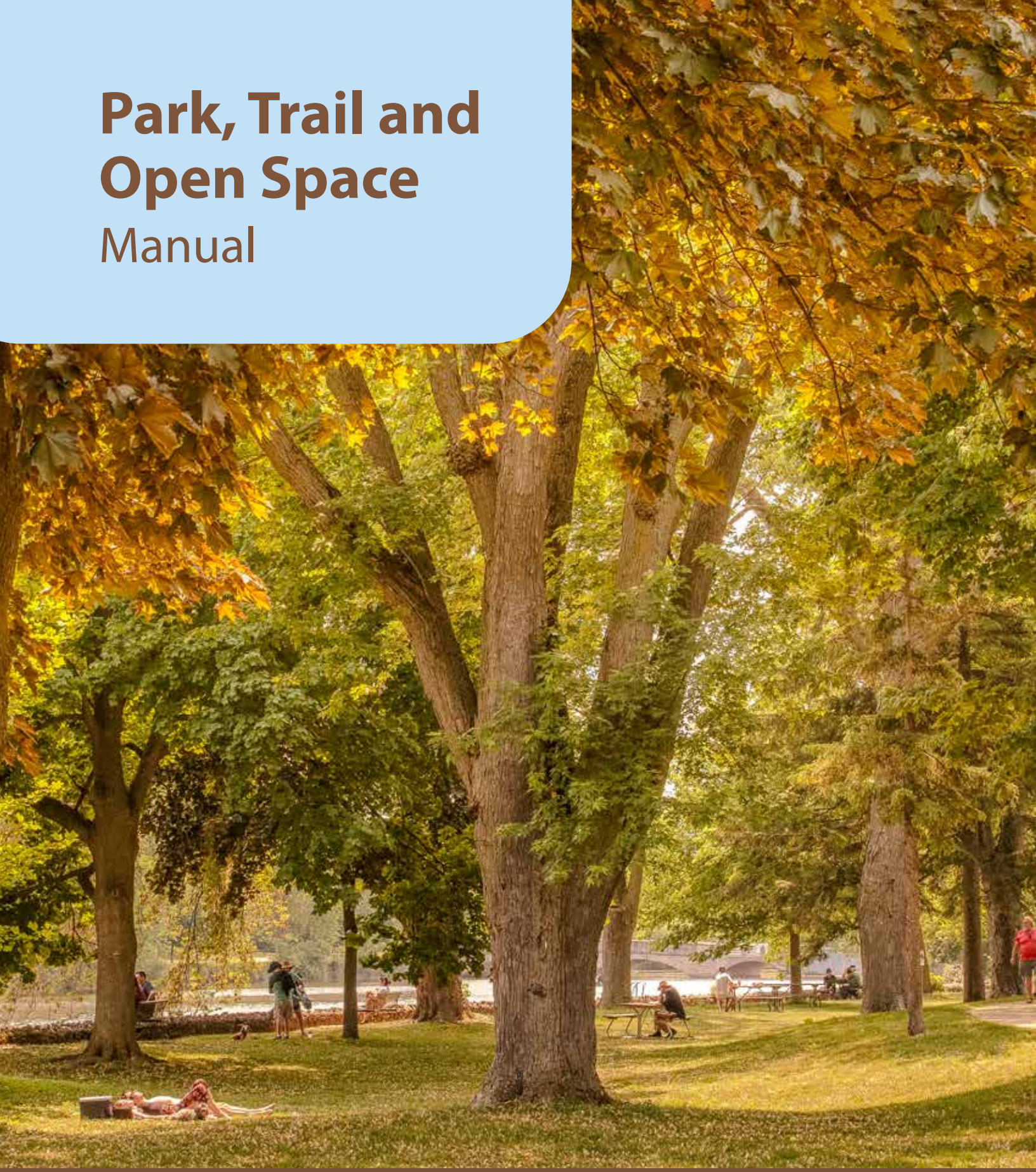
Park, Trail and Open Space Manual



CITY OF Guelph
Making a Difference

Park, Trail and Open Space Manual

City of Guelph

Park and Trail Development

May 2025

Accessible formats are available as per the Accessibility for Ontarians with Disabilities Act by contacting Mathieu at 519-822-1260 extension 4138. TTY 519-826-9771.

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Terms of Use

The manual is intended to provide guidance beyond legislative and standard design practices for use in the City of Guelph. It is the responsibility of the reader to ensure that they have the most current version of this manual and all other documents and legislation that are referenced. The use of this document does not absolve the reader of their obligation to exercise good professional judgment. The City acknowledges that novel situations may arise that necessitate negotiation of alternative solutions not explicitly outlined.

Any word that appears in **bold** in the body of this document is defined in Appendix A: Glossary. Documents referenced in the manual are listed in Appendix B: Policy Documents. For further information or questions pertaining to this manual contact parks@guelph.ca.

1.0 Introduction

Parks, trails and open spaces are important resources in Guelph and contribute to the rich culture and vibrancy of the community.

Well-designed parks, trails, and open spaces are vital as Guelph's population grows. It is essential for recreational amenity growth to match the pace of population growth. The Government of Ontario recognizes the importance of this through the Ontario Planning Act. As a condition of development, the Act requires **developers** to provide **parkland** or payment in lieu of parkland to municipalities for public recreational use. The appropriate development of these spaces helps to encourage a healthy and active city.

This manual is intended to be a reference for City staff, consultants and **developers** for the planning, design and construction of City of Guelph parks, trails, and open spaces. It is ultimately intended to provide the community with appropriately designed spaces to serve active and passive recreational needs.

1.1 Development and policy context

Appropriate land acquisition strategies are necessary to provide essential park, trails and recreation opportunities to Guelph residents while preserving the environment. Development plays an important role in the City's acquisition process.

Under the authority of the Ontario Planning Act Sections 42, 51.1, and 53(13), the City requires transfer of land from **developers** for the purposes of creating municipal parks, or payment instead of land dedication so that parks or recreational spaces can be purchased by the City.

Funds collected through payment in lieu of conveyance of **parkland** or from the sale of dedicated **parkland** help the City:

- Purchase new parks;
- Build, improve, or repair recreational buildings, and
- Purchase equipment for parks and recreation spaces.

The City's Strategic Plan is an evolving plan for Guelph's future that highlights the importance of preserving and protecting the environment. Specifically, the plan identifies the priority to grow and care for Guelph's community spaces and places, with one of the action items being to implement the Guelph Trail Master Plan to develop an inclusive, connected, and sustainable trail network, and another being to implement the Parks and Recreation Master Plan in order to attract more people to the city's parks.

Parkland dedication is one of the tools that the City uses to ensure that as the city grows, the network of parks grows with it. Carefully managing **parkland**

acquisition, design, and construction contributes to ensuring that growth within the city does not negatively impact the environment at the local level.

The parkland dedication process is further defined by the Official Plan section 7.3.5 and the Parkland Dedication By-law. They describe what types of development and redevelopment require parkland dedication, when payment in lieu of parkland is preferred, and what qualifies as acceptable land to be conveyed as **parkland**.

At the local level parks, trails, and open spaces serve distinct but complementary services to those provided by the city's **natural heritage system** (NHS, see also Appendix A - Glossary). In general, the NHS is reserved for the protection of the natural environment and is excluded from policies or strategies relating to parks and open spaces, but not necessarily from those related to trails. At the regional level, municipal parks, open spaces, and NHS lands collectively form a robust and interconnected system that supports urban resilience and biodiversity, as well as resilience to climate change by providing ecosystem services such as carbon sequestration, air and water purification, and flood control.

For clarity, parks, trails, and open spaces are defined in this chapter and referred to separately throughout this document, rather than as the Open Space System (refer to Official Plan section 7.3) or Park System (refer to Park Plan pg. 28).

Once land is acquired for parks and trails, the City uses Development Charges or other funding strategies to help build park and trail infrastructure. The Development Charges Background Study outlines what is undertaken as a development charge project, as opposed to projects that are considered local services and paid directly by **developers**.

1.2 Parks

Parks are public outdoor spaces meant for human enjoyment, recreation, and connection to nature. Parks service the entire city and are outdoor hubs for social and cultural activities.

The Parks and Recreation Master Plan describes Guelph parks and identifies current and future needs for parks within our community. It also establishes a framework for parks and recreation service delivery.

The City differentiates parks from other land to make sure the city continues to have dedicated space for recreation and that it continues to meet the needs of the community as Guelph grows. The City also recognize that different types of land may serve similar functions as parks. Some land is conveyed to the City as **parkland**, while other land is conveyed as open space, NHS, or owned and operated by others (e.g.: Grand River Conservation Authority, University of Guelph, Upper Grand District School Board, or private organizations).

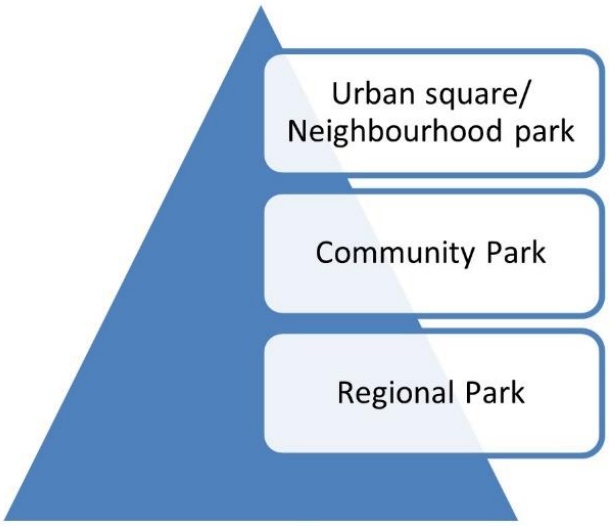
1.2.1 Park classification

City parks are organized in a hierarchy related to park size, walking distance service radius, and complexity of programing. The Official Plan policies outline four types of parks in Guelph: urban squares, neighbourhood parks, community parks, and regional parks.

Urban squares and neighbourhood parks are intended to meet the local needs of residents by providing walkable amenities. Community Parks and Regional parks are intended to meet both the local needs of residents and the larger community by offering a broader service level that includes cultural and outdoor recreational needs. This often includes parking, intermediate level sports fields, and specialized attractions.

More information on park classification can be found in the Official Plan section 7.3.2 Park Hierarchy, and discussed in both the Park Plan, and the Parks and Recreation Master Plan.

Figure 1: Hierarchy of park types organized by increasing size, walking distance service radius, and variety of programing



1.2.1.1 Urban squares

Urban Squares are primarily developed in higher density areas such as the Downtown or community mixed-use nodes as identified in the Official Plan

- Size is variable but are typically smaller than Neighbourhood parks.
- Service radius is variable.
- Meant to provide recreation in areas of high residential density or intensification.
- Located with frontage on a local road.

1.2.1.2 Neighbourhood parks

Neighbourhood Parks cater to the needs and interests of the residents living within its general vicinity for unorganized, unstructured, and spontaneous leisure activities, and often include formal play areas and low to intermediate sports facilities.

- Minimum size of 1 hectare.
- Approximately 500-800m service radius.
- 5-to-10-minute walk from residential area served.
- City-wide provision target is 0.7 hectares/1000 population.
- Located with frontage on a local road.

1.2.1.3 Community parks

Community Parks are designed to provide specialized recreation facilities for use by a wide segment of the population and serve more than one neighbourhood, as well as active recreation at an intermediate, senior, or premier level.

- 10 to 20 hectares in size.
- Approximately 1 kilometer service radius.
- 5-to-10-minute bike, car, or bus ride.
- City-wide provision target is 1.3 hectares/1000 population.
- Located on arterial or collector roads.

1.2.1.4 Regional parks

Regional parks are designed primarily to provide facilities or features that attract visitors from the local community and from the broader region, and will typically provide parking, trails, conservation uses, and specialized regional attractions.

- Greater than 25 hectares in size.
- Citywide service radius.
- Accessible by public transit and includes parking for visitors and staff.
- Encouraged City-wide provision target is 1.3 hectares/1000 population.
- Recommended in association with civic buildings, botanical gardens, wildlife sanctuaries, nature reserves, scenic portions of waterway systems, museums, major historic sites, golf courses, university facilities, major sports, and community recreational facilities.

1.3 Trails

Trails are both recreation and transportation facilities located outside of the road allowance. They are an integral part of accommodating pedestrian and cyclist travel and the operation of active and predominantly non-motorized vehicular modes of transportation, which can include but is not limited to walking, running, hiking,

cycling etc. They are essential to the everyday life of many Guelph residents for exercise and wellbeing. However, unlike parks and open spaces, they are not a distinct land use zones and are instead an amenity found within city parks, NHS lands, and open spaces. They are often critical for connectivity.

The City takes an environment first approach to protecting, maintaining, enhancing and restoring natural heritage features. Impacts to the NHS are carefully considered when trails are developed within NHS lands. Guidelines are provided to assist in the interpretation of the City's policies around trail development and compatible uses, as well as planning considerations and mitigations to ensure no negative impacts to NHS features or functions (refer to Appendix I: Trail Mitigation and Compatibility Guideline).

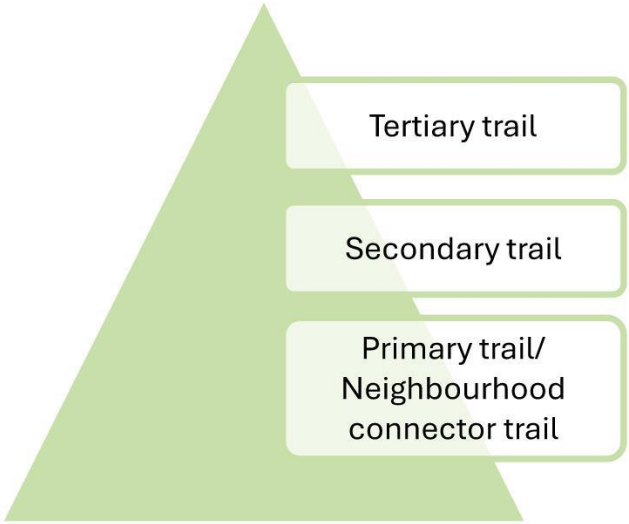
The City's trail network is defined in the Guelph Trail Master Plan which provides the vision for a comprehensive network of off-road trails and on-road links that connect people and places throughout Guelph, as well as to neighbouring municipalities.

1.3.1 Trail classification

Trails within the City have a wide variety of attributes from narrow dirt desire paths to wide asphalt trails with lighting and site furniture. There are many attributes by which they can be compared, however they generally conform to a hierarchy of width, level of maintenance, and surface type.

City trails are classified by the Guelph Trail Master Plan to meet a specific community need related to either a transportation or recreational focus that is sensitive to the location in which they are found. Primary and neighbourhood connector trails are focused predominantly on providing transportation connections and a route to travel efficiently to specific destinations. Secondary and tertiary trails have a recreational focus and the trails themselves are the destination that people are accessing.

Figure 2: Trail hierarchy organized by increased width, level of maintenance, and robustness of surfacing



1.3.1.1 Tertiary trail

Tertiary trails have a recreational purpose and are themselves a destination. They are typically designed for hiking or mountain biking (where permitted) in a way that works with the topography, views, and other landscape features. They are intentionally indirect.

- 1.2-to-2-meter trail width.
- No specific corridor width.
- Natural surface (i.e.: an appropriate combination of dirt, wood chips, gravel).
- Not maintained in the winter.
- No mowing strip and 0.3m **clear zone** on either side.

1.3.1.2 Secondary trail

Secondary trails have a recreational focus intended for moderate volumes of walking, running, most mobility devices, and cycling. Often, they are part of a trail loop or connect to other trails.

- 2.4-meter trail width.
- 10-meter corridor width.
- Stone dust surface.
- Not typically maintained in the winter.
- 0.6m mowing strip and **clear zone** on either side

1.3.1.3 Primary trail

Primary trails are intended to provide a direct route to multiple destinations and are designed to accommodate high volumes of diverse trails users. Some primary trails are part of the **active transportation** network meant to provide a route throughout the City that links both trails and cycling infrastructure within the road right-of-way.

- 3-to-3.5-meter trail width.
- 10-meter corridor width.
- Asphalt surface.
- May be maintained year-round.
- 1.0m mowing strip and **clear zone** on either side

1.3.1.4 Neighbourhood connector trail

Neighbourhood connector trails provide neighbourhood links to the primary trail network, a route through a park, a safe route to schools or community centres, and other local destinations off the primary network.

- 3-meter trail width.
- 10-meter corridor width.
- Asphalt surface.
- Typically maintained year-round.
- 1.0m mowing strip and **clear zone** on either side

1.4 Open space

The City of Guelph Zoning By-law defines open space as public lands where the main use is active or passive recreational activities, conservation management, stormwater management and other open space uses, that are not located within parks or the NHS. Open space often includes storm water management facilities, trails, landscape buffer blocks, cul-de-sac islands, and berms that are outside of parks or NHS land, and land set aside for conservation outside of the NHS.

2.0 Development Requirements

How **developers** initiate the planning process and submit different types of development applications is outlined on the city's website on the How to develop a property webpage. Detailed resources to guide the development community are available on the Development application forms, guidelines, templates and manuals page.

Parks, trails and open space studies, reports, and conveyance may be required for the following types of development applications:

- Official Plan Amendments (including secondary plans)
- Draft Plans of Subdivision
- Draft Plans of Condominium
- Zoning Bylaw Amendments
- Consents
- Site Plans
- Building Permits

2.1 Parkland dedication

For all development applications a City of Guelph **park planner** will determine:

1. If parkland dedication is required, and
2. The form of parkland dedication that is required (i.e.: conveyance of parkland or payment in lieu of parkland).

These requirements are communicated to the **developer** through the planning process led by Development Planning or Building Services.

2.1.1 Parkland dedication requirement

Parkland dedication is generally required where residential density has increased, a new building is constructed, the size of an existing building has increased, or there has been a change of use pursuant to a Zoning Bylaw Amendment. However, not all development or redevelopment is subject to parkland dedication requirements. Parkland dedication is not required if it has already been collected in the past, or if the class of development or redevelopment project is exempt.

Section 32 of the Parkland Dedication Bylaw lists exemptions to parkland dedication requirements. In addition, the Planning Act section 42 also grants exemptions to parkland dedication requirements.

Parkland dedication is only collected for a lot or property once, unless there is a change in density from the addition of new residential units or a substantial addition of floor area, or if there is a change of land use granted by a Zoning Bylaw

amendment. Where additional parkland dedication is required, the **parkland** previously dedicated will be subtracted from the amount owing (refer to the Parkland Dedication Bylaw).

