

Park Design Standards

Version 1.0 - DRAFT

Urban Planning & Design Division

Unit 15 - 30 Fort Street, Winnipeg, MB R3C 4X5

Division de l'urbanisme et de la conception

30, rue Fort, porte 15, Winnipeg (Manitoba) R3C 4X5

T. | Tél. : 204-986-2636
winnipeg.ca

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SECTION 1.0 Introduction & Intent

1.1 Acknowledgement

We would like to acknowledge that we are in Treaty No. 1 territory and the traditional homeland of the Métis Nation. Our drinking water comes from Shoal Lake 40 First Nation in Treaty No. 3 territory.

1.2 Introduction

The City of Winnipeg's (City) *Park Design Standards* document was developed by the City's Planning, Property & Development Department's Urban Planning & Design Division (UD) in conjunction with the Public Works Department's Parks and Open Space Division (POS). The document has been developed to guide City staff, land developers, consultants and contractors through the planning, design and construction of the City's parks and open space lands. The primary purpose of this document is to ensure that the City's parks and open spaces are located, designed and constructed in a consistent manner and to provide an understanding of expectations and requirements for the development of these spaces.

Parks and open spaces improve the quality of life for the city's residents and add value to the social, economic, and environmental systems by providing leisure, gathering, recreational opportunities, as well as preserving and recreating prairie, meadow, wetland and forest landscapes. In order for parks to be successful, the ability to maintain the parks as designed is essential. When areas are designed above the level of maintenance available, the beauty of the space can deteriorate quickly. The primary focus of the document is for any new park development, redevelopment, and improvements. The *Park Development Guidelines & Process* document shall be referred in conjunction to this document for further details on design standards and specifications.

This document is intended be reviewed and updated yearly.

1.3 Intent

- To outline the standard specifications, guidelines, and construction details required in planning for, designing and constructing park and open space lands

- To ensure that park developments on City lands provide well-constructed, functional, aesthetically pleasing, low maintenance and sustainable public open spaces
- To be a living document that is subject to modification as processes/approvals change and specifications are amended

1.4 Structure

The document is organized into the following sections:

Section 1.0 Introduction and Intent

Section 2.0 Earthwork, Grading & Land Drainage

Section 3.0 Topsoil, Seeding & Sodding

Section 4.0 Pathways & Trails

Section 5.0 Playgrounds

Section 6.0 Planting

Section 7.0 Fencing

Section 8.0 Site Furniture

Section 9.0 Grassland Naturalization & Natural Area Protection

Section 10.0 Athletic Fields

Section 11.0 Sport Fields

Section 12.0 References

SECTION 2.0 Earthwork, Grading & Land Drainage

2.1 Purpose of Section

The purpose of this section is to outline the planning and design guidelines for earthwork, the preferred gradients for surface drainage and to identify the types of subsurface drainage systems acceptable for use in parks and open spaces.

2.2 Overview

Earthwork encompasses both the process and end result of shaping of the land – accomplished by site grading and made functional by land drainage. How people use and move through a space and the amenities and activities it can accommodate are very much tied to how the grading and land drainage is handled.

Park configurations and intended uses are each unique, governed by site specific conditions, both existing and proposed, so it is impossible to provide simple templates for a park as a whole (as might apply to residential lots or rights of way). Instead guidelines and standards for the various components and amenities within the park are provided and through an iterative design process integrates the collective park needs with the most appropriate grading and drainage solution.

Since parks are typically flanked in part by private land uses that, in new developments, most often get serviced, designed and developed in advance of the park sites, consideration of park needs and impacts of lot grades being established for the surrounding properties should be addressed early and concurrently.

Lot grading approval, in general, is overseen by the Water and Waste Department (WWD) and governed by the Lot Grading By-law, but because of the unique requirements for park needs, WWD defers review and approval for park land (Public Reserve) grading and land drainage to a Parks Design Review process.

This section's standards rely heavily on the City's General Standards and Construction details, but provide some specific guidelines, and outlines the generalized goals and associated expectations that must be considered and integrated into the park planning and design process to maximize the character and functionality of each park.

2.2.1 Earthwork

- a. Involves the removal and/or placement of all materials necessary for the construction and preparation of embankments, slopes and drainage works. It

includes the modification of the contours of the land (grading), removal of materials (excavation), and the addition of materials (fill) to create landforms (berms).

b. Grading

i. An integral part of site design process and may be done for a number of reasons:

- Controlling runoff: Surface drainage is achieved by sloping surfaces towards natural or artificial drainage features and systems by use of swales or subsurface drainage
- Accessibility: Establishing and maintaining appropriate gradients can help users with a wide range of abilities move safely and efficiently through the landscape
- Contouring and creating Landforms:
 - ◆ Shaping the land can be done for aesthetic or practical purposes. Contours can provide interest or help delineate spaces and movement between them
 - ◆ Berms are the most common contouring application in parks. Berms can serve a multitude of purposes: effective for noise, wind and visual barriers; can enhance play value by introducing interesting landforms, or can reduce the environmental impact that removing the excavated materials would have created.
- Preparatory base for landscaping:
 - ◆ Must consider what base materials are needed for any given use and plan for the finished surface
- Leveling: Relatively flat, smooth gradients are needed for sports fields and outdoor seating areas

ii. Although site specific, most earthwork and grading operations include:

- Clearing, grubbing and removal
- Staking out proposed grades
- Topsoil stripping
- Preparation of the subgrade