2.1.2 Payment in lieu of parkland

Where feasible, parkland dedication in the form of land is preferred. Both the **developer** and City staff are responsible for determining if an appropriately sized park could fit within the subject lands without making the site undevelopable. This is facilitated by the development application process and the various reports and plans required for approval including a Facility Fit Study (see Appendix D: Facility Fit Study Terms of Reference). The proposed park size must be appropriate for the class of park, distance from the residential area served, and public street frontage (refer to section 1.2.1 Park classification, and section 5.2 Setbacks and frontage).

1. Plans of subdivision are expected to yield developable land for park purposes with no constraints to active park use and the provision of park facilities, unless otherwise determined by the City of Guelph.
2. Infill development, or development within identified **parkland** deficient communities, community mixed-use nodes, and urban densification nodes must make every effort to provide public **parkland** where parks are deemed necessary by the City of Guelph.

2.1.3 Land unsuitable for parkland

Open spaces, trail blocks, NHS land, encumbered land, and contaminated lands are not suitable to be developed as parks, are not acquired by the City as parkland, and do not count as parkland dedication. Both the Official Plan section 7.3.5 and the Parkland Dedication Bylaw describe lands unsuitable as **parkland**.

2.2 Trail requirements

The Guelph Trail Master Plan identifies growth trails associated with ongoing or future development. Where growth trails are found within **development** lands, the City works closely with the **developer** to design and construct the trails while the land is being developed or shortly after it is completed.

Trail alignments, corridor widths, habitat enhancement, or wildlife passage structures should be identified in the plans and reports in support of the development application including the **environmental impact study** and Environmental Site Assessment (Refer to Appendix I: Trail Mitigation and Compatibility Guideline for additional guidance for trails within and adjacent to the NHS). The City of Guelph Development Charges Background Study outlines which costs are eligible for reimbursement to the **developer**. Any trails not included in the Guelph Trail Master Plan are considered a local service and are considered a **developer** costs.

In order to ensure unrestricted public access and maintenance access the associated agreements will also outline whether the land for the trail will be conveyed to the City, or an easement registered on title for the land.

Trails, multi-use pathways and walkways that connect to parks, stormwater management ponds, natural areas or provide a linkage to a City identified existing or proposed trail are considered a local service and a direct **developer** responsibility.

2.3 Open space requirements

Any space zoned as open space (e.g. landscape buffer blocks, cul-de-sac islands, round-about islands, berms, stormwater management areas, and non-NHS natural features, etc.) are required to be provided as a local service and a **developer** cost. These requirements are a direct **developer** responsibility and are outlined in the Development Charges Background Study.

Features associated with open spaces may include landscaping, fencing (refer to section 5.16 Fencing), walkways, trail connections, and maintenance roads.

2.4 General requirements

The following summarizes requirements that apply to parks, trails, and open space blocks to be provided by the **developer**:

1. An analysis of soils as part of the geotechnical report, including bore holes, contaminant testing, topsoil composition as well as digital topographic data for each of the blocks (tied to a geodetic benchmark);
2. Temporary fencing and signage throughout construction which is maintained in good working order;
3. Property demarcation to City standard to all adjacent land uses (residential, or non-residential) as required by the City, or other approval authority (see also section 5.16 Fencing), and
4. Grading of areas to achieve positive surface drainage, smooth transitions between blocks, and in accordance with approved grading plans (see also section 5.6 Grading).

3.0 Development Options

This section is a summary of park, trail, and open space development options that are used by the City to ensure the community gets appropriately designed spaces to satisfy their active and passive recreational needs.

3.1 No park block present

Many **developments** in the City will not have any **parkland** identified through the planning process. In this case, there are still parks, trails, and open space requirements and input from City staff required. With this option parkland dedication requirements are satisfied by payment in lieu of parkland.

3.2 City-built park

The primary development model used by the City of Guelph for parks is the city-built model. In some cases, the City may consider a developer-built model. In the city-built scenario **developers** are responsible for providing parks, trails, and open space blocks (if applicable) within the **development** limits. In accordance with the Development Charges Background Study Appendix E: Local Service Policy, **developers** must complete **basic parkland development** as a direct **developer** cost, while the design and construction of the park amenities is undertaken as a capital project by the City.

The **developer** is responsible for installation of servicing to a point just inside the property line, stormwater drainage infrastructure, sodding, grading that compliments the overall **development** while preserving or enhancing natural features, as well as temporary signage and fencing, all to City standards.

Development charges are primarily used by the City to tender and complete the construction of the remaining works which may include sports facilities, play structures, multi-purpose courts, walkways, plantings, **utilities**, and other amenities.

3.3 Developer-built trail

The primary development model used by the City of Guelph for growth related trails is the developer-built model.

Trails that are internal to a **development** are considered local connections/local services and all costs associated with developing them to City standards are a direct **developer** responsibility (refer to the Development Charges Background Study). The cost associated with detailed design and construction of public trails identified by the City through the Guelph Trail Master Plan and Active Transportation Network Study that are built to City standards will be reimbursed to the **developer**

through development charges, subject to the City's future Municipal Service and Financing Agreements Policy.

If both the **developer** and the City agree on the developer-built model, an executed Municipal Service and Financing Agreement is required.

In this model, The City's role is to identify local connections, trails, and City standards. The **developer** builds the trail and is responsible for the cost of trail planning and design, which may be informed by an environmental study associated with a development application.

Construction of growth-related trails by the **developer** prior to the **development** being completed is preferred to ensure good construction access and seamless integration with the surrounding landscape. Construction of trails while the **development** is being constructed also ensures new occupants can access trails sooner than if constructed by the City as a capital project after the **development** is fully built out.

3.4 Developer-built open space

Open spaces are typically a local service, and all costs associated with the design and construction of open space areas, whether internal to a **development** or required as part of external works for which the **developer** is responsible, fall to the **developer** (refer to the Development Charges Background Study). These areas should be implemented in accordance with city standards and approved plans. The **developer** will be responsible for maintaining all open spaces until they are accepted by the city. Additionally, all lands dedicated to the city should be conveyed free and clear of any encumbrances and should not contain any contaminated soil or subsoil.

Generally, the **developer** is required to provide appropriate property demarcation, pedestrian access through sidewalks or walkway connections, as well as grading, seeding or sodding.

3.5 Developer-built parks

Although not the typical process, some situations warrant a developer-built approach to park construction.

In this scenario the park is constructed by the **developer** with the final approval resting with the City. The City will reimburse the **developer** for the Development Charge related items for the park which will be further described in the Municipal Service and Financing Agreement Policy.

The potential advantages of this model in which the **developer** designs and builds the park over the traditional city-built park model could be that:

1. The completed park is available to residents within its service radius and to residents moving into the community sooner;
2. The **developer** may be able to find cost efficiencies due to economies of scale unavailable to City contracts;
3. The accelerated park development timeline may be a marketing tool or incentive for potential sales, and
4. Since the **developer** and the City must mutually agree on the approach they may choose to do so only if it is in their best interest.

3.6 Privately owned public space (POPS)

Privately owned public spaces are not normally considered **parkland**. However, where they are proposed in areas of high density or underserviced communities, they may be supportable. These lands remain in private ownership while being used by the public. In order, for them to be eligible they require public access without restriction or limitations, and a maintenance agreement that outlines responsibilities.

POPS are considered additional to the basic level of provision of public parks. The City recognizes the value of POPS in situations where no alternative options exist.

3.7 Strata Parks

Strata parks are not normally considered **parkland**. However, where they are proposed in areas of high density or underserviced communities, they may be supportable. Strata parks are located on top of buildings or structures such as parking garages and building podiums. Land ownership is horizontally delineated between the structure and the surface. These spaces can provide park services and benefits but add significant complexity to long term use, maintenance, access, and management.

Strata Parks are considered additional to the basic level of provision of public parks. The City recognizes the value of Strata Parks in situations where no alternative options exist.

4.0 Development Process

There are two primary development processes that most development applications follow: the plan of subdivision process and the site plan process. Within each of these processes, there are minor variations concerning parks, trails, or open spaces, as well as differences related to city-built and developer-built models of development.

This section is not intended represent an exhaustive list of steps a **developer** may be required to follow but to simply offer a broad overview. For additional information refer to the Subdivision Assumption Guidance Manual and the city's website for How to develop a property.

Figure 3: Illustration of typical development processes

4.1 Plan of subdivision process

The plan of subdivision process is an instrument used to provide residential, industrial, and commercial lots to the public and ensure that they conform to the City's Official Plan, which outlines long-term land use strategies and policies. Subdivisions play a crucial role in shaping the urban fabric by creating well-planned neighbourhoods that integrate residential, commercial, and recreational spaces. This thoughtful planning enhances the public's experience of their towns and cities by promoting walkability, accessibility, and a sense of community. As a result, subdivisions contribute to vibrant, livable environments where people can live, work, and play, fostering a higher quality of life and a more cohesive urban landscape.

4.1.1 Pre-consultation and application

An applicant must complete a pre-consultation process with the City prior to formally submitting a development application for most types of applications (refer to the Pre-Consultation By-law).

After the pre-consultation meeting, Planning staff will provide the applicant with a list of requirements for preparation of an application. Park requirements will vary depending on the nature of the application. The City of Guelph **park planner** assigned to the application will identify **developer** responsibilities related to parks, trails, and open spaces and determine whether conveyance of parkland or payment in lieu of parkland will be required.

4.1.1.1 Park classification and Facility Fit Study

If **parkland** is being conveyed to the City in order to satisfy parkland dedication requirements, the **park planner** will comment on park block size, shape, grading and location. Park information including but not limited to aerial photos, geotechnical reports, tree preservation and enhancement plans, scoped environmental impact studies, and topographic surveys are reviewed. The park classification, location, and connectivity are discussed internally by City staff and comments provided to the **developer**.

The **park planner** will confirm if a Facility Fit Study is needed. This study is prepared by the **developer** to determine if the proposed park block(s) satisfy the City's **parkland** policies, service delivery standards, and park program needs. They will then be reviewed and approved by City staff (refer to Appendix E: Facility Fit Study Terms of Reference).

4.1.1.2 Facility fit plan

The facility fit plan is a required planning exercise through the plan of subdivision process. A facility fit plan may be required as part of a Facility Fit Study or as a separate requirement (refer to Appendix E: Facility Fit Study Terms of Reference).

4.1.1.3 Trail classification

The **park planner** will complete a preliminary feasibility analysis based on relevant policies and procedures and determine the trail classification. The **park planner** will communicate trail standards and suggest refinements if needed to achieve a functional design. This step starts early in the process and continues through technical review of the application following the submission of a formal application.

The **park planner** will identify submission requirements for a complete application to the **developer** including but not limited to:

1. Need for a trail and functional trail route as part of a planning report (if applicable);
2. Trail study requirements for technical reports;
3. Any required plans or details, and
4. Trail study requirements required for any **environmental impact study** or Environmental Assessment (included as part of EIS or EA Terms of Reference approvals).

The **park planner** may also identify:

5. Potential trail category and development standards, and
6. Potential land securement or acquisition preferences/ options for consideration (trail block, expanded environmental buffer, easement, etc.).

4.1.2 Draft plan of subdivision

A draft plan of subdivision application for a proposed **development** is submitted to Planning and Building Services. Once the application package is deemed complete, the lead planner will circulate it for review to the **park planner** and other relevant City departments.

This step is crucial in ensuring that the land is appropriate for the proposed **development**, complies with City policies, has appropriate infrastructure and access to public services, does not negatively impact the community, and fits within the existing legal framework.

The applicant may be required to prepare a resubmission that addresses draft plan comments. Once comments have been addressed, the **park planner** will provide draft plan conditions to be incorporated as part of the draft plan approval.

4.1.3 Detailed design review

If parks, trails, or open spaces are included in the application, the applicant is required to prepare and submit detailed plans, reports, and designs prepared by a landscape architect who is a Full Member of the OALA with seal. The **park planner** will review the plans for conformance with City standards and will work with the applicant to ensure the plans are completed to the satisfaction of the city. The applicant's landscape architecture consultant is required to estimate the cost of landscape construction. Refer to Appendix C: Drawing and Submission Standards.

4.1.3.1 Clearance from other agencies

Conditions of draft plan approval will include obtaining approvals, clearances or comments from other agencies and should occur at the same time as detailed design. The developer will obtain information on external agency permit requirements directly from the agency and ensure all required clearance and approvals have been obtained.

4.1.3.2 Financial security and other payments

Prior to executing a **subdivision agreement** financial securities and other payments must be provided to the City. A detailed list of security and payment requirements are listed in the Subdivision Assumption Guidance Manual. A public open space security is typically required and is separate from the landscape security, engineering security, and parkland dedication.

4.1.3.3 Public open space security

Securities for landscaping work on municipally owned public spaces are processed separately from other securities and include **basic parkland development**, trailheads, open space demarcation, restoring construction related disturbances, as well as all works required by an approved **environmental impact study** (EIS) or Environmental Implementation Report (EIR), if applicable. Open space securities are a hundred per cent (100%) of the cost of any landscape work, including a ten per cent (10%) consulting allowance, and HST. An open space works cost estimate is required to be prepared as a separate cost schedule that list the items, quantities, unit costs and total costs for open space landscaping works. The itemized cost estimate must be used to calculate the open space security and be prepared by a landscape architect who is a Full Member of the OALA with seal. City staff will review the estimate and confirm if any revisions are needed.

4.1.3.4 Payment in lieu of parkland conveyance

If it was identified as a condition of draft plan approval and the size of the park block to be conveyed to the City is less than the amount of land required for

parkland dedication partial payment in lieu of conveyance of parkland may be collected at this time.

A combination of parkland to be conveyed and payment in lieu of conveyance would be used to satisfy parkland dedication requirements (refer to section 2.1.1 Parkland dedication requirements).

4.1.4 Subdivision agreement

One of the conditions of draft plan approval is that the **developer** enter into a **subdivision agreement** with the City. The **subdivision agreement** contains information related to the financial responsibilities, requirements for building permits and covenants to be registered on title, obligations of the **developer** to construct and maintain the subdivision according to the drawings that were approved by the City, detail about easements and land conveyances to the City, as well as park and trail conveyance. If a developer-built park or trail is planned and identified in a park and trail letter of intent, the **developer** will be required to enter into a municipal service financing agreement with the City.

4.1.5 Registration

When the **subdivision agreement** is executed by the **developer** and mortgagee, and the **developer** has provided the required financial security and other payments, the Mayor and Clerk will execute the **subdivision agreement** by way of an Authorization By-law.

If all conditions of draft plan approval are satisfied including registration of the **subdivision agreement**, an application can be made to the Planning Department for registration of the **Plan of Subdivision**. After registration, the lots, blocks and roadways are legally created, and any parks and open space parcels to be dedicated to the City are transferred, and easements in favour of the City are conveyed.

4.1.6 Construction

The **developer** is responsible for retaining the services of a landscape architecture consultant and any other consultants required to construct the subdivision including preparing contract documents for tendering purposes. The developer’s consultant is responsible for tendering for construction and retaining a contractor to complete all open space works and **basic parkland development**.

For **developments** following the Assumption Model, details regarding the construction process are provided in the City’s Subdivision Assumption Guidance Document.

For developer-built parks and trails, the **developer** will follow the process outlined in the City's future Municipal Service and Financing Agreement Policy for tendering and constructing the work.

4.1.6.1 Progress inspections

All work must be inspected on a full-time basis. At a minimum, weekly inspection and monitoring reports must be recorded by the consultant and made available to the City if requested. Minimum requirements for reports are identified in the Subdivision Assumption Guidance Manual.

The City may attend to the site during construction and may liaise with the contractor, landscape architecture consultant, **developer**, general public and utility companies.

4.1.6.2 Preliminary acceptance

When the landscape architecture consultant is satisfied that the park and open space construction is substantially completed, the consultant shall provide the City with a certification letter and request that the City inspect the work. To support the certification, all standard supporting documents including an updated Project Close Out Checklist are required (refer to Appendix F: Project Close Out Checklist).

Standard documents required in support of preliminary acceptance include but are not limited to a topsoil composition test pre and post development, records that sod received two cuts, rough grade certification, inspection reports for structures and utility services, and results of compaction testing and material testing etc.

Uncertified work or partial installations will not be reviewed by the City unless the value of the work meets the threshold outlined in the Construction Act for substantial performance and all risks to public safety have been mitigated or removed.

A deficiency review by the developer's landscape architect must be performed prior to requesting acceptance by the City. A deficiency report will be prepared, and the **developer** is responsible for rectifying the deficiencies prior to contacting the City for an initial inspection.

Germination of seed is required for certification and inspection. Inspections of plant material and sod shall take place during full the leaf-out period. Typically, full leaf-out is from June 1st to September 30th. Non-plant items such as fencing and walkways are inspected when the entire installation is visible before first snowfall or December 1st, whichever comes first. Furthermore, the City will only assume the responsibility for the maintenance of sod after it has been well rooted, established, and cut a minimum of two (2) times.

The **developer** is responsible to have the deficiencies corrected. Generally, deficiencies should be rectified within a two (2) month period unless otherwise agreed by the City. Once the **developer** corrects the deficiencies, they can request a re-inspection. Re-inspections will occur as many times as necessary to correct deficiencies and confirm that all public safety concerns have been addressed.

Once requirements are satisfied the **park planner** will release ninety per cent (90%) of the posted security and the warranty period will begin.

4.1.6.3 Warranty period

The warranty period is a minimum of two (2) years. Unless noted otherwise by the development agreement, an Environmental Impact Study, or an Environmental Site Assessment, the City will take over maintenance activities such as mowing, weeding, watering, snow removal, waste removal, **invasive species** control and playground inspections during the warranty period.

Any deficiencies identified during the warranty period are to be corrected by the **developer** before the warranty period expires.

4.1.7 Final acceptance

Final acceptance marks the end of the warranty period (unless there are extensions). Prior to arranging a meeting for final acceptance, the landscape architecture consultant shall review the site to ensure that all deficiencies noted at preliminary acceptance have been corrected and the Project Close Out Checklist is updated and completed (see Appendix E: Project Close Out Checklist) and construction has complied with all terms and conditions of the **subdivision agreement**. The consultant will arrange the meeting for final acceptance two years from the date of preliminary acceptance.

Prior to final acceptance the **developer** must provide a Certificate of Substantial Completion per the Construction Act, signed by the landscape architect.

The **developer** must also provide As-recorded drawings to the satisfaction of the Deputy CAO of Public Services (refer to Appendix C: Drawing and Submission Standards, Section 1.5 As-recorded drawings).

Once all documentation has been received, reviewed, and accepted, a final acceptance meeting will be scheduled with the **developer**, developer's consultant, developer's contractor, Park Operations relevant supervisors, and Engineering staff (Environmental Planning staff are optional). If any deficiencies are found the **developer** will be required to make the necessary corrections and reapply.

When the City is satisfied that requirements have been met, the remaining ten per cent (10%) of the posted security will be released.

4.2 Site plan process

The site plan process ensures new **developments** are designed and built to meet municipal requirements, policies, and standards, including the Zoning Bylaw, while providing essential municipal services such as watermain, sanitary, and storm sewers, and on-site facilities like buildings and parking. It also ensures that **developments** conform to the City's Official Plan, which outlines long-term land use strategies and policies, thereby preventing negative impacts on adjacent lands. By creating well-planned neighbourhoods that integrate residential, commercial, and recreational spaces, this process enhances the public's experience of their towns and cities, promoting walkability, accessibility, and a sense of community. Consequently, the site plan process ensures that **developments** contribute to livable environments where people can live, work, and play, fostering a higher quality of life and a more cohesive urban landscape.

For **developments** that go through this process, site plan approval is required before building permits can be obtained.

4.2.1 Pre-consultation submission

An applicant must complete a pre-consultation process with the City prior to formally submitting a site plan application. Please refer to the Site Plan User Guide for details on the optional Initial meeting, Pre-consultation submission, and details of the Site Plan Review Committee (SPRC) meetings.

After the SPRC meetings, planning staff will provide the applicant with a list of requirements for preparation of a complete application. Park requirements will vary depending on the nature of the application. The City of Guelph **park planner** assigned to the application will identify **developer** responsibilities related to parks, trails, and open spaces and determine whether conveyance of parkland or payment in lieu of parkland will be required.

4.2.1.1 Park classification and Facility Fit Study

If **parkland** is being conveyed to the City in order to satisfy Parkland Dedication requirements, the **park planner** will comment on park block size, shape, and location. Park information including aerial photos, geotechnical reports, tree preservation and enhancement plans, scoped environmental impact studies, and topographic surveys are reviewed. The park classification, location, and connectivity are discussed internally by City staff and comments provided to the **developer**.

The **park planner** will confirm if a Facility Fit Study is needed. This study is prepared by the **developer** to determine if the proposed park block(s) satisfy the City's **parkland** policies, service delivery standards, and park program needs. The document will then be reviewed and approved by City staff (refer to Appendix E: Facility Fit Study Terms of Reference).

4.2.1.2 Facility fit plan

The facility fit plan is a required planning exercise through the site plan process. A facility fit plan may be required as part of a Facility Fit Study or as a separate requirement (refer to Appendix E: Facility Fit Study Terms of Reference).

4.2.1.3 Trail classification

The **park planner** will complete a preliminary feasibility analysis based on relevant policies and procedures and determine the trail classification. The **park planner** will communicate trail standards and suggest refinements if needed to achieve a functional design. This step starts early in the planning process and continues through technical review of the application following the submission of a formal application.

The **park planner** will identify submission requirements for a complete application to the **developer** including but not limited to:

1. Need for a trail and functional trail route as part of a planning report (if applicable);
2. Trail study requirements for technical reports;
3. Any required plans or details, and
4. Trail study requirements required for any **environmental impact study** or Environmental Assessment (included as part of EIS or EA Terms of Reference approvals).

The **park planner** may also identify:

5. Potential trail category and development standards, and
6. Potential land securement or acquisition preferences/ options for consideration (trail block, expanded environmental buffer, easement, etc.).

4.2.2 Formal site plan submission

Formal site plan submissions are received by Planning and Building Services. Please refer to the Site Plan User Guide for details on the standard site plan process, and minor site plan process.

This step is crucial in ensuring that the land is appropriate for the proposed **development**, complies with City policies, has appropriate infrastructure and access to public services, does not negatively impact the community, and fits within the existing legal framework.

The applicant may be required to complete a resubmission and attend additional SPRC meetings required to address staff comments from relevant City departments. Once comments have been addressed, the **park planner** will provide site plan conditions to be included in the site plan agreement.

4.2.3 Clearances, securities and land dedication

Prior to receiving site plan approval and entering into a site plan agreement, the **developer** will be required to receive clearances from other agencies, to post the required securities, and to finalise the details related to land dedication as part of the site plan approval process.

4.2.3.1 Clearance from other agencies

During the pre-consultation process City staff will identify some agencies that may require approvals and clearances. However, it is the responsibility of the **developer** to confirm all external agency requirements approvals, and clearances, needed for their **development**. Site Plan User Guide provides a list of typical requirements and relevant agencies.

A public open space security is typically required and is separate from the street tree planting security, engineering security, and parkland dedication.

4.2.3.2 Public open space security

Public open space securities are separate from the landscape security, engineering security, and parkland dedication.

Securities for landscaping work on municipally owned public spaces are processed separately from other securities and include **basic parkland development**, trailheads, open space demarcation, restoring construction related disturbances, as well as all works required by an approved **environmental impact study** (EIS) or Environmental Implementation Report (EIR), if applicable. Open space securities are 100% of the cost of any landscape work, including a 10% consulting allowance, and HST. An open space works cost estimate is required to be prepared as a separate cost schedule that list the items, quantities, unit costs and total costs for open space landscaping works. The itemized cost estimate must be used to calculate the open space security and be prepared by a landscape architect who is a Full Member of the OALA with seal. City staff will review the estimate and confirm if any revisions are needed.

If any of the required landscaping has not been completed within two years of issuing the occupancy permit, the City may, after giving the applicant notice, have the outstanding work completed and use the posted securities to pay for the work. This will be done in accordance with the site plan agreement.

4.2.3.3 Payment in lieu of parkland conveyance

The City may require payment in lieu of conveyance of parkland instead of receiving land. The **park planner** will advise the **developer** during the pre-consultation

phase whether payment in lieu of conveyance of parkland is required (refer to section 2.1 Parkland dedication).

A narrative appraisal report is used to calculate the rate of payment required to satisfy parkland dedication requirements. A narrative appraisal report prepared by a qualified appraiser who is a member in good standing of the Appraisal Institute of Canada is required. The purpose of this appraisal is to estimate a hypothetical current market value for the subject property as a vacant site as at the before issuance of the building permit. The approved site plan is considered the highest and the best use of the site. The appraisal report should include photographs of the subject property, a description of the neighbourhood, land use regulations, highest and best use analysis, a fair market value analysis, a reconciliation of value, limiting conditions, certification etc. The only intended user of this report is to be the City of Guelph and the only intended for use in determining payment in lieu of conveyance of parkland.

Partial payment in lieu of parkland conveyance may also be identified if land is conveyed but does not fully meet parkland dedication requirements. Payment is required prior to issuance of any building permit associated with the site plan.

4.2.3.4 Dedication of land

The City may require the dedication of parkland in accordance with the Planning Act, Official Plan, and Parkland Dedication Bylaw. The **park planner** will advise the **developer** during the pre-consultation phase whether dedication of land is required.

Dedication of land may also be required if a site-specific EIS or EIR identifies lands to be protected to preserve environmental features or if there is a trail recommends by the Trails Master Plan through the subject property.

A reference plan is required for review and approval by City staff prior to transferring the land to City ownership and must be registered on title once approved.

The parkland conveyance is required prior to issuance of any building permit associated with the site plan.

4.2.4 Site plan agreement

Once City staff recommend that the proposed plans are approved the **developer** is required to enter into a site plan agreement with the City. The site plan agreement contains information related to the developer’s financial responsibilities, requirements for building permits and covenants to be registered on title, obligations of the **developer** to construct and maintain the subdivision according to

the drawings that were approved by the City, detail about easements and land conveyances to the City, as well as park and trail conveyance.

4.2.5 Site plan approval

Once the executed site plan agreement is returned to the City, it will be signed by the Mayor and City Clerk, and the **development** will receive site plan approval. Within two weeks of receiving the notification of site plan approval, a copy of the registered site plan agreement will be mailed to the **developer**.

Once the **developer** has received site plan approval, building permits applications may be submitted. It is at this time that **developments** which require payment in lieu of parkland dedication must submit narrative appraisal reports needed to establish current market value of the property. Park Planning staff request that the **developer** submit the appraisal at least two (2) months prior to the first building permit submission to avoid delays. Parkland dedication requirements including payment in lieu of parkland conveyance or conveyance of land must be finalized by the **developer** prior to the Building Services department issuing building permits.

4.2.6 Construction

Construction may begin once building permits have been received. The **developer** is responsible for retaining the services of a landscape architecture consultant and any other consultants required to construct all open space works. The developer's consultant is responsible for tendering for construction and retaining a contractor to complete all open space works and **basic parkland development**.

For developer-built parks and trails, the developer will follow the process outlined in the City's future Municipal Service and Financing Agreement for tendering and constructing the work.

4.2.6.1 Progress inspections

All work must be inspected on a full-time basis. At a minimum, weekly inspection and monitoring reports must be recorded by the consultant and made available to the City if requested. Formal inspections by City Parks staff will not take place unless requested by the **developer**.

The City may attend to the site during construction and may liaise with the contractor, landscape architecture consultant, **developer**, general public and utility companies.

4.2.6.2 Preliminary acceptance

When the landscape architecture consultant is satisfied that the park and open space construction is substantially completed, the consultant shall provide the City

with a certification letter and request that the City inspect the work. To support the certification, all standard supporting documents including an updated Project Close Out Checklist are required (refer to Appendix F: Project Close Out Checklist).

Standard documents required in support of preliminary acceptance include but are not limited to a topsoil composition test pre and post development, records that sod received two cuts, rough grade certification, inspection reports for structures and utility services, and results of compaction testing and material testing etc.

Uncertified work or partial installations will not be reviewed by the City unless the value of the work meets the threshold outlined in the Construction Act for substantial performance.

A deficiency review by the developer's landscape architect must be performed prior to requesting acceptance by the City. A deficiency report will be prepared, and the **developer** is responsible for rectifying the deficiencies prior to contacting the City for an initial inspection.

Germination of seed is required for certification and inspection. Inspections of plant material and sod shall take place during full the leaf-out period. Typically, full leaf-out is from June 1st to September 30th. Non-plant items such as fencing and walkways are inspected when the entire installation is visible before first snowfall or December 1st, whichever comes first. Furthermore, the City will only assume the responsibility for the maintenance of sod after it has been well rooted, established, and cut a minimum of two (2) times.

The **developer** is responsible to have the deficiencies corrected. Generally, deficiencies should be rectified within a two (2) month period unless otherwise agreed by the City. Once the **developer** corrects the deficiencies, they can request a re-inspection. Re-inspections will occur as many times as necessary to correct deficiencies and all public safety concerns have been addressed.

Once requirements are satisfied the **park planner** will release 90 per cent of the posted security and the warranty period will begin.

4.2.6.3 Warranty period

The warranty period is a minimum of two (2) years. Unless noted otherwise by the development agreement, an **environmental impact study**, or an Environmental Site Assessment, the City will take over maintenance activities such as mowing, weeding, watering, snow removal, waste removal, **invasive species** control and playground inspections during the warranty period.

Any deficiencies identified during the warranty period are to be corrected by the **developer** before the warranty period expires.

4.2.7 Final acceptance

Final acceptance marks the end of the warranty period (unless there are extensions). Prior to arranging a meeting for final acceptance, the landscape architecture consultant shall review the site to ensure that all deficiencies noted at preliminary acceptance have been corrected and the Project Close Out Checklist is updated and completed (see Appendix E: Project Close Out Checklist) and construction has complied with all terms and conditions of the site plan agreement. The consultant will arrange the meeting for final acceptance two years from the date of preliminary acceptance.

Prior to final acceptance the **developer** must provide a Certificate of Substantial Completion per the Construction Act, signed by the landscape architecture consultant.

The **developer** must also provide As-recorded drawings to the satisfaction of the Deputy CAO of Public Services (refer to Appendix C: Drawing and Submission Standards, Section 1.5 As-recorded drawings).

Once all documentation has been received, reviewed, and accepted, a final acceptance meeting will be scheduled with the **developer**, developer's consultant, developer's contractor, Park Operations relevant supervisors, and Engineering staff (Environmental Planning staff are optional). If any deficiencies are found the **developer** will be required to make the necessary corrections and reapply.

When the City is satisfied that requirements have been met, the remaining 10 per cent of the posted security will be released.

5.0 Park, Trail and Open Space Design Standards

This section provides requirements for the design of parks, trails, and open spaces, including references to general requirements (accessibility, engineering, and safety standards etc.), as well as other relevant resources. These requirements are complimentary to any requirements outlined in development agreements, as well as policies that reference parks and open spaces (see Addendum B: Policy Documents).

5.1 Park amenities

Parks are home to a variety of passive and active recreation features and facilities referred to as park amenities. Certain park amenities are appropriate in some city parks but may not be appropriate in others. Park amenities that are most often found in each type of park are listed in Table 1.

These standards are forward-looking, which means that sometimes existing parks do not follow these guidelines. Existing parks are a product of the urban form, principles of planning, and park standards at the time they were developed.

Urban squares (refer to section 1.2.1.1 Urban square) have unique design constraints associated with their proximity to higher density development such as compact footprints and a higher proportion of hard surfaces. Despite these characteristics, they are critical to providing active recreation amenities in areas where access to parks by residents may be limited. Every effort should be made to find design solutions that will allow active recreation programing to fit the site-specific characteristics of urban squares.

Table 1: Typical park amenities based on park classification

	Urban Square	Neighbourhood Park	Community Park	Regional Park	Notes
Rectangular and diamond sport facilities	No	Maybe	Yes	Yes	Softball, Hardball, Baseball, Batting Cages, Field Hockey, Football, Soccer
Sport courts	Maybe	Yes	Yes	Yes	Basketball, tennis, pickleball, volleyball
Lawn games	Yes	Yes	Yes	Yes	Table tennis, shuffleboard, horseshoe, corn hole, bocce, lawn bowling
Cricket	No	No	Yes	Yes	
Disc Golf Course	No	No	Yes	Yes	

	Urban Square	Neighbourhood Park	Community Park	Regional Park	Notes
Community Centres	No	No	Yes	Yes	As outlined in the Official Plan
Community Garden	Maybe	Yes	Yes	Yes	
Naturalized Areas	No	Yes	Yes	Yes	
Off-Leash Areas	Maybe	Yes	Yes	Yes	Designated unfenced off-leash areas in community and regional parks and unoccupied sports fields where dogs are permitted to run off-leash
Parking Lots	No	No	Yes	Yes	
Permanent Restrooms	No	No	Yes	Yes	
Playgrounds	Maybe	Yes	Yes	Yes	
Shade Structures	No	No	Yes	Yes	
Skateboard Parks	Maybe	No	Yes	Yes	
Splash Pads	No	No	Yes	Yes	
Water Refill Station	No	No	Yes	Yes	Typically associated with permanent restrooms
Shade Trees	Yes	Yes	Yes	Yes	
Seating	Yes	Yes	Yes	Yes	
Recreational Trails	No	Yes	Yes	Yes	

Note: Some park amenities are listed as maybe to denote that they may be appropriate based on site specific characteristics of the park that must be determined through a facility fit plan or detailed design.

5.2 Setbacks and frontage

Best-practice **setbacks** for active recreation (e.g.: multi-courts, playgrounds, soccer, football, softball, and ice rinks etc.) are 23m from both property lines and from adjacent facilities. More detailed **setbacks** are provided in Table 2.

The minimum lot frontage for all categories of parks is 50m. Despite this minimum, a lot frontage calculation formula of 1m of frontage for every 100m² of park space is required (Refer to the City of Guelph Zoning By-law).

Setbacks for lighting are reviewed on a case-by-case basis. They are a guideline and should not limit the flexibility of the City to make adjustments due to site-specific opportunities and constraints.

Table 2: Facility setbacks

Park Infrastructure	Property Lines	Tree Planting
Sport facilities	20m	3m
Playgrounds and splashpads	10m	3m
Park and open space trails	1m	3m
ATN trails	1m	4m

5.3 Community gardens

Community gardens are a form of small-scale urban agriculture that may be located on public property such as parks and open spaces. New community gardens require a community group to come forward and enter into an agreement with the City to jointly maintain the space which allows residents to grow vegetables, herbs, pollinator flowers, or fruit on a designated plot of land. Community gardens may take different forms, but the criteria used to evaluate appropriate sites are consistent among them. Refer to the Community Garden Policy for a description of community garden models, the approval process, and site criteria.

Since the demand for community gardens is highest in areas where residents do not have the suitable yard space to grow their own garden, additional effort should be provided at the park design stage to identify potential community garden candidate sites in high density neighbourhoods. The proposed park layouts for new or redeveloped parks shall consider the feasibility of providing unprogrammed space appropriate for community gardens. Consideration should be given to proximity to parking spaces, pathways, availability of sunlight, location of shade trees, appropriate topography, and proximity to an existing or proposed water chamber for irrigation purposed. Where there is no existing or proposed water

chamber the water service line for the park should be located in close proximity to the candidate site. The water service line is a requirement of **basic parkland development** (see Appendix A: Glossary, and the Development Charges Background Study Appendix E: Local Service Policy).

See also section 5.7.1 Community garden topsoil.

5.4 Stormwater management ponds

Stormwater management (SWM) ponds are zoned open space and are distinct from parks (refer to section 1.4 Open space) and have unique management and design requirements.

The Ontario Ministry of the Environment, Conservation and Parks (MECP) Stormwater Management Planning and Design Manual describes best management practices for addressing stormwater management (SWM) during development. Stormwater management ponds must meet the standards set out by the MECP, the Stormwater Management Masterplan, and Development Engineering Manual Stormwater Management Pond Design Requirements.

Creating terrestrial and aquatic habitat is not the primary purpose of SWM ponds, though with careful design and consideration for plant selection, they provide numerous ecological functions that enhance our local ecosystem.

All types of SWM ponds including **dry ponds**, **wet ponds**, **wetlands**, and hybrid **wet ponds/wetlands**, require appropriate planting.

See also section 5.6.1 Stormwater management pond grading, 5.7.2 Stormwater management pond topsoil, and 5.8.8 Stormwater management pond planting.

5.5 Trails

The physical characteristics and design standards for different classes of trail are summarized in section 1.3.1 Trail Classification and explained in greater detail in the Trail Master Plan Table 3. Trail grading requirements are identified in section 5.2.2 Grading and discussed in the Facility Accessibility Design Manual. Additional guidelines for trail design are provided in the following chapters.