- Modifications of the contours of the land through excavation and/or addition of clean fill

2.2.2 Land Drainage Systems

- a. Within park spaces are designed to control the precipitation runoff on the land and direct it to either holding areas (retention ponds) or conveyance systems (above ground: swales, below ground: pipes). These conveyance systems eventually lead to nearby rivers and streams. Land drainage systems within park spaces can include simple overland “surface” drainage or underground “subsurface” systems.
- b. Surface drainage
 - i. Benefits:
 - Allows for some natural filtration and absorption by vegetation and soils
 - In storm events it also increases the time it takes for runoff to enter the city sewer system and nearby rivers and streams (residence time)
 - Providing for overland drainage through proper grading also reduces or eliminates the need for costly subsurface drainage systems
 - ii. Potential issue:
 - The challenge to these systems is when the slope is too minimal, with time and use, instead of moving water the systems become holding areas
 - Shallow holding areas in parks are difficult to maintain, are a nuisance to residents who live nearby and can become a safety issue to park users
 - iii. Subsurface drainage systems:
 - Benefits:
 - ◆ Water can move more efficiently and effectively in a pipe system vs on turf, thus even if the slopes of the ground surface are extremely minor, water will not pond and sit in shallow depressions, thereby creating nuisance and safety issues within the park
 - Potential issues:
 - ◆ Higher cost

- ◆ Reduces percolation into the ground, not allowing the vegetation and soil to filter out sediments, nutrient runoff and other pollutants such as metals and hydrocarbons
- ◆ Reduces residence time, moving water more quickly into the city sewer system, which in increasingly intense storm events can overwhelm the system, particularly in areas of combined sewer systems
- ◆ Shallow subsurface drainage systems do not function when the ground is frozen

2.3 Definitions

Accessibility – identifying, preventing and removing barriers that limit persons with disabilities from participating fully in daily activities within their communities.

Berm – a constructed mound of earth created to add vertical interest to a landscape.

Combined Sewer – system of single pipes that collect both wastewater from homes, businesses and industries as well as surface runoff from rainstorms and snow melt, typically found in older parts of the city. In wet weather conditions, flows increase as runoff enters the system. These increased volumes can overwhelm the system as wastewater levels rise above internal weirs within the pipes. When this happens, combined sewers overflow into the river system. Additional runoff entering the combined sewer systems must be minimized as much as possible and is regulated by the Water and Waste Department.

Cross Slope – the slope that is perpendicular to the direction of travel.

Curb Ramp – provide a sloped access route from a pedestrian walkway down to the surface of an adjacent street, to facilitate universal access.

Earthwork – the removal and/or placement of all materials necessary for the construction and preparation of embankments, slopes and drainage works. It includes the modification of the contours of the land (grading), removal of materials (excavation), and the addition of materials (filling) to create landforms (berms) and the desired end landscape surface.

Land Drainage Sewer – an underground pipe network that carries storm water, surface water, street wash, weeping tile water, and other wash waters or drainage but excludes domestic wastewater and industrial wastes.

Longitudinal Slope – the slope that is parallel to the direction of travel, also known as a ramp slope.

POS – Parks and Open Space Division, Public Works Department

Ramp – a walking surface which has a longitudinal slope greater than 1:20 (5%) (excluding sidewalk slope at a curb ramp).

Runoff – overland flow of water and suspended materials as a result of storm water, snowmelt and can lead to erosion.

Slope – a notation that describes surface gradient, expressed in terms of a percentage or proportional ratio.

a) Percentage of slope = $\frac{\text{vertical rise}}{\text{horizontal distance}}$ (eg: $\frac{1}{4} = 25\%$)

b) Proportion of slope is the ratio of the horizontal distance to the vertical rise (eg: 4:1)

Storm Water – water from rainfall or snowmelt or a combination of the two, and includes weeping tile water.

Subgrade – the natural in-situ material underneath a road, path or landscaped area.

Swale – a constructed shallow sloped tract of land designed to manage and control the flow of water.

UD – Urban Planning and Design Division, Planning, Property and Development Department

WWD – Water and Waste Department

2.4 Site Planning Guidelines

2.4.1 Earthwork and Grading

- a. Shall ensure:
 - i. Water does not pond on park sites: All sites should be graded to achieve proper drainage, ensuring that there are no areas with standing water within the park space unless specifically designed and approved
 - ii. Drainage is to be handled on site – not directed onto adjacent properties, unless formally approved to do so.
 - iii. Park sites are accessible: All sites shall be graded to allow accessibility to all users to park pathways and park amenities

- iv. Parks sites are mowable: Landforms within park sites must ensure that the gradients of the turf are maintainable by mowers (max. 25% slope), given that sites are predominantly mown using driving mowers
- v. Park sites are safe:
 - Wherever possible, landforms should not block site lines into/ through the park.
 - Grades should be even and not cause tripping hazards
- b. Grading plans shall include geodetic referenced elevations unless otherwise directed.
- c. Grading work shall be completed using laser or GPS guided earthwork and grading equipment.
- d. Impact to existing vegetation:
 - i. Ensure grades in the critical root zone of existing trees are not altered.
 - ii. Ensure there is a no net change in drainage of existing natural areas unless otherwise approved by Naturalist Services.
 - iii. Any tree removals within City owned property must comply with Forestry's "[Tree Removal Guidelines](#)".
 - iv. Tree protection measures:
 - Construction activities near trees may result in injury to the trunk, limbs or roots causing damage or death of the tree. In order to prevent any damage, tree protection must be in place before any earthwork or grading is started.
 - Refer to *Specifications for Tree and Root Zone Protection (Section 3.19)* in Appendix A for tree protection specifications.
- e. Retaining Walls:
 - i. Use of retaining wall to address grade changes shall be limited, in order to prevent long term maintenance requirements.
 - ii. Any proposed use of retaining walls must be approved in writing by the Park Superintendent.