Trail geometry

Design considerations for trail geometry are provided in the Guelph Trail Master Plan related to horizontal alignment, junctions, and design speed.

Trails that merge at angles less than a 60-degree are discouraged. Where an oblique intersection of two trails is unavoidable due to topography, sensitive plant communities, or existing infrastructure, the following is required:

- Overlapping **clear zone** areas between the two trails are to be paved.
- The merged trail must be equal to or larger than the trails that are merged.
- The minimum radius of the gore between the two trails is to be 1.5m.
- Maintain minimum 20m open sightlines measured from the intersecting inside trail edges.

5.5.1 Turn around spots

Trail junctions are used as turn around spots for maintenance equipment. Where new continuous trails are designed that have long intervals between trail junctions, a turn around spot will be provide at minimum of every 1.0km. Turn around spots should include:

- Clear and level area with a minimum length of 5.5m, and 2.75m width.
- A minimum 1.5m turning radius.
- Paving to match adjacent trail surface.
- Space to temporarily store materials to be removed when trail upgrades or maintenance is completed.

5.5.2 Trail barrier gates

Typically, no access control such as gates or bollards are to be provided at trailheads within parks. The default for other trail locations is also not to provide access control since they can pose a significant hazard to people riding bikes and are responsible for many single-vehicle cycling collisions (refer to OTM-Book 18 and the Guelph Trail Master Plan). However, where a trail is proposed within a natural area or stormwater maintenance facility a gate may be required if the trail could provide a means of vehicular access to residential properties. Likewise, offset swing gates are not typically permitted.

Where new trail gates are proposed, they are to be setback a minimum of 5.5 meters from the edge of the sidewalk, or if there is no sidewalk, they are to be setback 5.5 meters from the edge of the curb. This space is provided to allow maintenance vehicles to pull out of oncoming traffic and safely park while trail barrier gates are manually opened or closed. Refer to Appendix H: Standard Drawings for Park, Trail and Open Space Construction, for a trail barrier gate detail.

5.5.3 Edge protection

Trail edge protection may be required in areas with steep slopes or where trails run parallel to drop-offs. New municipal trails are to include edge protection where these hazards are present.

Edge protection may be a fence, railing, or guard and:

- Must be a minimum height of 1.37m (refer to OTM-Book 18);
- Must be cane detectable (refer to the Facility Accessibility Design Manual section 4.1.3);
- Should feature materials that do not have sharp edges or corners (i.e.: round posts and either round rails or mesh panels are preferred), and
- Should be non-climbable when the edge protection also serves as access control (e.g.: adjacent to sensitive natural area or significant hazards).

Edge protection is required where:

- The slope within 2.0m of the edge of the trail is 3:1 or greater and there is a height difference of 0.6m or greater, or
- The slope outside of 2.0m from the edge of the trail exceed 2:1 and there is a height difference of 1.0m or greater.

Edge protection should be located along the outside edge of the **clear zone** (i.e.: refer to section 1.3.1 Trail Classification and Appendix A: Glossary) or up to 2m from the edge of the trail between the edge of the trail and the hazard.

5.6 Grading

All park and open space grading must satisfy the proper function of the programming being provided. Park drainage shall be self-contained, with any overland flow directed to adjacent roads where practical. Park grading design shall encourage sheet drainage of water wherever feasible to facilitate infiltration and reduce stormwater runoff. Ponding is to be avoided unless designed as a **low impact development** (LID) source control feature or as an opportunity for **naturalization** planting. All park, trail, and open space grading must not adversely impact adjacent properties. Parks are to contain a minimum of 80% table land with a range of 2% to 5% slopes (refer to the Development Engineering Manual and the City of Guelph Official Plan).

Specific applicable grading standards are:

1. Minimum slope of table land: 2%.
2. Maximum slope of table land: 5%.
3. Maximum slope other (e.g.: adjacent to natural features or existing facilities): 4:1 if sod, 3:1 if planted with ornamentals or naturalized.

4. **Swales**: A 2% slope preferred, with maximum length not to exceed 80m.
5. Boundaries: A flat area having a width of 0.6 m shall be provided (Refer to the Development Engineering Manual) to preserve grades on adjacent properties.
6. Sport facilities: Crowned and sloped at 1.5% minimum, except artificial turf or Category 1 Fields (refer to Athletic Field Construction Manual).
7. Trails: Maximum 2% cross slope, and maximum 5% longitudinal slope for **accessible** trails (2% preferred). Asphalt surfaces are required where grades exceed 5%. Maximum 3:1 slope for **clear zone** with 6:1 preferred (Refer to the Guelph Trail Master Plan and Facility Accessibility Design Manual).
8. Culverts: Generally discouraged, but where they are needed to avoid unwanted ponding, their minimum diameter should be 300mm with galvanized steel end aprons.
9. Bioswales: May be less than 2.0% if designed with adequate infiltration components.

Grading of parks and open spaces adjacent to natural heritage areas shall be delineated by appropriate erosion and sediment control measures and/or as directed by a scoped **environmental impact study**.

5.6.1 Stormwater management pond grading

Terraced grading is recommended to provide varied microclimate for plants and to increase public safety. Where space allows the permanent pool should be graded with a gentle slope that incorporates small drops (0.15m – 0.3m) using logs or stones to warn people who gain access to the water that the pond is becoming deeper.

The following design principles should be applied to SWM pond grading plans:

1. Design maximum slope to be:

    a) 5:1 for a horizontal distance of 3m above and below the permanent pool level (the preferred slope below the permanent pool level is 7:1 with small drops).
    b) 5:1 for **dry ponds** from the bottom of the pond to the maximum extended detention.
    c) 3:1 for all other areas.

2. Show on the landscape plan the 0.5m below permanent pool level contour line.
3. Use grading to conceal structures, including outfalls, maintenance access routes and weirs.
4. Create landforms to support plants that will provide shade over wet pond areas.

5. Utilize islands and varied bathymetry to improve contact time and extend the length of the flow path.
6. Terrace Wetlands to extend contact time, improve efficiency and mitigate the potential for short-circuiting.

5.7 Topsoil

Parks and open spaces are to have sufficient depth of topsoil needed to accommodate appropriate planting. Topsoil requirements include:

- A minimum of 0.15m and a maximum of 0.3m of topsoil spread evenly in a uniform consistent depth.
- Pre and post development topsoil composition and topsoil depth test results, with record of any soil remediation completed
- Topsoil that is fertile and capable of supporting vigorous vegetation, with a minimum 4% organic content, and a pH value of 6 to 7.
- Topsoil that is free from roots, vegetation, debris, toxic materials, and stones over 50mm diameter.
- Confirmation that imported soil meets MOE Table 1 Site Condition Standards (SCS).
- Confirmation that any soil derived from an excess soil project area meets the acceptance requirements of O. Reg. 406/19.

5.7.1 Community garden topsoil

Additional topsoil is needed for community garden candidate sites that have been identified through the facility fit, or public consultation process and have met the criteria is section 5.6 Community gardens. The area set aside for a future community garden must have in addition to the requirements listed in section 5.4:

- A minimum of 0.3m and a maximum of 0.45m of topsoil spread evenly in a uniform consistent depth.

5.7.2 Stormwater management pond topsoil

Stormwater management (SWM) ponds have unique topsoil requirements. Where a clay liner (or synthetic pond liner) is recommended based on the Development Engineering Manual the designer must ensure sufficient depth of topsoil to accommodate tree and shrub planting in addition to the requirements listed in section 5.4:

- 0.45m depth of topsoil for shrubs.
- 1.0m depth of topsoil for trees.
- 0.3m of topsoil is to be provided for the first 1.0m of depth below the permanent pool level.

However, depth of topsoil must be verified by an engineer, or be as directed by the manufacturer's specifications. Lack of sufficient topsoil shall not be an acceptable reason to exclude plants from the SWM pond design.

5.8 Planting

In general, planting (trees, shrubs, perennials) shall comprise a diverse mix of species selected with specific site conditions in mind. Only native species are to be planted within or bordering the NHS, and around stormwater management ponds.

Species and structural diversity should be considered in all planting designs. Monocultures are generally not permitted and an overall goal of "10-20-30 percent" distribution of species, genera and families is recommended. However, some site-specific situations may warrant deviation from this guideline (e.g.: habitat restoration, temporary ground cover, soil stabilization, or maintaining heritage context etc.).

The City's Tree Technical Manual has additional information including guidelines for soil volumes, siting requirements, tree protection guidelines, approved street tree species, and the importance of maintaining and enhancing urban tree canopy cover. Plants appropriate for NHS areas, naturalized areas, and stormwater management ponds are listed in Appendix D: Recommended Native Plants.

5.8.1 Buffer zones

Park and open spaces shall have buffer zones where permanent property demarcation fences divide maintained turf on private property and non-turf areas on public property such as ornamental gardens, woodlots, **naturalization** plantings, and low mow areas. Buffer zones shall not be planted with trees, shrubs, or perennials, but may be planted with a low maintenance seed mix or with sod as a ground cover. The appropriate ground cover will be chosen on a case-by-case basis.

Buffer zones standards include:

1. Width: 4m minimum width.
2. Access: Maintenance access must be available from public property.
3. Grading: The maximum slope is 4:1 to allow for mowing and maintenance.

5.8.2 Trees

Park trees are important open space assets that contribute to the environment by capturing carbon, providing stormwater retention, mitigating erosion, improving microclimate and increasing biodiversity.

Park trees are the primary tool used to provide weather protection and improve the microclimate for park users (refer to section 5.10.6 Shade Structures). Trees provide shade, which significantly reduces surface and air temperatures. This cooling effect is achieved through both shading and evapotranspiration, where trees absorb water through their roots and release it through their leaves. This process can lower temperatures by several degrees, making public spaces more comfortable during hot weather. Trees also act as natural windbreaks, reducing wind speed and providing shelter from cold winds in winter and strong gusts of wind year-round. This makes outdoor areas more pleasant and usable.

By moderating temperatures and providing shelter from wind, rain, and sun, trees make public spaces more inviting and comfortable. This encourages outdoor activities and social interaction.

Trees also enhance the visual appeal of public spaces, contributing to a sense of well-being and relaxation. Green spaces with trees have been shown to reduce stress and improve mental health.

Park trees are typically located close to seating, playgrounds, and trails to provide shade. Park trees may also be located adjacent to residential lots and roadways to provide natural screening while also allowing for a reasonable degree of visual surveillance and public safety (refer to section 5.17 Crime prevention through environmental design). Conifers are often grouped on the most wind-exposed sides of park amenities or incorporated into natural screening.

5.8.3 Shrubs

Shrub plantings provide natural screening and buffers from undesirable views (e.g.: industrial properties, major highways, or large parking lots). They also provide general interest, wildlife, and habitat value. Shrubs are an important component of open spaces that have environmental and ecological benefits. Shrub species that are known or suspected of being invasive shall not be planted on public property.

5.8.4 Perennials

Perennial plantings can be used to provide visual interest as well as enhance the natural environment particularly for regional parks and urban squares. Perennial plantings can be used in formal garden beds, or to augment **naturalization** areas. All proposed perennial beds are to be reviewed and approved by City of Guelph Horticulture staff.

5.8.5 Invasive species

Invasive species that detract from biological diversity and inhibit pedestrian movement in woodlands and naturalized areas shall be controlled wherever possible. All **invasive species** deemed hazardous to the public shall be removed

(refer to the Official Plan, and the Natural Heritage Action Plan). At a minimum all **invasive species** listed on the City of Guelph Managing invasive plants website that are located in any area of a park or open space that is to be developed must be removed. **Invasive species** must also be managed as identified in any approved Environmental Implementation Report in support of a development application or listed in a development agreement.

Invasive species to be managed include but are not limited to:

- Giant Hogweed *(Heracleum mantegazzianum)*
- Common Buckthorn *(Rhamnus cathartica)*
- Glossy Buckthorn *(Rhamnus frangula)*
- Dog-strangling vine *(Vincetoxicum rossicum)*
- Japanese Knotweed *(Reynoutria japonica)*
- European Common Reed *(Phragmites australis)*
- Wild Parsnip *(Pastinaca sativa)*

5.8.6 Habitat enhancements

In natural heritage areas, woodlots, and natural buffers where the location of trails, walkways and park facilities allow for a reasonable degree of safety, the following habitat enhancement strategies may be explored.

1. Habitat snags: Preserve large standing dead or decaying trees that do not present a hazard to pedestrians as wildlife refuges and raptor perches.
2. Native coniferous species: Planting nodes of native coniferous species along NHS edges is desirable.
3. Fallen trees: The disposal of fallen trees by cutting them into 2m to 3m long logs and placing them in secure locations where they do not endanger pedestrians is desirable in small quantities.
4. Brush: Brush is typically removed but may be retained in association with other habitat enhancements and **naturalization** planting with appropriate "Naturalization in Progress" signage.
5. Bird houses and bat roosts: The provision of bird houses and bat roosts in strategic locations is desirable.
6. Rock piles/hibernacula: Fill minimum of 2m deep hole with loose rumble or stones on well drained south facing slopes to provide chambers and overwintering sites for herpetofauna.
7. Turtle nesting beds: Land that flanks wetlands and rivers where turtles have been found to be nesting should be restored if disturbed by development by adding new turtle nesting sites. The following criteria should be used:

    - South, south-west facing aspect
    - Remove and manage vegetation within the bed
    - Provide groundcover vegetation outside of the bed
    - Typical substrate to be 50% gravel, 30% silt loam soil, and 20% sand

- Provide low mounds
- Provide widely spaced, and randomly placed boulders
- Provide multiple nesting beds where space allows

5.8.7 Naturalization planting

Naturalization plantings should be located in unprogrammed and underutilized areas of parks and open spaces as a feature, and in areas that border **natural heritage system** (NHS) lands to increase the function and connectivity of the NHS. Within the NHS, **naturalization** planting is appropriate in all Naturalization Areas, and Ecological Linkages, and it is appropriate within the Significant Natural Areas if supported by an **environmental impact study** and approved by City of Guelph Environmental Planning staff.

Naturalization planting can be used to restore canopy cover and where appropriate, **naturalization** areas may also be used to accommodate compensation trees required by conditions of development if approved by Forestry staff (refer to the Tree Technical Manual).

1. Species: All **naturalization** planting shall consist of native species (refer to Appendix D: Recommended Native Plants) and shall be selected appropriately for the given soil, moisture, and light conditions of the site, as well as any specific stresses.
2. Tree planting ratio: A planting ratio of 40% caliper trees (30mm to 70mm) and 60% tree whips (1.0m to 2.0m) is recommended.
3. Stock size: A mix of caliper trees, whips, pots, and plugs should be provided in greater quantities as stock size decreases.
4. Spacing: Generally, trees should be planted 2m apart, and shrubs 1m apart, with tighter spacing recommended for high density nodes.
5. Groundcover (forbs and grasses): All exposed soil areas are to be seeded with native seed mix(es) consisting of species appropriate for the ecoregion and site conditions (e.g. soil type, topography and slope, moisture regime). Mixes shall not include non-native fescues. Site preparation and application rate should follow to supplier’s instructions, typically 22 - 25 kg/ha (21-23 lbs/acre) or 250g/90m2 (1/2lb/1000 sq. ft) for smaller areas. Include a cover crop at the time of application.
6. Cover crops: Cover crops should be selected to protect areas that are disturbed from encroachment of **invasive species** and erosion while desirable plants become established. Cover crops may also be used to enrich the soil. They should be selected to optimize germination based on time or year and may include annual rye, winter wheat, agricultural rye, barley etc. Cover crops shall not include non-native fescues.
7. Sodding: **Naturalization** planting areas shall not be sodded.

5.8.8 Stormwater management pond planting

Native, non-invasive trees, shrubs, native seed mixes, and aquatic plants are required for all ponds in a low maintenance landscape design which has regard for the ecology of the site and associated Lake Simcoe – Rideau Ecoregion 6E. Using diverse native plants will boost watershed biodiversity and enhance system resiliency.

The plant communities that dominate littoral zones are characterized by grasses in areas with limited seasonal shallow flooding. Sedges and rushes are common in areas of more frequent inundation and deeper water level. Broad-leaved emergents are found in areas that are consistently underwater, followed by cattails and bulrushes. Deeper areas of still water are populated by rooted floating plants such as water lilies.

To limit public access and increase public safety, limit use of ponds by geese, stabilize slopes, and to maximize ecological benefits the entirety of the terrestrial area around the SWM pond and approximately 40% of the perimeter of the aquatic areas appropriate for planting are to be vegetated. Since depth and frequency of inundation during the growing season have significant impact on species survival, the planting zones described below have been identified. For each zone a list of recommended plants is provided in Appendix D: Recommended Native Plants.

5.5.8.1 Deep water areas

Deep water areas are characterized by water depths greater than 0.5m and up to 2.0m below the permanent pool level. Aquatic species, including submergents and floating-leaved species, are appropriate for deep water areas. Deep water areas must meet the following design criteria:

1. No plants are to be placed adjacent to inlet or outlet structures.
2. Forebay deep water areas do not require planting; only Wetlands and Wet Ponds require deep water plants.
3. At least one (1) species of deep water plant is required.
4. Typical spacing is 0.3m to 1.0m on centre.
5. The perimeter of the 0.5m below permanent pool level contour is used to calculate the minimum quantity of aquatic deep water plants needed using the following calculation:

    - **Deep water plants = P x 0.4** where,

        - P = The perimeter in linear meters of the 0.5m below permanent pool level contour (not including forebay).

5.5.8.2 Shallow water areas

The shallow water zone is located below the permanent pool level to a maximum depth of 0.5m. Most emergents should be planted at a water depth < 0.3m. Minimum side slopes are preferable to maximize the area available for plantings. Cattails are aggressive and may thwart diversity goals, however they readily re-colonize after sediment dredging operations making them ideal for forebay areas of SWM ponds. Shallow water planting must meet the following design criteria:

1. No plants are to be placed adjacent to inlet or outlet structures.
2. Cattails should be the only species of aquatic plant used in forebays and should not be planted in **wetlands** or **wet ponds**.
3. At least four (4) species of shallow water plants are required.
4. Provide one (1) species only of shallow water plant identified as aggressive in Appendix D: Recommended Native Plants.
5. Typical spacing is 0.3m to 1.0m on centre.
6. The perimeter of the permanent pool level is used to calculate the minimum quantity of aquatic shallow water plants needed using the following calculation:

    - **Shallow water plants = P x 0.4** where,

        - P = The perimeter in linear meters of permanent pool level (including the forebay).

5.5.8.3 Terrestrial areas

The terrestrial area of the SWM pond includes the entire area of the pond block above the permanent pool line (**wet ponds** and **wetlands**) or pond bottom level (**dry pond**). The land between the permanent pool and the high water mark is subject to higher soil moisture conditions because of water level fluctuations during relatively frequent storm events, and the influence of the permanent pool and soil capillary action in wet facilities during dry weather conditions. The area near the permanent pool is ideal for sedges, rushes, grasses and wildflowers. Only a few shrub species thrive in the fringe between the permanent pool and frequently inundated areas and include Buttonbush, Red osier Dogwood, Winterberry, Common Elderberry and most native Willows (refer to Appendix D: Recommended Native Plants). Planting for the terrestrial area of the SWM management pond must meet the following design criteria:

1. No plants are to be placed adjacent to inlet or outlet structures.
2. No trees are to be located between the maintenance access route and the forebay and where trees are proposed between the maintenance access route and **wet ponds** or **wetlands**, they should be placed in small groups with a minimum 12m distance between each grouping to allow space for

maintenance operations, including consideration for future sediment cleanout involving large equipment.

3. Provide an appropriate native seed mix for the full area of the pond block above the permanent pool level that is not hard surfaces (i.e. excluding trails, access roads, weirs, drainage structures, and any other hard infrastructure).
4. At least eight (8) species of shrubs, and (4) species of trees are required.
5. Typical spacing is 1.0 to 2.0m for shrubs, and 3.0m to 12.0m for trees.
6. Trees are to be provided at a ratio of one (1) tree per every 50m² of plantable area of the pond block. Plantable area is the total area of the pond block above the permanent pool level that is not hard surfaces and is used to determine the minimum quantity of shoreline plants needed using the following calculations:

    - **Trees = A ÷ 50**, where
        - A = The plantable area of the pond block in square meters
    - **Shrubs = (A - (T x 45)) ÷ 1.5**, where
        - A = The plantable area of the pond block in square meters
        - T = The number of trees identified previously

5.9 Canopy cover

Canopy cover refers to the proportion of the ground covered by the vertical projection of tree crowns. Essentially, it measures the area of leaves, branches, and stems of trees covering the ground when viewed from above. Park, trail and open spaces must be designed such that they:

- Accommodate both recreational activities and tree canopy cover.
- Maximize tree canopy while allocating sufficient space for recreational programing and infrastructure.

The City of Guelph has set ambitious targets for increasing its canopy cover. According to the One Canopy strategy, the city aims to achieve a 40% tree canopy cover by 2070. This involves planting at least 3.6 million trees across approximately 1,492 hectares of public and private land. The strategy supports Guelph's Strategic Plan and Official Plan, emphasizing community involvement and shared responsibility in achieving these goals. According to the One Canopy strategy, parks in Guelph contain approximately 6.7 per cent of the City’s overall canopy cover and 5.6 per cent of the land area available to plant trees.

Parks and open spaces are part of a comprehensive approach to achieving canopy cover targets. Existing parks and open spaces are ideal opportunities for community tree planting and naturalization.

New parks and open spaces serve a dual purpose by providing spaces where existing canopy cover can be preserved through the development process by incorporating existing natural features into park design and programing, and by providing spaces appropriate for new tree planting.

The Park Plan recommends increasing canopy cover and naturalization spaces in parks while balancing the need to provide the public with recreational opportunities and programming. It also encourages community involvement in tree planting and maintenance activities to foster a sense of ownership and stewardship.

5.10 Site furniture

Site furniture may include benches, tables, bike racks, bike repair stations, trash receptacles, shade structures, signage, and lighting. Site furniture is an important component of park programming and aesthetics. They are typically surface mounted to concrete unless specified or directed otherwise. The City has three basic requirements:

1. That the furniture must work for its intended use throughout its intended lifespan.
2. That it can be maintained by City staff throughout its expected lifespan.
3. That it is **accessible** for a wide range of ages and abilities.

5.10.1 Benches

Benches are the standard seating used for parks, trails and open spaces. Boulders, armour stone, or logs may be options for creating seating opportunities in naturalized areas or areas with steep topography.

Seating provides opportunities for rest, passive recreational opportunities, such as bird watching, and seating adjacent to programmed features. Benches are to be located along trails, park walkways, adjacent programmed features (i.e.: sport facilities, playgrounds etc.) or where significant viewing areas are available.

Benches are to be installed on a concrete surface with an adjacent **accessible** area, with consideration for optimal orientation.

- Material: Steel, thermally modified wood, or HDPE plastic.
- Colour: Black benches are not permitted. The colours must contrast with adjacent surfaces (typically concrete) as described in section 4.4.1.
- Quantity: Minimum of two benches per park feature or facility, or every 9 linear meters associated with rest areas along trails with an intermediate slope between slopes of 1:12 to 1:20 (refer to the Facility Accessibility Design Manual section 4.5.2).

- Accessibility: All benches shall be **accessible** for people using wheelchairs or other mobility devices unless there are unique grading or topographic constraints.
- **Accessible** features: A centre armrest at 29-1/2 to 30 inches from an end armrest and a backrest.

5.10.2 Tables

Tables are generally provided in park shelters or other shade structures and are fastened to a concrete surface. Tables are part of the focal point for many city parks. They are used as social spaces, for playing games, and for picnicking.

- Material: Steel, thermally modified wood, HDPE plastic. No ground level bracing permitted.
- Colour: Black tables are not permitted. The colours must contrast with adjacent surfaces (typically concrete) as described in section 4.4.1 Colour contrast.
- Quantity: If 1-2 tables are provided one must be wheelchair **accessible**. Where 3 or more tables are provided one must be wheelchair **accessible**, and one must have a 'games table' top.
- Accessibility: At least 20% of tables in each cluster of tables proposed shall be **accessible**. Where public parking is provided, the **accessible** tables shall be within 30m (100 ft.) of the **accessible** parking spaces (refer to the Facility Accessibility Design Manual).
- **Accessible** features: No ground level bracing.

5.10.3 Bike racks

Secure bike parking facilities are an important part of the City's cycling infrastructure and provide a short-term parking option for visitors to park and recreational facilities. Bike racks should be located close to park features such as playgrounds and sports facilities. They are provided for public use in areas that are well-lit and visible with high foot traffic to encourage passive surveillance.

- Material: Powder coated steel or cast iron (cast aluminum is not permitted).
- Colour: To match benches/tables. The colours must contrast with adjacent surfaces (typically concrete) as described in section 4.4.1 Colour contrast.
- Quantity: Provide a minimum of two bike racks in each park that contains a playground or outdoor sport facility.
- Space: Provide a minimum of 0.6m wide by 1.8m long space for each bicycle parking spot (refer to the Zoning Bylaw).
- Design: Inverted U and Post and Ring style racks are preferred.
- Spacing: Minimum 0.9m between racks and 0.6m from edge of walkways, or other physical barriers.

5.10.4 Bike repair stations

A bike repair station is a designated area equipped with essential tools, instruments, and space for cyclists to perform basic maintenance and repairs on their bicycles. They often include features like air pumps, wrenches, screwdrivers, and tire levers, all securely attached to prevent theft and vandalism.

The Guelph Trail Master Plan identifies bike repair stations as key design elements to be located at major trailheads near secure bike parking, as well as paired with other City facilities such as community centres. Stations should be placed in well-lit, visible locations that are free of obstacles and **accessible** to all cyclists, including those with disabilities. The community should be involved during the design phase in the planning and placement of bicycle repair stations to ensure they meet local needs and preferences. Wherever possible, bike repair stations should be located under weather protection.

- Material: Powder coated steel reinforced frame. All materials must withstand harsh weather conditions, including cold winters and heavy snowfall and be resistant to rust and corrosion.
- Colour: Colours must contrast with adjacent surfaces (typically concrete) as described in section 4.4.1 Colour contrast.
- Space: Provide a minimum of 1.0m clearance from all walkways, trails, and vertical obstacles.
- Design: Tools should be securely tethered and designed to be easily replaceable, and stations with a system that allows for hanging the bicycle during maintenance is preferable for ease of use.
- Other: Visible clear instructions that are **accessible** to all users should be provided.

5.10.5 Trash receptacles

Trash receptacles are typically located near benches, shade structures, and pathway intersections. A separation of 5.0m is preferred between trash receptacles and all other site furniture to avoid conflicts with wasps.

- Standard Trash Receptacle: A minimum 1.6m x 1.6m concrete pad is required. A standard removable trash receptacle will be provided by the Parks Department.

5.10.6 Shade structures

Shade in parks provides several environmental and human benefits. Creating shade gives the public the opportunity and added incentive to participate in physical activity in their local parks, playgrounds and sports facilities in relative comfort which contributes to a healthier, safer, and more comfortable environment.

Shade structures also provide protection from the rain and inclement weather and are an important tool in weather protection. They should be used in combination with park trees, awnings, canopies, and vertical structures or buildings. Weather-protected spaces are more likely to be used by the public, increasing social interaction and community engagement

Consideration should be given for the following:

- Although shade structures are typically found in larger municipal parks (refer to Table 1: Typical Park Amenities), they should be provided in any park where physical constraints, budget constraints, and site-specific climate and weather patterns allow.
- In high density urban settings, shade structure design and programing should include a Sun/Shadow Study.
- Provide protection from the sun during summer months by using shade structures, awnings, canopies, and other appropriate vertical structure.
- Where possible shade should be provided adjacent to play spaces.
- Shade structures must include an **accessible** trail or park walkway connection.

5.10.7 Signage

All signage must be in alignment with the City's Corporate Identity Guidelines and the Facility Accessibility Design Manual, and in compliance with visual accessibility guidelines as outlined by the Accessibility for Ontarians with Disabilities Act. Required accessibility features may include but are not limited to tactile lettering (both raised text and braille), colour contrast (refer to section 5.18.1 Colour contrast), an accessibility statement, a QR code linked to the City's website, and roll under sign design.

1. Identification sign: Must include the property address and are to be located strategically along major road frontages, at the primary entrances into the park block, or at major trailheads. The City shall supply wood routed identification signs to the contractor for installation during construction or at a time prior to Preliminary Acceptance of the site.
2. Wayfinding sign: Placed in a visible location to provide a multi-modal wayfinding system for navigation to landmarks, places of interest, transportation nodes, recreational facilities, and trails.
3. Temporary signs: Temporary signage advises future residents of locations of future parks, trails, and open spaces.
4. Interpretive sign: The need for interpretive signs will be evaluated based on site specific programing requirements.
5. Playground sign: Must include contact information for the City of Guelph and are installed by the Parks Department. Playground signs are typically provided by the City to a contractor to install on Tele spar posts.

5.10.8 Lighting

Lights are installed sparingly in the park and trail system. They are generally not provided in parks or on trails, except if placed in shelters, shade structures, buildings, sport facilities or parking areas.

The full impacts of lights on neighbours, public safety, environment, wildlife habitat, light function, cost-benefit, and maintenance commitments should be considered as part of design decision-making. Few municipalities light their entire park and trail network.

Lighting provides a viable choice for high use parks and trails, especially later in fall, over the winter and early spring when daylight hours are reduced. When properly designed and installed, it can be an effective tactic for extending use. Lighting could be considered in the following circumstances:

- At major amenities like parking lots, washroom buildings, sport facilities, and trailheads.
- Where extending use of popular areas in regional or community parks is desirable, considering site context and impacts.
- At trail or park walkway road crossings.

When walkway lighting is provided, it should be controlled by activation circuits and timers with automatic shutoffs.

5.11 Playground equipment

Designers are required to comply with the current edition of CSA Z614 Children's Playground Equipment and Surfacing, and Annex H. Generally **composite play structures** that incorporate both junior and senior play opportunities are preferred. The following criteria should be applied in the selection and arrangement of the elements:

1. Size of playgrounds: The standard playground size for Neighbourhood Parks is 350 sq. m. The standard playground size for Community Parks is 600 sq. m.
2. Age: Most Neighbourhood Parks should provide play opportunities for a complete range of pre-adolescent children from toddlers up to age 12.
3. Community engagement: City staff are responsible for communicating playground construction projects to members of the public and collecting feedback. Playground designs and proposals should respond to specific needs and desires identified.
4. Swings: Swings are a basic standard requirement in all playgrounds, unless otherwise stated by the City. The standard swing size is 10' unless the required space is not available.
5. Saucer swings: Encouraged as an alternative to some or all proposed conventional swings, particularly where space is limited.

6. Component design: Selection of play components should respond to the following types of play:

    - Physical play.
    - Sensory play.
    - Social play.
    - Loose part play (if requested by the City).

7. Other playground components:

    - Emphasize mobile overhead components such as slide bars and spinning wheels, and ground level mobile components, such as rocking logs and spinning seats.
    - Free standing play panels where provided should be double sided.

8. Playground accessibility:

    - Designers are required to provide **accessible** play components and to meet or exceed CAN/CSA-Z614 Annex H. This will include **transfer supports** in proximity to any above ground **accessible** play components located on playground structures if there is not sufficient space for a ramp.
    - Include a minimum of three wheelchair **accessible** play components in all playground designs. Where possible, this will be achieved by a ramp onto the play structure. Where a ramp is not feasible, this will be achieved by implementing inclusive play components within arm's reach (as defined in the Facility Accessibility Design Manual) of an **accessible** pathway.
    - Ensure there is good balance of play elements that are integrated within the play space to promote social interaction amongst all users.
    - Ensure there are calm areas for rest and relief from play integrated within the play space.

9. Drainage: Provide a sub-drain system to efficiently convey stormwater away from the playground. The drainpipe should be located around the entire perimeter of the playground with an appropriate storm sewer outlet or LID feature (refer to Appendix H: Standard Drawings for Park, Trail and Open Space).

5.11.1 Playground protective surfacing

The standard playground **protective surfacing** materials used in the City of Guelph are engineered wood fibre and rubber playground tiles. However, they have advantages and disadvantages that are relevant to how playgrounds are designed and maintained by the City, and how they are used by members of the public.

1. Engineered wood fibre **protective surfacing**: Engineered wood fibre (installed with a non-woven geotextile filter fabric underlay) is the preferred **protective surfacing** material for playgrounds. Engineered wood fibre products must be compliant with standards for **accessible** surfaces (ASTM F1951) and remain compliant through standard playground maintenance (CAN/CSA-Z614 Annex D, Table D.1).

    - Benefits: In general wood fibre products are far quicker, easier, and more economical to install, easier to repair, more cost effective, and more environmentally friendly. Wood fibre products are typically sourced from virgin wood processed by sawmills and are a waste product from lumber production. Since it is manufactured from natural wood fibers, it decomposes into organic material and may be diverted from the typical waste disposal stream.
    - Disadvantages: To remain an **accessible** surface, they require more frequent maintenance such as raking and leveling, and these maintenance activities may affect impact attenuation (i.e.: it cannot be over or under compacted) so a careful balance of maintenance, addition of material, and retaining particulate cohesion is needed.

2. Rubber **protective surfacing**: Resilient rubber mats, also known as rubber playground tiles, are preferred for ease of repair but in certain situations poured-in-place rubber may be considered.

    - Benefits: In general rubber products provide the most stable and reliable **accessible** surface. They can be installed on uneven, mounded, or sloped surfaces while maintaining a consistent impact attenuation value (see also Appendix A; Head injury criterion). The regular maintenance is relatively minimal and typically involves inspecting for damage such as warping, tears, or excessive wear, and sweeping and cleaning.
    - Disadvantages: It requires professional installation, has a high initial cost, as well as a high lifecycle repair and replacement cost (i.e.: twice during the service life of play equipment). This will often make the consequences of vandalism in playgrounds with rubber surfaces more difficult and costly to repair. Rubber products can be manufactured partially (i.e.: the attenuation layer only in the case of poured-in-place rubber) or fully from recycle rubber material, however once it is degraded or decomposed and requires removal and replacement it becomes a waste product which could cause negative environmental impacts.

3. Distribution of playgrounds with rubber surface: Playgrounds with rubber surfaces will be provided within a geographic distribution radius of 2.5km of residential areas. This geographic distribution model will ensure that playgrounds with rubber surfaces are located within reasonable distance to

residential areas (i.e.: a 5-minute drive or 30-minute walk). Rubber surfacing may also be considered where a playground is located near a splash pad to prevent loose fill material from impacting splash pad drainage structures.

5.11.2 Playground entry ramp

Playground entry ramps are made of poured-in-place concrete. Ramps are to be designed to provide an **accessible** route for people using wheelchairs or scooters to cross the playground curb from a walkway or plaza to the playground surface (refer to the Facility Accessibility Design Manual section 4.5.2). Playground entry ramp details can be found in Appendix H: Standard Drawings for Park, Trail and Open Space Construction. Playgrounds with engineered wood fibre safety surface require an entry ramp. Ramps shall be centrally located and in proximity to **accessible** features such as transfer stations and **accessible** swing seats where feasible.

The following criteria are used to determine the type of playground entry ramp that is appropriate:

- For new playgrounds, the ramp outside the curb is preferred and should be provided.
- For playground replacements where the existing playground will be replaced, the ramp outside the curb is preferred.
- For playground replacements where the existing playground curb is not replaced the ramp inside the curb will be used.

5.12 Splash pads

Splash pads are outdoor installations that include sprayed, jetted, or other water sources contacting bathers and not incorporating standing or captured water as part of the bather activity area (O. Reg. 141/18: PUBLIC POOLS). They provide opportunities for play, social gathering, and basic cooling. They are generally located in Regional and Community parks where they accommodate a wider segment of the population and provide complimentary park amenities such as parking lots, washrooms, and shade structures. All new City of Guelph splash pads use recirculation systems rather than flow-through systems because of the City's reliance on an aquifer water supply. The splash pad designs are to meet the following design criteria:

1. Size: Splash pads vary in size but should generally have a minimum play area of 300 sq. m. not including the apron with slip resistant surface.
2. Age: Water play areas are to be designed for age-specific play habits including:
    1. Toddler Zone (ages 0-4 years) – Water elements designed to the size and abilities of a toddler. Emphasize motor skills development, cause and effect,

and sensory stimulation at ground or low levels, including misting or low-pressure ground spray.
2. Child Zone (ages 5-8 years) – Emphasize sensory stimulation, action-reaction, collaboration, thematic elements, and interactive user manipulate elements.
3. Youth Zone (ages 9+ years) – Water elements that offer big sprays, splashes, and surprises. Emphasize sensory stimulation, group play, and overhead dumping elements.