2.4.2 Land Drainage Systems

- a. General:
 - i. Planning the drainage system is inextricably tied to grading and in parks is critical to the overall design and functionality – a poorly placed catch basin can forever dictate the usability of an area, as it can impact placement of larger features and amenities.
 - ii. Parks take advantage of both surface and subsurface drainage systems. Regardless of the methods used drainage must end at an approved holding area (such as a retention pond) or be directed or connected to the City’s overall land drainage sewer.
- b. Surface drainage systems:
 - i. Include overland drainage such as overland flow or a directed system of swales and ditches.
 - ii. Adequate gradients must be achieved in order for surface drainage systems to be functional.
- c. Subsurface drainage systems:
 - i. Typically utilized when the minimum and maximum surface grades cannot be achieved.
 - ii. Subsurface drainage systems are to be planned, designed and sized in accordance with engineering best practices for flow and velocity.
 - iii. Where private lots drain onto park sites, the drainage system calculation shall consider downspout drainage and sump pump discharge, along with overland flow, from the residential yard.
 - iv. Designs must consider that shallow subsurface drainage systems do not function when the site is frozen. When the drainage design must deal with runoff from snow melt, shallow subsurface drainage systems shall only be supported when there is a secondary means of drainage, such as an overland swale or sloped land away from adjacent properties.

- v. Property line granular trenches, as per [SCD-667](#) or [SCD-668](#), have been designed as a means of dealing with sump pump drainage from residential properties that drain onto park sites. The park land must have a secondary means of drainage utilizing overland flow to supplement the trench drainage systems.
- d. Land drainage design review and approvals:
 - i. Land drainage within a park shall not be approved until the 50% stage grading design for the park is approved, as per the Design Review Process as outlined in the Park Development Guidelines and Process document.
 - ii. Lot grade plans must also be approved by the City's Water and Waste Department through a Lot Grading Permit to ensure that the design for the park site does not affect surrounding properties and to ensure that the overall City's sewer system can handle the additional water volumes.
 - iii. All subsurface drainage systems which tie into the City's overall land drainage system, must be:
 - Designed and stamped by a Civil Engineer, and
 - Approved by:
 - ◆ Water and Waste Department (through the Development Permit process for its effect on the overall system), and
 - ◆ Parks and Open Space and Urban Design Group

2.5 Design Guidelines

2.5.1 Erosion and Sediment Control

- a. To mitigate / minimize erosion and sedimentation within, or directed towards, park and open space lands:
 - i. All grading and drainage work where vegetative cover on land upslope of the area in question is not yet established, shall incorporate an erosion and sediment control plan specifying all proposed erosion and sediment control methods and locations.
 - These erosion and sediment control methods are especially important when a park property line granular trench is built to prevent sediment from entering the trench

- ii. These measures shall be in place before grading work begins.
- b. Within park and open space land, measures shall:
 - i. Remain in place until vegetative cover has been established and approved by the City, and
 - ii. Be removed prior to City final site acceptance.
- c. Within private lands when measures are undertaken to protect park and open space land, these measures shall remain in place at least until vegetative cover has been established. Thereafter, removal is at the discretion of the owner.

2.5.2 Grading: Surface Drainage

- a. All lot grading must comply with the City of Winnipeg Lot Grading By-Law No. 7294/98.
- b. The following outlines the minimum, maximum and preferred gradients for various park activity areas:

Table 1 – Grading Requirements

Types of Areas:	Maximum	Minimum	Preferred
Asphalt Courts			
Basketball	1.5%	1%	1.25%
Tennis/Pickleball	1.2%	0.8%	1%
Paved walkways			
Longitudinal slope	5 % (if slope over 5% shall be treated as a ramp)*	0.5 %	1-2 %
Cross slope	2%**	1%	2%
Parking Areas			
Longitudinal slope	5%	0.25%	2-3%
Cross slope	8%	0.5%	1-3%
Seating Area			
Paved	2%	0.5%	1%
Sod Areas***			
Athletic fields, grassed	1.75%	1%	1.5%
Berms	25% (4:1)	5%	Varies
Lawns & grassed areas	25% (4:1)	1%	2%

Areas between residential properties & retention pond 7:1 slope edge	25% (4:1)	2%	2%
Sod Drainage Swales			
Longitudinal slope	10%	1.5%****	2%
Side slopes	25%	15%	n/a

*** Ramps**

In accordance with WADS Section V. The following provides a quick overview:

- Considered any part of an accessible route with a slope steeper than 1:20 (5%).
- Ramp slope – between 1:15 (6.7%) and 1:20 (5%).
- In retrofit situation, where technically infeasible to provide ramp with the above referenced slope, a maximum ramp slope of 1:12 (8.3%) may be used.
- Maximum horizontal length between landings = 9m (29'6”).
- Top and Bottom Landing size width – at minimum as wide as the widest ramp leading up to it, minimum size of 2.44 x 2.44m (8' x 8').
- Intermediate landing minimum 1.67m x 1.67m (5.5' x 5.5').

** In street Right of Ways, where technically not feasible to achieve 2% cross slope, the maximum shall never exceed 4%.

*** Does not pertain to street right of ways (ROWS) areas (medians, traffic islands, boulevards, public utility lot) – as per SD-232 requires a minimum 2% gradient.

**** Any swale with less than 1.5% slope must have subsurface drainage included as part of the design.

2.5.3 Berms

- a. When designing berms, the following points must be considered in their design with regards to maintenance:
 - i. While 4:1 slope is considered the maximum allowable for maintenance, the shape and form of the berm must allow for large deck mowers to mow the area without scalping.
 - ii. Berms must not drain runoff into adjacent properties.
 - iii. The tops and sides of berms struggle with lack of water. When trees are added this also creates competition for turf survival since trees take up most of the water.
 - Try to limit planting on the top of berms or select drought tolerant species
 - iv. Avoid planting with exposed root systems, which become problematic for mowing.

2.5.4 Swales

- a. All swales longitudinal slopes must be a minimum of 1.5%. Any slopes proposed less than that shall include a subsurface drainage system.
- b. Swale cross slopes must not exceed 25%.
- c. Transition edges of swales must be smooth to prevent sculpting by mowers, as per [SCD-664](#).
- d. Swale bottoms must be located a minimum of 2m away from edge of property line to allow for mowing.

2.5.5 Culverts

- a. To be placed where a pathway crosses a swale or ditch. Refer to *City of Winnipeg Standard Construction Specification* [CW 3610](#).
- b. Culvert design shall comply with the [City of Winnipeg Water and Waste's Culverts and Drainage Inlet /Outlet Safety Guidelines](#)
- c. Culvert Types:
 - i. Size and type of culvert used is dependent upon:
 - Amount of water flowing through it
 - Area that is discharging to it
 - Kind of usage above the culvert (i.e. pedestrian or vehicular), and
 - Whether the culvert runs beneath a natural area subjected to controlled burns
 - ii. City of Winnipeg approved culvert types are as follows:
 - Corrugated Steel Pipe (CSP)
 - Precast Concrete Pipe (PCP)
 - High Density Poly Ethylene Pipe (HDPE) (in natural areas where controlled burns may occur, must end in rip rap)
- d. Depth:
 - i. Depth of pipe is governed by the diameter and amount of cover needed to ensure path/surface does not crack:

- Minimum cover = 300mm
- For culverts over 600mm diameter, the minimum required cover is Pipe Diameter/2

e. Diameters

i. Pipe diameter depends on the specific site requirements:

- 300mm diameter is common for park sites
- If a culvert 400mm diameter and larger is needed it must confirm to the technical requirements of Section 7.0 of the Culvert and Drainage Inlet/Outlet Safety Guidelines:
 - ◆ In areas adjacent to schools and recreation spaces, such as playgrounds, these pipes require protective inlet grating devices to prevent small children from gaining access, in accordance with [Culvert and Drainage Inlet/Outlet Safety Guidelines](#)

2.5.6 Riprap

- a. Required on steep slopes (over 25% slope) around culvert embankments and input/output areas (drains & discharge) for erosion control. Refer to *City of Winnipeg Standard Construction Specification CW 3615* for more details.
- b. Grouted Stone Riprap is the standard for park applications, other types may be approved by the Park Superintendent.

2.5.7 Rodent Screens

- a. A stainless steel or galvanized, welded wire mesh rodent screen, installed in each outlet lateral line.

2.5.8 Retention Ponds aka: Stormwater Retention Basins (SRBs)

These water elements form part of the City's stormwater management system. They collect both surface runoff from the abutting lands, but also from street right of way catch basins or storm drains that direct the runoff via pipes into retention ponds.

- a. SRBs serve the following functions:
 - i. Store rainfall runoff from streets and adjacent lands.
 - ii. Provides efficient and cost-effective land drainage system because fewer and smaller pipes can be used to carry runoff to the rivers.

- iii. Benefit our environment by acting as a natural filter helping to remove suspended solids and pollutants before the water drains to rivers.
 - iv. Can provide habitat for wildlife.
 - v. Collect only land drainage, and not wastewater, from homes or businesses.
- b. Park space is often located in conjunction with SRBs. The ponds, including the 7:1 engineered side slope around the pond edge, are governed by WWD. The interactions of parks space and SRBs must respect both POS and WWD service requirements.
 - c. Walk out basements are associated with properties backing onto parks that have retention ponds. This lot style is typified by steeper drops from front to back, to expose the lower level.
 - i. Where narrow (6-20 m wide) park access points are provided adjacent or between private properties, no walkout basements should be permitted in the residential lots immediately adjacent to pathway corridors unless and until the designer can demonstrate that lot grading can be addressed in a manner that has no impact on Public Reserve lands, and can meet with the following condition(s):
 - Does not require retaining walls on public land, or
 - Sufficient space is set aside within the private land to accommodate a retaining wall along with the support infrastructure and to facilitate maintenance.
 - d. No properties shall drain onto park space, unless approved by POS and UD:
 - i. Where POS and UD have permitted drainage from residential lots onto and through park properties either towards park catch basins or towards the adjacent retention pond, this 'support' is predicated on efforts to eliminate any detrimental effect to the park space, as follows:
 - Development of residential lots abutting park property must ensure that Parks has reviewed and approved of the drainage onto the park site. See **2.5.9** for more details