3. Community engagement: City staff are responsible for communicating splash pad construction projects to members of the public and collecting feedback. Splash pad designs and proposals should respond to specific needs and desires identified.
4. Component design: Both quality of play and degree of challenge are important and should respond to the following categories of play:

    - Motor skills.
    - Cause and effect.
    - Sensory stimulation.
    - Physical activity.
    - Social development interaction.
    - Collaboration.

5. Splash pad components:

    - Include a variety of vertical and ground level sprays and bubblers.

6. Controller: Must be programable with features that minimize water use while maximizing the play value. Provide a prefabricated splash pad control room if there is no existing mechanical room on site with clear sightlines to the splashpad, enough floor area to accommodate the splash pad mechanical equipment, maintenance equipment such as a dolly, an eye wash station, and chemical storage.
7. Holding tank: Provide a pre-cast concrete holding tank including two access hatches with ladders.
8. Activation mechanism: A minimum or two and maximum of three recommended. The activation mechanisms shall be stand-alone, bar-style push activated units.
9. Accessibility: Barrier-free access is required in compliance with City of Guelph Facility Accessibility Design Manual and Accessibility for Ontarians with Disabilities Act requirements. The design and layout of the splash pad must also incorporate the principle of inclusivity.
10. Surfacing: Poured in place concrete.
11. Avoid:

    - Standing water.

- Plastic components.
- Spray guns or directional shooting components.

5.13 Sport facilities

Facility allocation should be responsive to site conditions including topography, existing natural features, and views. Facility programs should be versatile, with the ability to evolve or change over time and accommodate overlapping uses. Orientation, size, and location of facilities should optimize play experience. Sports fields will typically be limited to Community and Regional Parks and to some Neighbourhood Parks. A north-south orientation along the long axis is preferred. Factors such as space constraints, grading, and prevailing winds may also affect field orientation somewhat. For **setbacks**, please refer to section 5.2 Setbacks, Table 2.

Table 3: Sport facility rectangular field design

Type of Field	Division	Field Size	Goal Size	Orientation	Playout Line and Planting Line
Mini Soccer	U6 & U7	125’ x100’	10’ x 5’	north-south	15’ from sideline; 25’ from goal line
Junior Soccer	U8& U8	190’ x 120’	16’ x 6’	north-south	15’ from sideline; 25’ from goal line
Intermediate Soccer	U10 to U13	275’ x 150’	18’ x 8’	north-south	15’ from sideline; 25’ from goal line
Senior Soccer	U15 and up high school	300’ x 200’	24’ x 8’	north-south	15’ from sideline; 25’ from goal line
Premier Soccer	adult	330’ x 225’	24’ x 8’	north-south	15’ from sideline; 25’ from goal line
Minor Football	U10 to U18	330’ x 195’	60' End Zone	north-south or northwest-southeast	15’ from sideline; 25’ from goal line

Table 4: Sport Facility Baseball Field Design

Type of Field	Division	Base	Mnd.	Diag	Foul Area	O.Fence Sides	O.Fence Centre	Grass Radius	Orientation
Junior Softball Hardball	T-ball	60′	40′	85′	25′	200′	200′	60'	east-northeast
Intermediate Softball	slow pitch	60′	40′	85′	25′	250′	250′	60'	southeast
Senior Softball	fast pitch	60′	40′	85′	25′	300'	300'	60'	southeast
Intermediate Hardball	Rookie Tyke Mosquito Peewee	75′	50′	106′ 4″	50′	270′	335′	80'	east-northeast
Senior Hardball	Juvenile Midget Bantam AA/AAA	90′	60′6″	127′ 3″	60′	325′	400′	95'	east-northeast

5.14 Public art

The City of Guelph Public art policy establishes a standardized and transparent process for acquiring public art for municipally owned spaces through purchase, commission, or donation. It aims to celebrate culture and heritage, reflect diversity, and define the city's unique identity.

The policy seeks to integrate art into everyday public spaces to enhance the cultural and aesthetic experience of the community. Municipally owned parks and open spaces are areas where public art is encouraged. Parks and natural areas are also good locations for Indigenous placekeeping and public art that celebrates Indigenous culture.

Some of the options for public art in parks and open spaces may include:

1. Types of Public Art:

    - Eco-art or land art: Artworks created using eco-friendly or organic materials, often focusing on environmental themes or sustainability.
    - Art installations: Three-dimensional works that create a dialogue with their environment and viewers that may be permanent installations or temporary.

- Functional and play-based art: Art that combines artistic expression with utilitarian purposes, such as benches, tables, lighting, and playgrounds.
- Performance art: Live presentations or actions by artists.
- Sculptures: Three-dimensional artworks typically made from materials like stone, metal, or wood.
- New media: Artworks created using digital technologies, including augmented and virtual reality, video, light, and sound-based art.

2. Potential Spaces for Public Art:

    - Trails: For example, the Downtown Trail/Trans Canada Trail.
    - Rivers and lakes: Such as the Speed River, Eramosa River, and Guelph Lake.
    - Conservation areas: Guelph Lake Conservation Area.
    - Playgrounds: Integrating art into play spaces or natural playground elements.
    - Community gardens: Enhancing communal green spaces with art.
    - Urban square: Adding a unique and memorable identity to compact park spaces.
    - Sculpture parks: Open spaces specifically designed to house art pieces as a feature to attract visitors.
    - Viewpoints: Scenic spots that can be accentuated with public art.

By focusing on these areas, Guelph can enhance the cultural significance of its parks and open spaces, making them vibrant and engaging community spaces. This approach can beautify an area, create a focal point that captures attention, generate community dialogue, and foster a deeper connection between people and their environment.

5.15 Parking lots

Generally, parking lots will only be located where there are sports facilities or other community facilities that is considered a higher volume “drive to”’ destination. Some major trailheads within the city may also have parking lots. The following parking lot design criteria shall apply:

1. **Accessible** parking spaces: Shall be provided at the rate of one per sports field and in accordance with the Zoning By-law Table 5.5.
2. Measurements: Minimum stall sizes shall be 2.75m wide by 5.5m long and **accessible** spaces shall generally be Type A, 3.4m wide by 5.5m long and in accordance with the Zoning By-law Table 5.5. Aisle widths will be 6.6m wide. The access road from the municipal street to the first parking lot stall will be a minimum of 7.5m wide. The radius of concrete curbs at the road will be minimum 7.5m, and

3. Surfacing and drainage: Generally, parking lots should be surfaced with asphalt paving with concrete curbs and drained internally with catch basins or using appropriately designed and approved LID drainage features.

5.16 Fencing

1.5m high black vinyl chain link fencing is required around the perimeter of parks and open spaces where they abut private, commercial, and industrial properties (refer to the Property Demarcation Policy). Fencing is to be installed on public property 0.15m from the property line. All permanent demarcation fences shall have a buffer zone (refer to 5.8.1 Buffer zones). Although fencing the entire perimeter of a stormwater management facility is not typically required, it may be necessary in areas of significant grade at the discretion of the City. Stormwater facility headwalls require either fencing or a pedestrian guard if located adjacent to a public trail.

Fencing is not typically required between two public spaces (i.e.: parks, SWM facilities, NHS or trails).

Property demarcation markers may be required instead of chain link fencing solely at the City's discretion. Property demarcation markers are installed on public property 0.15m from the property line. They may be used to identify the boundary of public land where encroachment is unlikely to occur, where fencing will interfere with maintenance of a space, or in some cases to deter encroachment.

5.17 Crime prevention through environmental design

Crime prevention through environmental design (CPTED) is required for parks and open spaces. The fear and incidence of crime can be reduced through thoughtful design and careful use of natural and built design elements.

Key Principles of CPTED are:

- Natural Surveillance
    - Encourages the placement of physical features, activities, and people in ways that maximize visibility.
    - Examples include clear sightlines, strategic placement of windows, and effective lighting.
- Natural Access Control
    - Uses physical and symbolic barriers to guide people and reduce opportunities for crime.
    - This can be achieved through clear entry points, strategic landscaping, and secure building materials.

- Territorial Reinforcement
    - Promotes a sense of ownership and responsibility among users of a space.
    - This can be done by clearly defining public and private spaces and using design elements that express ownership.
- Space Management
    - Ensures that spaces are well-maintained and used appropriately.
    - Includes regular maintenance, rapid repair of vandalism, and the use of materials that deter vandalism.

Implementation Guidelines

1. Lighting: Proper lighting is crucial for visibility and safety. It should be consistent, cover all areas, and be designed to avoid glare and shadows.
2. Fencing: Should allow for natural surveillance and not create hiding spots. Front fences should be low or made of open materials.
3. Car parking: Should be designed with safety in mind, including clear signage, good lighting, and surveillance measures.
4. Entrapment spots and blind corners: Should be minimized or well-lit and visible.
5. Landscaping: Should not obstruct visibility or create hiding spots. Use low or high-canopied vegetation.
6. Public areas: Should be visible from active areas and well-lit.
7. Movement predictors: Routes like underpasses should be avoided or designed for safety with clear sightlines and lighting.
8. Entrances: Should be prominent, visible, and easily recognizable.
9. Park/trail identification: Clear and visible numbering and signage are essential.
10. Security: Use of security hardware and personnel to prevent unauthorized access.
11. Ownership and space management: Encourage a sense of ownership and responsibility among users.

5.18 Accessibility

Parks and open spaces must comply with the Accessibility for Ontarians with Disabilities Act and Ontarians with Disabilities Act. Furthermore, all new or renovated parks and trails are expected to meet the standards identified in the City of Guelph Facility Accessibility Design Manual.

Where conflicting information is present the most accommodating requirements shall apply (i.e. the requirement(s) that will result in the most accommodating

environment, but never less than the minimum requirements of the current Ontario Building Code and Accessibility for Ontarians with Disabilities Act Regulations).

5.18.1 Colour contrast

The Facility Accessibility Design Manual section 4.4.15 provides the rationale for the use of texture and colour as a tool to ensure that public spaces are both **accessible** and user-friendly. In a park and trail setting this requirement must be applied to all signs and site furniture.

To determine the pronounced colour contrast of two adjacent materials/objects such as the contrast of a bench and a concrete surface, the Light Reflectance Values (LRV) emitted by the colours of the two adjacent materials are measured. LRV can be defined as the percentage of visible and usable light that is reflected from a surface when illuminated by a light source, and it is crucial for determining accessibility. This measurable requirement of LRV with a minimum of 70% contrast enhances safety by differentiating boundaries of objects and enhancing spatial orientation from an accessibility perspective.

Appendix A: Glossary

Accessible: A site, building, and its facilities that can be approached, entered, and used by people, including those with physical, sensory, or cognitive disabilities (CSA B651).

Active transportation: Modes of transportation, such as walking and cycling that: provide the personal benefits of fitness and recreation; are environmentally friendly; contribute to the personal and social health of neighbourhoods; and are readily available to a wide range of age groups within the community.

Basic parkland development: The work required to ensure lands are suitable for development for park and other public recreational purposes, to the satisfaction of the City in accordance with applicable policies, and includes but is not limited to the following:

d) Servicing – hydro, sanitary, electrical, and water (minimum 50mm) stubbed one (1) metre inside the property line, in a location approved by the Park Planner;
e) Stormwater – catch basins, culverts, manholes and other drainage structures as required for each catchment area;
f) Clearing and grubbing;
g) Only where impediments that would inhibit the suitability of **parkland** exist, any other associated infrastructure (minor bridges and abutments, guard and handrails, retaining walls) as required to bring the land to a suitable level for development as a park;
h) Topsoil stripping, rough grading, supply and placement of topsoil and engineered fill to required depths and fine grading;
i) Sodding;
j) Only where **parkland** is divided between more than one separate development application or is part of more than one phased application within the same development parcel, temporary perimeter fencing where there is no permanent fence;
k) Temporary park sign(s) advising future residents that the site is a future park;
l) Permanent perimeter fencing to City standard to all adjacent land uses (residential and non-residential) as required by the City or other approval authority.

Clear zone: A minimum horizontal area on either side of the edge of a trail that is clear of obstructions (e.g., signposts, utility poles, trees, gates, fences, and steep slopes), is reasonably flat, and is maintained by periodic mowing or removal of vegetation.

Composite playstructure: Consists of two or more play components attached or functionally linked to create one integral unit that provides more than one play activity (CSA Z614).

Developer: The owner of land and agents or contractors or subcontractors and carrying out the works on behalf of the owner or owners engaged in development and responsible for submitting development application(s).

Development: The creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the Planning Act; Site alteration activities such as fill, grading and excavation that would change the landform and natural vegetative characteristics of a site; and various forms of intensification, infill development and redevelopment (refer to the City of Guelph Official Plan).

Dry pond: An extended pond that is dry during periods without rainfall or snow melt. During periods of rainfall or snowmelt, the pond will be flooded to temporarily store the surface runoff.

Environmental impact study: An analysis completed in accordance with the Official Plan by a qualified expert in ecology, forestry, hydrology and/or other specialties based on specific circumstances. The study evaluates the policy rationale for a project or **development**, and potential impacts on natural heritage features and functions, and provides mitigation and management recommendations. Applicable legislation and policies may include, the City of Guelph Official Plan, Provincial Policy Statement, Endangered Species Act, City of Guelph's Guidelines for the preparation of Environmental Impact Studies, GRCA's Environmental Impact Study Guidelines and Submission Standards for **wetlands**, and the City of Guelph Tree Technical Manual.

Head injury criterion (HIC): A measure of impact severity that takes into consideration the duration over which the most critical section of the deceleration pulse persists, as well as the peak level of that deceleration (CSA Z614).

Invasive species: Species of plants, animals and microorganisms introduced by human action outside their natural past or present distribution whose introduction or spread threatens the environment. An invasive plant is one that has been moved from its indigenous habitat to a new area (possibly for garden/domestic use) and reproduces so aggressively that it displaces species within indigenous plant communities.

Low impact development (LID): Measures intended to minimize stormwater run-off and recharge groundwater systems at the source, rather than sending all flows to one central facility.

Naturalization: The process of allowing vegetation to become established through a combination of natural regeneration and deliberate plantings of native species to emulate a natural succession.

Natural heritage system (NHS): An area of land defined in the Guelph Official Plan to be maintained, restored and, where possible, improved and recognizes the linkages between natural heritage features, surface water, and groundwater features. Development is prohibited within defined features in accordance with the provisions of the Provincial Policy Statement and the Growth Plan.

Parkland: Municipal land set aside or acquired specifically to meet current or future park and recreation needs.

Park planner: City of Guelph staff who is responsible for the review of development applications on behalf of the Parks department, and for the planning, design, development, and redevelopment of **parkland**.

Protective surfacing: Surfacing material(s) used within the protective surfacing zone of any playground equipment, chosen to yield a Gmax of 200g or less and a HIC of 1000 or less (CSA Z614).

Plan of subdivision: The plan of subdivision clearly outlines all details that are required to develop a parcel of land into a subdivision with individual properties. These lots or blocks can be used for residential, industrial, commercial, institutional (e.g. school) or open space/park depending on the designation of the land within the Official Plan and Zoning By-law. A registered plan of subdivision is required for the lots and blocks to be sold or conveyed separately. Once the subdivision plan is registered, it becomes a legal document that outlines all the details and conditions required to develop a parcel of land.

Setback: The horizontal distance between two objects or legal boundaries.

Subdivision agreement: A legally binding contract that sets out all the subdivision requirements for the various stages of the proposed draft plan of subdivision. It outlines all documents, conditions, and monetary contributions to be paid by an owner for the implementation of the works to be carried out by the **developer**.

Sun and shadow study: Sun and shadow studies illustrate the impact of proposed development on public and private spaces. They include a 3-D visual model and written description of sun and shadows in relation to built form and neighbourhood including parks, adjacent residential uses, public open space, private amenity space and retail streets. These studies evaluate sun and shadow at various times of day, throughout the year (including at a minimum April 21st, June 21st, and September 21st).

Swale: A long, channeled depression that conveys water, and can be either artificial or naturally occurring. Often appears as a shallow ditch that connects more than one drainage feature such as catch basins, culverts, or ponds.

Transfer supports: A system for accessing a **composite playstructure** by children who use wheelchairs or other mobility devices generally consisting of a transfer platform and a series of transfer steps.

Recreational trail: A trail intended for recreational purposes that provides opportunities for safe, off-street movement throughout the City of Guelph. They are designed to accommodate the needs of a wide range of users and provide links to the City's wider trailway system as well as the on-street sidewalk system. Recreational Paths address the needs of walkers, joggers, hikers, cyclists, strollers, and wheelchairs.

Utilities: An essential commodity or service such as water, sewer, electricity, gas, oil, television, or communications/telecommunications that is provided to the public by a regulated company or government agency.

Wet ponds: The most common end-of-pipe stormwater management facility employed in the province of Ontario. Wet ponds can be designed to efficiently provide for water quality, erosion and quantity control, reducing the need for multiple end-of-pipe facilities. Wet ponds can be designed with extensive landscaping and associated recreational amenities, contributing to the character of the community and enhancing its marketability.

Wetland: An area of land whose soil is saturated with water either permanently or seasonally. A vegetated area such as a bog, fen, marsh, or swamp, where the soil or root zone is saturated for part of the year. They can be man-made or natural.

Appendix B: Policy Documents

Accessibility for Ontarians with Disabilities Act, 2005, S.O. 2005, c. 11

Building Code Act, S.O. 1992, c. 23

Construction Act, R.S.O. 1990, c. C.30

City of Guelph – 2015 Facility Accessibility Design Manual, 2015

City of Guelph – 2023 Development Charges Background Study Appendix E: Local Service Policy, 2023

City of Guelph Natural Heritage Action Plan, September 2018

City of Guelph One Canopy Tree Planting Strategy, January 2023

City of Guelph Parks and Recreation Master Plan, 2023

City of Guelph Property Demarcation Policy, 1996

City of Guelph Site Plan User Guide, 2017

City of Guelph Stormwater Management Master Plan Appendix G – LID Implementation Strategy, 2023

City of Guelph Tree Technical Manual, 2019

CSA Z614:20 Children's Playground Equipment and Surfacing, 2020

Development Engineering Manual, 2023

Future Guelph Strategic Plan (2024–2027), 2023

Guelph Active Transportation Network Study, 2017

Guelph Park Plan: Guiding our future parkland system, 2022

Guelph Trail Master Plan, 2021

Ontarians with Disabilities Act, S.O. 2001, c. 32

Ontario Ministry of the Environment, Conservation and Parks (MECP) Stormwater Management Planning and Design Manual, 2023

Ontario Traffic Manual (OTM) – Book 18 – Cycling facilities, 2021

Parkland Dedication By-law Number (2022) – 20717

Pre-Consultation By-law (2015) – 19937

Purchasing By-law Number (2018) - 20259

Planning Act, R.S.O., 1990

Shaping Guelph: Growth Management Strategy and Land Needs Analysis, 2022

Sports Turf Canada Athletic Field Construction Manual

Stormwater Management Masterplan

Subdivision Assumption Guidance Manual, 2019

The City of Guelph Official Plan, 2022

The City of Guelph Zoning By-law (1995)-14864

The City of Guelph Zoning By-law (2023)-20790

Appendix C: Drawing and Submission Standards

Once the **developer** has obtained approval for a development application where park, trail, or open space improvements are required, a detailed park or open space submission can be made to the **park planner**.