- Depending on the amount of space available, this may be handled within the park by a continuation of surface drainage, or a combination of surface and sub-surface systems (**2.5.13**)

2.5.9 Private Property Draining onto Park Sites

a. Concessions to lot grade by-law

- i. According to the lot grade by-law properties are supposed to manage runoff within the confines of that property. But per **2.5.8** there have been concessions made especially for lots backing onto a park. The design of park spaces must therefore consider the runoff not only from within the park space itself but from adjacent areas as well, while at the same time ensuring that the design solution mitigates any potential damage that can be created within the park from offsite runoff.
 - Where an existing natural habitat is present, the grading design must ensure no additional water volume enters the natural area

b. Private property sump pump impacts on parks:

- i. Private properties with smaller rear yards, large roofs, increasingly more impervious back yard surfacing and sump pumps (a requirement for all new homes since 1990) often directed towards the back of the property, contribute to an increased amount and velocity of runoff entering the park space. This has resulted in the sod in the park space becoming oversaturated which when combined with high velocity point discharge from the sumps has created eroded muddy areas in the park.

c. Recommended solutions to negative effects of sump pump discharge:

- i. Property line granular trenches are the current approved standard for new park developments – see: *Trench Drain in Subsurface* section **2.5.13**. The subsurface drainage within the granular trench is ideally connected to a catch basin as per [SCD-668](#), but if this is not feasible then it can be connected to pipe that leads into the retention pond, as per [SCD-667](#). All pipes leading into the retention pond must be approved by POS, UD and WWD. The granular trench drain was designed through collaboration between the City and the Urban Development Institute (UDI) to deal with excess water entering the park space from residential lots, especially the damage created by the point discharge of sump pumps, however the City would be open to discuss alternative solutions to deal with these issues.
- ii. When residential homes have side yards that meet up with park spaces, sump pump discharge shall be designed to outlet on the opposite side of the home.

2.5.10 **Subsurface Drainage**

- a. The subsurface drainage system includes the trench, geotextile, drainage material, backfill and the pipe itself.
- b. The drainage pipe must connect to a catch basin or catch pit:
 - i. Pipe must not project into the inner side of a catch pit or basin wall by more than 20mm.
- c. Subsurface Drainage pipe types:
 - i. Solid round pipe – used to convey water from one point to another.
 - ii. Perforated pipe – allow for both the conveyance and collection of water along the way. Enables water to percolate into the earth when conditions allow:
 - Perforated Pipe with filter cloth ([SCD-661](#))
 - Multi-Flow TM pipe ([SCD-659](#))
 - iii. Cleanouts are to be provided along subsurface drainage system in order to clean out blockages which may occur within the pipes. Cleanouts shall be:
 - Located at property lines or a location that is easily detectable
 - Provided at regular intervals, spaced no more than 38m apart

2.5.11 **Catch Basins**

- a. Each site must have at least one catch basin.
 - i. Supplementary drainage may be approved as a catch pit (Per **2.5.12**)
- b. Preferred invert depth is 1800mm (6') (from top of rim to highest pipe invert), to protect from freezing. Minimum invert depth is 1500mm (5').
- c. Standard City of Winnipeg catch basins are a precast concrete unit with an iron frame and grated cover, as per *City of Winnipeg Standard Construction Standard* Detail [SD-025](#).

2.5.12 **Catch Pits and Non-Standard Catch Basins**

- a. May be used to supplement land drainage requirements.
- b. Any catch pit installed must connect to a WWD approved City standard catch basin (SD-025) before connecting to the overall City of Winnipeg land drainage system.
- c. Standard catch pit:
 - i. Concrete catch pit with iron frame and grated cover as per [SCD-613](#).
- d. Acceptable non-standard catch basin includes:
 - i. Minimum invert depth is 1500mm (5').
 - ii. 600mm (24") Nyloplast Drain Basin (2824AG__ N(perforated)) with 2499CGS Ductile Iron Grate, or approved equal
 - N represents type of Inlet pipe: ADS HDPE dual wall
 - Grading plan including all catch basin information (rim elevation, invert elevation, ie diameter/ material) are required to create shop drawings
 - Perforations: 9.5mm diameter
 - Installation: 12.5mm diameter clean/ washed pea gravel surrounding the catch pit for a 150mm diameter

2.5.13 **Property Line Drainage Trench (a form of French Drain)**

- a. Granular trenches with a buried weeping tiles, used to manage flow within tight spaces or to help direct flow without needing extensive pipe system. (See [SCD-667](#) or [SCD-668](#))

- i. This has been the application of choice to deal with excess run off from residential properties into parks, especially narrow linear parks. They intercept the run off and minimize damage within the park property (per **2.5.9**):
 - Subsurface drainage within these granular trenches should be connected to a catch basin as per [SCD-668](#). If catch basins are not feasible, where there is an SRB, they can drain into the pond as per [SCD-667](#)
 - Design of such areas must also consider a secondary drainage, such as sloped trench surface or property sloped towards a stormwater retention pond, since these trench systems are not functional when frozen

2.6 Specifications

2.6.1 Park Specific Standard Specifications

Excavation and Grading	PSS-004
Subsurface Drainage of Playground Safety Surfacing Areas.....	PSS-005b

2.6.2 [City of Winnipeg Standard Construction Specifications](#)

Cleaning and Grubbing.....	CW 3010
Sub-Grade, Sub-Base and Base Course Construction	CW 3110
Earthwork and Grading	CW 3170
Installation of Culverts	CW 3610
Riprap.....	CW 3615
Excavation Bedding and Backfill	CW 2030
Gravity Sewers	CW 2130
Installation of Sub Drains.....	CW 3120

2.7 Construction Details

2.7.1 [Park Specific Standard Construction Details](#)

Standard Precast Concrete Catch Pit	SCD-613
Drainage Swale/Earth Berm	SCD-644
Multi-Flow Drainage	SCD-659
Perforated pipe with filter cloth Drainage System	SCD-661

Drainage Swale & Berm	SCD-664
Property Line Drainage Trench Connected to Rigid Pipe	SCD-667
Property Line Drainage Trench Connected to Catch Basin	SCD-668

2.7.2 [City of Winnipeg Standard Construction Details](#)

Standard Pipe Bedding Classes	SD-001
Standard Trench and Excavation Backfill	SD-002
Standard Catch Basin	SD-025
Manhole Frame	AP-006
Grated Manhole Cover	AP-008
Manhole Riser Rings	AP-010
Catch Basin Hood	AP-012

2.8 [Urban Forestry Standards](#)

Specifications for Tree and Root Zone Protection.....Appendix A

[Tree Planting Details & Specifications Downtown Area and Regional Streets](#)

[Tree Removal Guidelines](#)

2.9 [The City of Winnipeg Accessibility Design Standards \(WADS\)](#)

[Accessible Routes, Paths, and Corridors](#) (Section 1.1.3)

SECTION 3.0 Topsoil, Seeding & Sodding

3.1 Purpose of Section

The purpose of this section is to cover site planning guidelines for topsoil, sod, seeding and hydro mulching, and to provide design guidelines for the various turf types.

3.2 Overview

The most common landscape treatment for a park is turf, which most often is provided as sod. For Greenfield developments the minimum landscape improvement requirement is topsoil and sod, but naturalized treatments (which are mentioned here but addressed in greater detail under **Section 9.0**) are also promoted and supported.

Parks typically follows the City's standard specifications and construction details but may implement longer warranty and maintenance periods. This is particularly true for Greenfield developments, where park maintenance and warranty periods or 2 years.

3.2.1 Mineral Sod

Mineral Sod is the turf ground cover acceptable for Parks and Open Space properties within the City of Winnipeg.

- a. Benefit:
 - i. Provides instantaneous coverage and usability
 - ii. Establishes quickly, retains moisture well
 - iii. Requires less long-term maintenance
 - iv. Is durable for medium to high foot traffic areas
 - v. Is weed-free, and has a high tolerance to drought
- b. Potential issue/disadvantage:
 - i. Limited species (monoculture) availability.
 - ii. More costly

3.2.2 Grass Seed

Grass seed is used to fill small gaps between sod pieces and may be used in small areas where sodding is not feasible. It shall only be used in larger applications under approved circumstances.

- a. Benefit:
 - i. Different mixes or blends of cultivars can be used for specific applications or site conditions (i.e. sun or shade, disease resistance, moisture levels, soil type, etc.).
 - ii. Lower initial cost than sod.
- b. Potential issue/ disadvantage:
 - i. Initial watering is critical.
 - ii. Longer time period is required for establishment, to achieve desired density,
 - iii. Reseeding may be necessary due to poor germination or erosion, and
 - iv. Weeds can be problematic until the turf is fully established.
- c. **Grassland Naturalization** involves the establishment of local native grass seed
 - i. Grassland Naturalization methods are covered in greater detail in **Section 9.0**.
 - ii. Has become a standard treatment for the edges of retention ponds
 - iii. Benefit:
 - Protects natural heritage areas
 - Improves bank stability
 - Increases biodiversity
 - Enhances water quality
 - iv. Potential issue/ disadvantage:
 - Long-term process which can take many years to develop into vibrant and diverse natural communities

3.3 Definitions

Artificial Turf – a surface of synthetic fibers made to look like real grass, most commonly used for sport applications. It is constructed in the same manner as carpet. The synthetic grass blades come in different pile heights.

Hydro mulching – a planting method that involves spraying a slurry mixture of seed and mulch to a prepared surface.

Mineral sod – turf grass sod with a mineral soil layer containing a minimum of seventy (70%) percent inorganic soil.

Peat sod – sod which is grown on a soil substrate consisting largely of decomposed vegetation or organic matter (not approved for use in City parks and boulevards).

Subgrade – the natural in-situ material below the topsoil and sod or seed.

Swale – a shallow sloped tract of land designed to manage and control the flow of water.

Topsoil – a screened clay-textured or loam-textured, fertile, friable material neither of heavy clay nor of very light sandy nature containing by volume, a minimum of four (4%) percent for clay loams and two (2%) percent for sandy loams to a maximum twenty-five (25%) percent organic matter (peat, rotted manure or composted material) and capable of sustaining vigorous plant growth.

3.4 Site Planning Guidelines

3.4.1 Product Applications

- a. Mineral sod is the standard soft ground cover in park applications including but not limited to athletic fields, areas around newly constructed path and edging. It is also the standard for boulevards, medians and areas damaged by construction activities.
- b. Peat sod is not approved for use for City parks, open space and boulevards.
- c. Seed is acceptable in small areas to repair ruts and low spots, filling seams in sod, and larger areas if approved by the Park Superintendent and/or Contract Administrator.
- d. Hydro Mulching may be applied to large expansive areas along boulevards and medians, on steep slopes as an erosion control technique but only in approved circumstances.