Document submissions are prepared and stamped by a landscape architect, registered as a full member with the Ontario Association of Landscape Architects. Please note that the following represents the City's minimum submission requirements for a park and open space development project regardless of whether the project is delivered under a City initiated capital project or through a **developer** initiated development application process. More complex projects may require additional submissions or documentation as determined by the City.

1.1 Concept plan

Concept plans are prepared by the landscape architecture consultant hired by the City in the case of city-built parks and open spaces, or by the developer's landscape architect in the case of developer-built parks and open spaces. The concept plan builds on the facility fit plan to further define park programing, connectivity, and the budget. The Concept Plan is submitted to the City **park planner**, or Project Manager who then circulates internally for review. The concept plan is prepared after the approval of the facility fit plan.

Concept plan submissions shall subject to the following:

1. Computer generated (AutoCAD), neat and legible;
2. Sheet size shall be no less than (594 mm x 841 mm) metric or (24" x 36") imperial;
3. A north arrow, legend, scale bar, date, key plan (showing location with respect to the street network), address and a title block showing the name of the landscape architect and revision number;
4. Community context (adjacent buildings, easements, stormwater facilities, streets, lots etc.);
5. Critical dimensions of all park amenities and **setbacks**;
6. Elevations are to relate to a geodetic datum acceptable to the City;
7. Presented in black and white or colour (colour is not mandatory), and
8. Plans which include a general location of proposed facilities, defined play areas, target playground age, location of plant material, seating, pathways, hard surfaces, shades structures, general topography and **swales**.

Concept plan drawings shall consist of the following:

1. Title sheet
2. Conceptual layout plan
3. Conceptual drainage plan

4. Plan-profile drawings (if applicable)
5. Other drawings (e.g.: Tree Inventory and Preservation Plan, Vegetation Compensation Plan, and any unique design elements)
6. Cost estimate (class D; refer to Canadian Handbook of Practice of Architecture Appendix A for class of cost estimate)

1.2 First submission (60% working drawings)

The first submission drawings take the concept plan information and expand it into a set of working drawings. Comments provided at the concept stage are incorporated into the first submission working drawings.

Samples, mock-ups, and product information may be required in support of the City's review of the first submission or for subsequent submissions.

First submission requirements:

1. Computer generated (AutoCAD) georeferenced in a UTM coordinate system, neat and legible;
2. Sheet size shall be no less than (594 mm x 841 mm) metric or (24" x 36") imperial;
3. A north arrow, legend, scale bar, date, key plan (showing location with respect to the street network), address and a title block showing the name of the landscape architect and revision number;
4. Elevations are to relate to a geodetic datum acceptable to the City;
5. Annotated existing plan material and features to be retained, removed or relocated;
6. Layout of proposed play equipment (including water play) provided by the manufacturer;
7. Table of proposed vegetation (including quantity, botanical name, common name, Cal.(mm)/Ht.(cm), stock type, and minimum soil volume), and
8. Limit of construction and property lines.

First submission working drawings shall consist of the following:

1. Title sheet
2. Existing Conditions
3. Layout plan
4. Grading and drainage plan
5. Servicing plan
6. Sediment and Erosion Control Plan (if applicable)
7. Planting plan
8. Plan-profile drawings (if applicable)
9. Detail drawings
10. Other drawings (e.g.: tree preservation plan, any unique design elements)

11. Cost estimate (class D)

1.3 Second submission (90% working drawings)

The second submission working drawings incorporates red-line mark-ups and comments of the first submission package and include a higher level of detail, additional plans that may be required, and draft specifications.

Second submission requirements:

1. Computer generated (AutoCAD) georeferenced in a UTM coordinate system, neat and legible;
2. Sheet size shall be no less than (594 mm x 841 mm) metric or (24” x 36”) imperial;
3. A north arrow, legend, scale bar, date, key plan (showing location with respect to the street network), address and a title block showing the name of the landscape architect and revision number;
4. Elevations are to relate to a geodetic datum acceptable to the City;
5. Annotated existing plan material and features to be retained, removed or relocated;
6. Layout of proposed play equipment (including water play) provided by the manufacturer;
7. Table of proposed vegetation, and
8. Limit of construction and property lines.

Second submission working drawings shall consist of the following:

1. Title sheet
2. Existing Conditions
3. Demolition and Site Preparation Plan
4. Layout plan
5. Grading and drainage plan
6. Servicing plan
7. Sediment and Erosion Control Plan (if applicable)
8. Planting plan
9. Plan-profile drawings (if applicable)
10. Electrical plan (if applicable)
11. Mechanical plan (if applicable)
12. Detail drawings
13. Other drawings (e.g.: tree preservation plan, any unique design elements)
14. Specifications
15. Cost estimate (class C)

1.4 Draft tender (100% working drawings)

The third submission drawings are intended to be tender ready working drawings and must resolve all previous comments.

The consultant shall submit prior to tender:

1. One (1) digital (PDF) copy of the third submission cost estimate (class B);
2. One (1) digital (PDF) copy of the detailed concept plan showing the arrangement and spatial requirements of all proposed features;
3. One (1) digital (PDF) draft tender drawings for review prior to Issued for Tender (IFC);
4. One (1) digital (PDF) copy of the IFT cost estimate (class B);
5. One (1) digital Excel file of the Form of Tender with no pricing included;
6. Flash Drive, or Electronic File Transfer (EFT) with final contract documents files including all drawings in CAD, specification (PDF), product sheets (PDF), etc.

1.5 As-recorded drawings

As-recorded drawings, or as built record drawings, consist of a complete set of drawings intended to convey all information necessary to document the actual construction of the site. This includes the installed, constructed or commissioned conditions of equipment, structure, or facility certified by a professional consultant.

The As-recorded drawings allow the City to update their inventories and databases to continue maintenance once the project is accepted by the City. As-recorded documents shall be submitted to the City a maximum of 4-6 weeks prior to final acceptance. The City will review the submission for compliance. The consultant or contractor shall make any necessary corrections and resubmit.

As-recorded drawings are to be submitted as CAD drawings in AutoCAD *.dwg format and must be georeferenced in a UTM coordinate system. If drawings are converted from other CAD software, the consultant is responsible for ensuring the accuracy of the final AutoCAD files. Confirm with the Project Manager what version of AutoCAD the final *.dwg files are to be submitted as.

1.6 Excess Soil

All drawings and reports shall comply with Ontario Regulation 406/19 On-Site and Excess Soil Management (the “Excess Soil Regulation”), as amended, made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (the “EPA”) and all other documents applicable to the Excess Soil Regulation including, but not limited to, the Rules for Soil Management and Excess Soil Quality Standards (the “Soil Rules”).

The Contractor shall also comply with Ontario Regulation 347 General — Waste Management (the “Waste Regulation”), as amended, made under the EPA.

Additional information can be found in the Linear Infrastructure Standards Specifications for Earth Excavation and the Development Engineering Manual On Site and Excess Soil Management section.

Appendix D: Recommended Native Plants

BOTANICAL NAME	COMMON NAME	TYPE	ZONE	AGGRESSIVE
Acer rubrum	Red Maple	Tree	Moist	No
Acer saccharinum	Silver Maple	Tree	Moist	No
Acer saccharum	Sugar Maple	Tree	Dry	No
Acer nigrum	Black Maple	Tree	Dry	No
Aesculus glabra	Ohio Buckeye	Tree	Dry	No
Asimina triloba	Pawpaw	Tree	Moist	No
Betula alleghaniensis	Yellow Birch	Tree	Moist/wet	No
Betula papyrifera	Paper Birch	Tree	Dry	No
Carpinus caroliniana		Tree	Moist	No
Carya cordiformis	Bitternut Hickory	Tree	Moist	No
Carya ovata	Shagbark Hickory	Tree	Dry	No
Celtis occidentalis	Hackberry	Tree	Dry/moist	No
Cercis canadensis	Redbud	Tree	Dry	No
Cornus alternifolia	Alternate Leaved Dogwood	Tree	Dry/moist	No
Fagus grandifolia	American Beech	Tree	Dry	No
Gleditsia triacanthos	Honey Locust	Tree	Dry	No
Gymnocladus dioicus	Kentucky Coffee Tree	Tree	Dry	No
Juglans nigra	Black Walnut	Tree	Moist	No
Juniperus virginiana	Red Cedar	Tree	Dry	No
Larix laricina	Tamarack	Tree	Moist	No
Liridodendron tulipifera	Tulip Tree	Tree	Moist	No
Malus coronaria	Wild Crabapple	Tree	Dry	No

BOTANICAL NAME	COMMON NAME	TYPE	ZONE	AGGRESSIVE
Ostrya virginiana	Ironwood	Tree	Dry	No
Picea glauca	White Spruce	Tree	Moist	No
Pinus strobus	White Pine	Tree	Dry	No
Platanus occidentalis	Sycamore	Tree	Moist	No
Populus balsamifera		Tree	Dry/moist	Yes
Populus deltoides	Cottonwood	Tree	Moist/wet	Yes
Populus grandidentata	Large Tooth Aspen	Tree	Dry	Yes
Populus tremuloides	Trembling Aspen	Tree	Dry/moist	Yes
Prunus americana	American Plum	Tree	Dry	No
Prunus pensylvanica	Pin Cherry	Tree	Dry	Yes
Prunus serotina	Black Cherry	Tree	Dry/moist	No
Ptelea trifoliata	Hop Tree	Tree	Dry	No
Quercus alba	White Oak	Tree	Dry	No
Quercus bicolor	Swamp White Oak	Tree	Moist/wet	No
Quercus macrocarpa	Bur Oak	Tree	Moist	No
Quercus muehlenbergii	Chinquapin Oak	Tree	Dry	No
Quercus rubra	Red Oak	Tree	Dry	No
Quercus velutina	Black Oak	Tree	Dry	No
Sorbus americana	American Mountain Ash	Tree	Dry	No
Staphylea trifolia	Bladdernut	Tree	Moist	No
Thuja occidentalis	Eastern White Cedar	Tree	Moist	No
Tilia americana	Basswood	Tree	Moist	No
Tsuga canadensis	Eastern Hemlock	Tree	Moist	No

BOTANICAL NAME	COMMON NAME	TYPE	ZONE	AGGRESSIVE
Amelanchier arborea	Downy Serviceberry	Shrub	Dry	No
Amelanchier humilis	Low Serviceberry	Shrub	Dry	No
Amelanchier laevis	Smooth Serviceberry	Shrub	Dry	No
Amelanchier sanguinea	Round Leaved Serviceberry	Shrub	Dry	No
Aronia melanocarpa	Chokeberry	Shrub	Dry	No
Ceanothus americana	New Jersey tea	Shrub	Dry/moist	No
Cephalanthus occidentalis	Buttonbush	Shrub	Moist/wet	No
Cornus amomum	Silky Dogwood	Shrub	Moist	No
Cornus drumondii	Drummond's Dogwood	Shrub	Moist	No
Cornus racemosa	Gray Dogwood	Shrub	Dry	Yes
Cornus rugosa	Round Leaved Dogwood	Shrub	Dry	No
Cornus sericea	Red Osier Dogwood	Shrub	Moist/wet	No
Corylus americana	American Hazelnut	Shrub	Dry/moist	No
Diervilla lonicera	Northern Bush Honeysuckle	Shrub	Dry	No
Hamamelis virginiana	Witch Hazel	Shrub	Moist	No
Ilex verticillata	Winterberry	Shrub	Moist/wet	No
Lindera benzoin	Spicebush	Shrub	Moist	No
Lonicera canadensis	Fly Honeysuckle	Shrub	Dry	No
Physocarpos opulifolius	Ninebark	Shrub	Dry	No
Prunus virginiana	Chokecherry	Shrub	Dry/moist	No

BOTANICAL NAME	COMMON NAME	TYPE	ZONE	AGGRESSIVE
Rhus aromatica	Fragrant Sumac	Shrub	Dry	No
Rhus typhina	Staghorn Sumac	Shrub	Dry	Yes
Ribes americanum	Wild Black Currant	Shrub	Moist	No
Ribes cynosbati	Prickly Gooseberry	Shrub	Moist	No
Rosa blanda	Meadow/Smooth Rose	Shrub	Dry	No
Rosa carolina	Pasture Rose	Shrub	Dry	No
Rosa palustris	Swamp Rose	Shrub	Moist/wet	No
Rubus allegheniensis	Blackberry	Shrub	Moist	No
Rubus occidentalis	Black Raspberry	Shrub	Dry	No
Rubus idaeus	Wild Red Raspberry	Shrub	Dry	No
Rubus odoratus	Purple Flowering Raspberry	Shrub	Dry	No
Salix bebbiana	Beaked Willow	Shrub	Wet	Yes
Salix discolor	Pussy Willow	Shrub	Wet	Yes
Salix exigua	Sandbar Willow	Shrub	Wet	Yes
Sambucus canadensis	Common Black Elderberry	Shrub	Moist/wet	No
Sambucus pubens	Red Berried Elder	Shrub	Dry	No
Viburnum lentago	Nannyberry	Shrub	Dry	No
Viburnum trilobum	Highbush Cranberry	Shrub	Moist/wet	No
Anemone canadensis	Canada Anemone	Perennial	Moist	Yes
Asclepias incarnata	Swamp Milkweed	Perennial	Moist/wet	No
Aster puniceus	Swamp Aster	Perennial	Moist/wet	No

BOTANICAL NAME	COMMON NAME	TYPE	ZONE	AGGRESSIVE
Calamagrostis canadensis	Canada Bluejoint	Perennial	Moist/wet	Yes
Carex comosa	Bristly Sedge	Perennial	Moist/wet	No
Carex vulpinoidea	Fox Sedge	Perennial	Moist/wet	Yes
Chelone glabra	White Turtlehead	Perennial	Moist/wet	No
Eutrochium maculatum	Spotted Joe Pye Weed	Perennial	Moist/wet	No
Lobelia cardinalis	Cardinal Flower	Perennial	Moist/wet	No
Lobelia siphilitica	Great Blue Lobelia	Perennial	Moist	No
Rudbeckia hirta	Black-eyed Susan	Perennial	Moist	No
Symphyotrichum lanceolatum	Panicled Aster	Perennial	Moist/wet	Yes
Symphyotrichum novae-angliae	New England Aster	Perennial	Moist	Yes
Verbena hastata	Blue Vervain	Perennial	Moist	No
Scirpus atrovirens	Dark-green Bulrush	Perennial	Wet	No
Scirpus microcarpus	Red-tinged Bulrush	Perennial	Wet	No
Juncus effusus	Soft Rush	Perennial	Moist/wet	No
Juncus torreyi	Torreys Rush	Perennial	Moist/wet	No
Acorus americana	American Sweet Flag	Emergent	Shallow water	No
Alisma plantago-aquatica	Broadleaf Water Plantain	Emergent	Shallow water	No
Carex lacustris	Lake Sedge	Emergent	Shallow water	No
Carex stricta	Tussock Sedge	Emergent	Shallow water	No

BOTANICAL NAME	COMMON NAME	TYPE	ZONE	AGGRESSIVE
Glyceria grandis	Tall Mannagrass	Emergent	Shallow water	Yes
Iris versicolor	Harlequin Blue Flag	Emergent	Shallow water	No
Peltandra virginica	Green Arrow Arum	Emergent	Shallow water	No
Pontederia cordata	Pickerelweed	Emergent	Shallow water	Yes
Sagittaria latifolia	Broad-leaved Arrowhead	Emergent	Shallow water	Yes
Scirpus cyperinus	Tussock Sedge	Emergent	Shallow water	No
Scirpus validus	Soft-stemmed Bulrush	Emergent	Shallow water	No
Sparganium armericanum	American Bur-reed	Emergent	Shallow water	No
Sparganium eurycarpum	Giant Bur-reed	Emergent	Shallow water	No
Typha augustifolia	Narrowleaf Cattail	Emergent	Forebay	Yes
Typha latifolia	Broad-leaved Cattail	Emergent	Forebay	Yes
Elodea canadensis	Broad Waterweed	Submergent	Deep water	Yes
Nuphar lutea	Yellow Pond-lily	Submergent	Deep water	No
Nymphaea odorata	White Water Lily	Submergent	Deep water	No

1. To minimize potential spread or damage to infrastructure, aggressive plants should not be planted close to fences, trails, and private property boundaries.

Appendix E: Facility Fit Study Terms of Reference

City of Guelph

Facility Fit Study

Terms of Reference

March 18, 2025

To request this document in an accessible format contact 519-822-1260 extension 4138; TTY 519-826-9771.

Table of Contents

Introduction

One of the objectives of the Guelph Official Plan (OP) is to ensure that the City is provisioned with "a sufficient open space system of parks and trails to meet the active and passive recreational needs of residents that is accessible to all residents" (OP Section 7.3 d)). The Facility Fit Study is a tool that allows the City to evaluate whether the size and configuration of parks, trails, and open spaces are sufficient to meet the recreation needs of residents while ensuring that they are safe and well integrated into the City's existing open space system.

When is a Facility Fit Study required?

A Facility Fit Study is often required as part of the pre-consultation process for larger projects, community mixed-use nodes, and intensification corridors. Park Planning staff will determine when a Facility Fit Study is required and what park and trail amenities are required to address distributions gaps.

The plan may be required in support of any of the following applications where parkland is proposed to be conveyed to the City:

- Official Plan Amendments (including Secondary Plans)
- Draft Plans of Subdivision
- Draft Plans of Condominium
- Zoning By-law Amendments
- Site Plans

When required, the Facility Fit Study will be submitted as part of a complete planning application. Early discussions related to concept development are recommended to ensure that the scope of the study is appropriate and the results fruitful.

What is the purpose of a Facility Fit Study?