- e. Grassland Naturalization methods and its application are covered in Section 9.0.
- f. Artificial Turf is beneficial for high use areas. Because of the high initial cost and limited life span of artificial turf, all proposals for use must include a replacement plan.

3.5 Design Guidelines & Details

3.5.1 Topsoil Standards

- a. Topsoil guidelines for the various turf types are as outlined below:

Table 2 – Topsoil Guidelines

Turf Type:	Min. Topsoil Depth:	Preferred Topsoil Depth:
Sod	75 mm	150 mm
Athletic Field sod	150 mm	225 mm
Seed	100 mm	175 mm
Hydro Mulching	100 mm	175 mm
Grassland Naturalization	150 mm	300 mm
Artificial Turf	N/A	N/A * requires special subsurface base

- b. Turf Installation Periods

- i. Acceptable installation dates for the various turf types are as outlined below:

Table 3 – Acceptable Installation Periods

Turf Type	Installation Dates	Maintenance Period Standard	Development Agreement
Sod	May – September 15*	30 days**	2 years
Athletic Field sod	May – September 15*	90 days**	2 years
Seed	May – September 15*	30 days**	N/A
Hydro Mulching	May – September 15*	30 days**	N/A
Grassland Naturalization	Seed before June 15	3 growing seasons***	3 growing seasons*** for parks, 5 years for stormwater retention ponds

* Turf may be planted later than September 15th if approved by the Contract Administrator, but the Warranty/Maintenance Period will not commence until May 15th of the following year.

** Subject to proper establishment and acceptance (Issuance of Construction Completion certificate) by the City of Winnipeg.

- *** Naturalization by seed in park areas shall follow the establishment, maintenance and inspection schedule as shown in 9.5.5. Naturalization of stormwater retention ponds is under a different approval timeline under the jurisdiction of Water & Waste).
- c. Artificial turf requires:
 - i. Require permission from the Park Superintendent for use, as it is relatively new to parks within the city.
 - ii. Constructed granular base and drainage layer.
 - iii. Edges to be secured.
 - iv. Periodic infill into the artificial turf (infill type depends on product used).
- d. Submittals:
 - i. Quality assurance testing for topsoil: Topsoil sample – to testing laboratory.
 - ii. Quality assurance for sod: Sod sample – tickets/ receipts.
 - iii. Results to be submitted to Contract Administrator and Park Technologist.
 - iv. Tested submittals must meet specification before product approval.

3.6 Specifications

3.6.1 Park Specific Standard Specifications

Establishment of Naturalized Seeded Areas PSS-0028

Topsoil, Sodding and Seeding PSS-0029

3.6.2 City of Winnipeg Standard Construction Specifications

Sodding [CW 3510](#)

Seeding [CW 3520](#)

Topsoil and Finish Grading for Establishment of Turf Areas [CW 3540](#)

3.7 Construction Details

3.7.1 City of Winnipeg Standard Construction Details

Sodding Details [SD-243](#)

SECTION 4.0 Pathways & Trails

4.1 Purpose of section

The purpose of this section is to cover site planning and design guidelines for pathways and trails in parks and natural areas.

4.2 Overview

Pathway locations are intrinsically linked to active transportation – most notably pedestrian and cycling networks. The infrastructure within park spaces may serve solely to connect elements within the park or may form part of and connect to the larger network. This is especially significant when a path connects through a park, thus pathways should always be considered in the context of the specific use.

4.2.1 Application

- a. Pathways (multi-use paths and walkways) and trails are built to create connectivity within park spaces. They provide connections to park features, including natural spaces and amenities. Pedestrian and cycling (sometimes referred to as “active transportation (AT)”) networks may also support connectivity from, between and to surrounding neighborhoods.
- b. Park pathways:
 - i. Are built to connect people with places.
 - ii. Must support pedestrians and, where possible, cyclists and other modes of active transportation.
 - iii. Must be universally accessible, following the *City of Winnipeg Accessibility Design Standard*.
 - iv. Vary in material and size depending on where they are located, purpose they serve, amount of use, and size of the site.

4.2.2 Usage

- a. Parks can supplement the pedestrian and cycling network by promoting walking and cycling as attractive and convenient transportation choices to help reduce automobile dependence, increase physical activity levels, improve public health, reduce infrastructure demands, and create more livable and vibrant communities.

- b. The provision of pathways and trails in parks should align with the seven main goals of the [Winnipeg Pedestrian and Cycling Strategies](#) (2015):
 - i. Integrate with Land Use – strategically develop accessible, well-connected networks of walking and cycling facilities, supporting the concept of complete communities.
 - ii. Active, Accessible & Healthy – make daily walking and cycling convenient, accessible, active, healthy travel modes for people of all ages and abilities.
 - iii. Safe, Efficient & Equitable – Winnipeg’s pedestrian and cycling networks will be designed, maintained and developed to ensure accessible, safe, and efficient use for all, while balancing needs of different users and trip types sharing the networks.
 - iv. Design & Maintenance – provide a high-quality network of pedestrian and cycling facilities that are planned, designed, implemented, and maintained to address year-round access.
 - v. Financially Sustainable – plan and implement cost-effective, financially sustainable walking and cycling facilities and networks, with due consideration for economic, health, and environmental cost benefits.
 - vi. Environmentally Sustainable – invest in walking and cycling as environmentally-friendly modes of transportation as one way to help the City and Province meet and surpass climate change and emission reduction goals.
 - vii. Transparent Process – continuously engage with the community as part of a transparent process to develop the Pedestrian and Cycling Strategies, and to implement the initiatives identified within the Strategies.