A Facility Fit Study ensures that the size and configuration of the park block is acceptable, that trails are provided where appropriate, and that open spaces are well integrated into the design solution. Linear parks are not acceptable as parkland and should instead be walkway connections or trail blocks. Many small park blocks are not an acceptable substitute for larger park blocks that can accommodate park facilities and include appropriate street frontage identified in the Zoning By-law.

The study demonstrates how proposed parks, trails, and open spaces:

- Respond to the specific park and trail amenity needs;
- Are sized and configured to allow appropriate facilities;
- Conform to relevant policies and guidelines;
- Are compatible with and contribute to the surrounding community, and
- Are connected to and integrated into the existing open space system.

The Facility Fit Study may include information presented in or be referenced by other planning submissions such as an:

- Urban Design Brief
- Arborist Report and Tree Inventory and Preservation Plan
- Environmental Impact Study

A Facility Fit Study shall be completed by a Landscape Architecture firm or a team of design professionals that includes a landscape architect who is a Full Member of the OALA with seal.

Structure and format

The Facility Fit Study should follow the following format:

Part 1

The purpose of Part 1 is to examine and understand the physical and policy context.

Step 1: Physical context

- Site attributes including location, property size, existing uses, surrounding land use, topography, vegetation, heritage features, access, servicing, etc.
- Distance from existing parks, open spaces, Natural Heritage System land, commercial areas, and urban densification nodes.
- Distance from residents served and relevant demographic information.
- Relationship to existing trails, the Active Transportation Network, and cycling infrastructure.

Step 2: Policy context

- Summarize how relevant City policies and guidelines are addressed (Official Plan, Secondary Plan, Zoning By-law, Parks and Recreation Master Plan, Guelph Trails Master Plan, Active Transportation Network Study, Parks Trails and Open Space Manual, etc.).
- Address applicable external policies and guidelines (CPTED, AODA, LID, etc.).
- Address anticipated environmental constraints from external agencies (Grand River Conservation Authority, Bird Studies Canada, Department of Fisheries and Oceans etc.).

Part 2

The purpose of Part 2 is to describe the proposed development concept and design solutions that respond to the physical and policy context and facility and amenity requirements.

Step 1: Facility Fit Plan

- A schematic plan(s) of proposed park(s).
- Include critical dimensions of all park amenities including overall size, setbacks, safety (runout) zones etc.
- Show drainage patterns, slope transitions, and drainage areas.
- Show existing vegetation to be retained.
- Show the location of trails, multi-use pathways and walkway connections that are adjacent to the park.
- Show open space blocks that are adjacent to the park.
- Identify parking and access by transit and cars.

Step 2: Safety

- Identify all barriers to access, how they can be mitigated, and what risks to public safety that they pose.
- Show setbacks for all park amenities from property lines and proposed mitigation measures where minimum setbacks are not achievable.
- Ensure sightlines are open and appropriate.
- Identify any physical characteristics that could pose a risk to public safety such as hazard trees or steep slopes (Note, that parkland must contain a minimum of 80% table land).

Technical Requirements

Facility Fit Plan Requirements

Facility Fit Plans shall:

- Be computer generated (AutoCAD);
- Be overlaid on an aerial photograph;
- Be presented using an appropriate metric scale;
- Contain a north arrow, legend, scale bar, date, and address, and
- Have a standard page size such as 8.5x11”, 11”x17, or 24”x36”.

Appendix F: Project Close Out Checklist (Development)

Close Out Checklist (Development)

Name of Development

Address

Site or Draft Plan # | Phase

Registered Plan # | Date

Consultant | Park Planner

To be completed by the consultant:

Table 1: Pre Construction Information

Pre-Construction Documentation	N/A	Date	Prepared by	Initals
Approved landscape plan	☐		Consultant	
Approved itemized cost estimate	☐		Consultant	
Topsoil composition test pre development	☐		Developer	

Table 2: Preliminary Acceptance Information

Preliminary Acceptance	N/A	Date	Prepared by	Initials
Topsoil composition test post development	☐		Developer	
Certification of grading/drainage (P.Eng. or OLS)	☐		Developer	
Certification of fencing location (OLS)	☐		Developer	
Inspection report for structures and utility services	☐		Developer	
Results of compaction testing and material testing	☐		Developer	
Other:	☐		Developer	
First cut of sod	☐		Consultant	
Second cut of sod	☐		Consultant	
Certification of landscape works (including deficiency report)	☐		Consultant	
Preliminary inspections (last inspection date)	☐		Consultant	
Preliminary acceptance (warranty start)	☐		Park Planner	

Table 3: Final Acceptance Information

Final Acceptance	N/A	Date	Prepared by	Initials
As-recorded drawings	☐		Consultant	
Certification of landscape works (including deficiency report)	☐		Consultant	
Final inspections (last inspection date)	☐		Consultant	
Final acceptance (warranty close-out)	☐		Park Planner	

I hereby certify that the landscape works for the Development listed above has been installed in accordance with the landscape plans approved by the City of Guelph and all deficiencies have been corrected.

_____ _____

Landscape Architect's Signature Date

Appendix G: Project Close Out Checklist (Park Capital Projects)

Close-Out Checklist (Park Capital Project)

Project Name

Dept.

Contract Number

PM (City)

Consultant

Contractor

Publish Date

Project Start Date

Project End Date

Project Area in Hectares

Table 1: Start Up Information

Start up	N/A	Completion Date	Prepared	Initials
Landscape plan approval	☐		PM	
Topsoil composition test	☐		Consultant	
Pre-construction meeting	☐		Consultant	
Rough grade certification	☐		Consultant	
Final grade acceptance	☐		Consultant	

Table 2: Testing and Permit Information

Testing and permits	N/A	Completed Date	Prepared by	Initials
Walkway subgrade and granular compaction	☐		Consultant	
Concrete testing (slump, mix, strength)	☐		Consultant	
Asphalt mix and Marshall test	☐		Consultant	
Catch basin cleaning certification	☐		Consultant	
CSA playground compliance letter	☐		Consultant	
Drop test results	☐		Consultant	
ESA lighting certificate	☐		Consultant	
Structural permit	☐		Consultant	
Plumbing permit	☐		Consultant	
Permit	☐		PM	

Table 3: Substantial and Acceptance Information

Substantial and Acceptance	N/A	Completed Date	Prepared by	Initials
First cut of sod	☐		Contractor	
Second cut of sod	☐		Contractor	
Certification of landscape works	☐		Consultant	
Substantial completion	☐		Consultant	
Product sheet submission	☐		Consultant	
Equipment, maintenance, and repair manuals	☐		Contractor	
Final permit inspections	☐		Contractor	
Sodding/seeding review and acceptance	☐		Consultant/PM	
Preliminary acceptance (warranty start)	☐		Consultant/PM	
Final inspection (warranty)	☐		Consultant/PM	
Final acceptance (warranty close out)	☐		Consultant/PM	
As-recorded drawings	☐		Contractor	

I hereby certify that the landscape works for the Project listed above has been installed in accordance with the landscape plans approved by the City of Guelph and all deficiencies have been corrected.

_____ _____

Landscape Architect's Signature Date

Appendix H: Standard Drawings for Park, Trail and Open Space Construction

Table 5: Hardscape

Drawing	Title	Revision	Location
1-4	Truncated Dome Detectable Warning Plates	Feb. 2021	LIS
1-4a	Preferred Sidewalk Ramp- Separate Landing Areas	Mar. 2024	LIS
102	Limestone Screening Pathway	Dec. 2024	P&TD
103	Asphalt Pathway	Dec. 2024	P&TD
104	Transition between Limestone and Asphalt	Dec. 2024	P&TD
105	Light Duty Concrete Paving	Dec. 2024	P&TD

Table 6: Tree Preservation

Drawing	Title	Revision	Location
UF 1.1	Tree Protection Zone (TPZ) Fence	May 2019	TTM
UF 1.2	Tree Protection Zone (TPZ) Information Signage	May 2019	TTM

Table 7: Landscape

Drawing	Title	Revision	Location
6-30	Sodding of Slopes	Feb. 2005	LIS
6-74B	Heavy Duty Silt Fence Barrier	Feb. 2005	LIS
6-84	Temporary Erosion and Sediment Control CBs	Feb. 2005	LIS
UF 2.2	Tree Planting - Deciduous	May 2019	TTM
UF 2.3	Tree Planting - Deciduous (Slope)	May 2019	TTM
UF 2.5	Tree Planting Using Structural Root Cells	May 2019	TTM
UF 2.6	Typical Shrub Planting	May 2019	TTM
UF 2.7	Typical Shrub Planting - Potted	May 2019	TTM

Table 8: Playgrounds

Drawing	Title	Revision	Location
106	Play Area with Engineered Wood Fibre	Dec. 2024	P&TD
107	Play Area with Rubber Tile	Dec. 2024	P&TD
108	Play Area Accessible Ramp on Inside of Curb	Dec. 2024	P&TD
109	Play Area Accessible Ramp on Outside of Curb	Dec. 2024	P&TD

Table 9: Culverts

Drawing	Title	Revision	Location
7-31	Bedding & Backfilling for C.S.P. Culverts	Jan. 2008	LIS
7-40	Corrugated Steel Pipe End Section Details	Feb. 2005	LIS

Appendix I: Trail Mitigation and Compatibility Guideline

1. Introduction

Over the last few years the City has seen a growing demand for trails. Trails allow us to get from place to place, experience natural environments, and contribute to an active lifestyle. Some trails allow us to travel through forests, beside rivers, or around other natural areas. If not managed appropriately, people's desire to experience natural areas can be harmful to the environment.

Trails can be a land management tool. They can be strategically designed to promote sustainable access to natural areas, protect sensitive ecosystems, and control recreation activities. Trails can direct people to experience nature in ways that preserve the environment. Trail construction projects are also effective at enhancing the natural environment, removing invasive species and improving overall natural area health. Therefore, it is important to plan and develop trails to ensure the continued health and integrity of the natural environment.

This guideline was developed to assist in the interpretation of the City's policies around trail development and compatible uses, as well as planning considerations and mitigations to ensure no negative impacts to the Natural Heritage System's features or functions.

2. Policy Context

Guelph's Natural Heritage System (NHS) policies are contained within Section 4.1 of the City's Official Plan (February 2024 Consolidation). These policies recognize that trails and passive recreational uses may be compatible with preserving and protecting natural features. While trails through some particularly sensitive areas are not permitted under these policies, there are other areas within the NHS where trails can be created as long as they are designed to mitigate potential damage or negative impacts to the natural environment. In an urban setting, a well-designed trail network can be an important part of a natural area's management to avoid negative impacts such as the spread of invasive species and the creation of ad hoc trails.

The natural heritage policies related to permitted uses and trail creation can be found in sections 4.1.2, 4.1.3, and 4.1.4 of the Official Plan.

3. Compatible Uses

3.1 Natural Heritage System: Buffer Area

Buffer areas are identified as adjacent to natural heritage features or areas that are intended to be protected and provide a separation between the protected feature or area and the adjacent development, and mitigate against negative impacts to the natural heritage feature or area and/or its ecological function(s).

Requirements related to minimum buffers, where applicable, established buffers and adjacent lands, for all natural heritage features and areas, are identified on Table 4.1 of the City's Official Plan.

Where trails are proposed in natural area buffers, they should incorporate additional design considerations to be compatible with the management objectives of the buffers, which are primarily intended to protect natural areas from human activities. When evaluating an existing buffer for the addition of a trail, or designing a buffer with intention to include a trail, the following factors should be considered:

- Significance and Sensitivity: When determining whether a trail would be suitable within a location, it is important to identify the significance and sensitivity of the natural area that the buffer is intended to protect. Where ecological communities immediately adjacent to the buffer are highly sensitive to disturbance, a trail may not be appropriate.
- No Negative Impact: An Environmental Impact Study (EIS) may be required to support the construction of a trail or trail modification adjacent to a Significant Natural Area such as a Provincially Significant Wetland or Significant Woodland as identified within the feature-specific policies of the Official Plan. The effect(s) of the trail should be manageable through mitigation within the buffer and/or natural area, with the result being no negative impact to the function of the buffer and no negative impact to the feature or its functions. If a trail does not meet the no negative impact test, then it would not be permitted.
- Buffer characteristics: Depending on the significance and sensitivity of the natural area, a minimum of 10-30 meters should be available for the placement of secondary and tertiary trails. It is generally recommended that trails be situated toward the outer portion of the buffer. Buffers that are below 10 m wide are not suitable for trails.

Early consultation with Environmental Planning will help ensure that policies are being followed and streamline a successful project. Additional consultation will be required with Grand River Conservation Authority if the proposed trail is within the regulation area.

For further information on trail types and their characteristics please refer to the Guelph Trail Master Plan(GTMP, 2021).

3.2 Natural Heritage System: Significant Natural Areas and Natural Areas

Planning for trails in the NHS must consider suitable trail development to address anticipated uses, intensity of use, and natural heritage protection. A scoped EIS is generally required to support the construction of a trail or trail modification within the Natural areas.

A trail may be permitted within a Significant Natural Area or Natural Area if the following can be demonstrated:

- The trail is designed to facilitate passive recreational uses or scientific and educational uses, such as bird watching, hiking, photography, snowshoeing, and may require the construction of a trail, benches or boardwalks in accordance with the GTMP.
- The trail is consistent with the feature-specific policies in Section 4.1 of the Official Plan. For example, if the trail is planned through a wetland, a boardwalk is included in the design.
- The trail design demonstrates that no negative impact will result from the construction or use of the trail. The assessment of no negative impact should consider site conditions including slope, topography, trees and other vegetation, and drainage. The trail classification system provided within the GTMP identifies tertiary trails as having little impact to the NHS. The trail design is evaluated through an EIS to determine if the design is anticipated to have a negative impact on the NHS.

In some instances, the trail may be essential as an active transportation connection such as a school route, connection to grocery or other essential service, or connection to employment area. These areas are identified in the Active Transportation Networks Study and are discussed in the following section.

3.3 Active Transportation Network

The Active Transportation Network (ATN) Study (2017) identified key trails which were deemed to be essential infrastructure. As part of the scope of the ATN Study, each of the routes proposed in the ATN were examined in the context of the City's Natural Heritage Strategy. The purpose of this work was to identify which segments of the proposed ATN would be subject to EIS requirements as part of next steps in designing and implementing the recommended trail improvements, and to assist in coordinating requirements and work plans for individual trail improvements.

Essential trail segments identified in the NHS through the ATN Study are permitted, despite their “active” nature, provided that no negative impact to the NHS can be demonstrated and the recommendations provided in Appendix B of the ATN Study for trail design are incorporated into the design.

4. Trail Planning Considerations

When identifying the best location and route for a trail the following principles should be used to guide the planning of trails:

1. Identify and avoid environmentally sensitive areas. If avoidance of environmentally sensitive areas is not possible, minimize disturbance, incorporate mitigation measures and restore areas of disturbance.
2. Create an effective erosion and sediment control plan and a construction access and staging plan.
3. Close and restore informal trails where required with native vegetation.
4. Follow desire lines and avoid trail routing that encourages users to take shortcuts where an easier route or interesting feature is visible. Use landforms or vegetation to block potential shortcuts and decrease the potential for ad hoc trail creation.
5. Adequately consult with appropriate professionals including ecologists, biologists, ornithologists, hydrologists, and geologists to obtain further information on the proposed location, appropriate surfacing, as well as any potential impacts that have not been assessed.
6. Avoid routes that impact wildlife species as well as critical habitat of rare or fragile plant species. Wildlife considerations would be dependent on the species and may include avoiding areas of forest interior (>100 m from forest edge), providing snake basking areas away from the trail, and providing wildlife crossing structures under trails to facilitate safe movement of amphibians, reptiles and small mammals.
7. Avoid cutting down trees and unnecessary trampling of vegetation and provide adequate tree root protection (refer to the TTM Establishment of Tree Protection Zones (TPZ) and Potential Rooting Areas (PRA)).
8. Avoid aligning a trail through wet areas such as ponds, marshes and seasonal drainage areas, or use structures such as bridges and boardwalks to facilitate travel over wet areas, to avoid erosion and sedimentation. Other strategies include interception swales, erosion protection stone (rip-rap), stabilization plantings, and low-impact development which can be used to mitigate potential erosion. Trails which are proposed near (0-30 metres) or within wetlands will require consultation with the Grand River Conservation Authority.
9. If rare plant species are present and the trail cannot be rerouted, then the plants should be transplanted to an area with similar growth conditions (light, moisture, soil texture).

10. Create a hazard tree management plan for primary and secondary trail systems.
11. Create a detailed restoration and planting plan (including tree compensation details and restoration plans for areas impacted by development) to be implemented as a component of construction activities.

5. Trail Construction Mitigations

The following construction mitigation measures are to be utilized where applicable, along with any additional measures outlined within corresponding EIS and/or Environmental Impact Report (EIR) documents:

1. Installation of effective erosion and sediment control measures before starting work to prevent sedimentation and erosion. The type of ESC required will be dependent on the sensitivity of the adjacent environments. Non-biodegradable erosion and sediment control materials shall be removed once the site is stabilized.
2. Maintain appropriate setback from the rooting zone of edge trees in accordance with the tree inventory and preservation plan.
3. Refuel and service machinery and store/stockpile fuel and other materials a minimum of 30m from any surface water features to prevent any deleterious substances from entering the water/wetlands.
4. Where vegetation must be removed it shall be done by hand, by qualified workers, and restored with native vegetation in conformance with the following City of Guelph documents:

    - Tree Technical Manual (2019)
    - Private Tree Protection by-law (2010)
    - Urban forest Management Plan 2013-2032 (2012)

5. Ensure minimal importation of materials and maximize the use of 'clean' and 'local' sources for materials including rough cut timber, and deadfalls.
6. Restrict construction activities to the work areas. Implement surface protection measures to minimize soil compaction.
7. To avoid impacts to Species at Risk bats, individual tree removals are completed before April 1st or after October 31st to avoid the active period for bats. Vegetation removal, specifically the removal of trees, between April 1st to October 31st is not recommended due to the potential to harm Species at Risk bats.
8. To comply with the Migratory Birds Convention Act, 1994 and the Fish and Wildlife Conservation Act, 1997, where impacts to Species at Risk bats are not identified, vegetation removal may occur between April 1st and October 31st if

nest searches are completed by a wildlife biologist following the methods outlined by Environment Canada.

9. Implement "Clean Equipment Protocol for Industry" (Halloran et al. 2013) to inspect and clean equipment for the purposes of invasive species prevention.

6. City of Guelph Related Documents

- App

For more information

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guelph.ca

Accessible formats available upon request.