4.3 Definitions

Accessible Pathway – a route, pathway or corridor designed in alignment with accessibility design standards, universal wayfinding principles to meet the needs of the full range of individuals who may use them.

Active Transportation (AT) – Any human-powered mode of transportation, such as cycling, walking, skiing, and skateboarding, for the purpose of travel to a specific destination not excluding travel for purely recreational purposes.

Curb Ramp – the combined curb taper and depressed curb that facilitate a smooth transition between roadway and path or sidewalk

Desire Line – a worn path of travel created by park users linking one desired location to another via route of least resistance and/or shortest distance.

Detectable Warning – a standardized surface feature built into or applied to walking surfaces or other elements to warn persons with vision impairments of hazards on a circulation path.

Hard Surface – refers to asphalt, concrete, paving stones or crushed limestone materials in a landscape.

Linear Parks – a network of contiguous open spaces providing connections within and between communities, which can be a combination of the park network and transportation network. They may be part of a broader transportation network (e.g. Parkways) providing both commuter and recreational connections to key destinations including to local, community and regional parks, and natural spaces.

Linkage Parks – a type of park that provides important ecological and recreational corridors with a primary focus on enhancing connectivity and trail-based movement. They are typically characterized as being significantly longer than they are wide. They provide connectivity into and within the parks system and serve to improve connections to and between the city's residential and commercial areas.

Multi-use Path (AT Path) – a path intended to accommodate both pedestrians and cyclists, typically surfaced as asphalt, and physically separated from motor vehicle traffic. It can be either within the roadway right-of-way, within a walkway right-of-way or within parkland. Multi-use pathways include bikeways with adjacent pedestrian paths or other facilities built for bicycle and pedestrian traffic.

Parkway – term used to designate a specific pathway network along the city's primary waterways. Winnipeg's Parkway system consists of six geographically located and named trail systems adjacent to the Red and Assiniboine Rivers. The Parkway system connects various park trails, multi-use paths and road routes into a larger whole as an integrated and continuous route. Parkways support the use of the City's rivers and riverbanks by facilitating public access to rivers and riverbank lands to encourage transportation and recreation through the provision of boat launches, docks, trails, parks and other accessibility improvements. Coordinated trailhead and wayfinding signage is used to promote and facilitate the use of the Parkway system.

Pathway – a surfaced area or route built for pedestrian and/or bicycle travel, can be located within in a park, open space area or a right of way. Typically constructed of a harder surface: asphalt, compacted crushed stone, or concrete.

Primary Path - the main pedestrian route that connects to, within and through a park, and which may provide cyclist connections as well.

Public Walkway/Walkway right of way – a sidewalk or pathway providing mid-block pedestrian access between streets, typically serving as a short cut. May also serve to provide cyclist route connectivity, where adequate pathway width is provided.

Sensitive Lands – (a) land that is susceptible to flooding or erosion or that has unstable slopes or poor drainage; (b) areas of special significance for animal, bird or plant life, including wetlands, forests and nesting areas; (c) land on which any development is likely to harm ecological diversity (*City of Winnipeg Charter*).

Trail – a more informal path or course created for walking, cycling, most often associated with a natural area, park or open space. Typically made of crushed stone or wood mulch.

Walkway – a sidewalk or path providing street to street connectivity, considered right-of-way.

WADS – The City of Winnipeg Accessibility Design Guidelines

4.4 Site Planning Guidelines

4.4.1 Route or Corridor Alignments

- a. Anticipate intended purpose for navigation and connection within parks, providing direct and convenient access for all ages and abilities.
- b. Anticipate user demands for movement to avoid wear and damage created by desire lines.
- c. Consider whether pathway is used for commuting through parks as part of the larger active transportation network (as defined in the *Pedestrian and Cycling Strategies*) or for more passive purposes.
 - i. Routes that are part of a linear park system should:
 - Be aligned in a direct and contiguous manner
 - Avoid connecting to undesirable locations such as wet areas, steep slopes, dead-end areas, rail crossings, busy roads and other such safety hazards

- Avoid being located along boulevards where driveways and cross-streets are less than 200m apart
 - Minimize number of street crossings
- d. Respect natural areas, habitats and features:
- i. Where natural areas are present, pathways or trails should be routed to avoid disturbing environmentally significant areas. This may entail placing paths along the edges of sensitive lands in order to minimize their impact on these spaces.
 - ii. Where existing trees are present, protection and preservation of existing trees must be considered in the pathway alignment.
 - iii. Pedestrian and cyclist clearances must be factored into alignment. In existing park sites and in the right-of-way, if trees must be removed for the installation of a new pathway, compensation must be provided as per Forestry’s “Tree Removal Guidelines”.

4.4.2 Linkage Parks

- a. Where possible, access to linkage parks should be provided every 250 to 300m. In areas with good site lines access points may be permitted every 400m.
- b. Private lots with walkout basements next to linkage parks are discouraged. Walkout basements make it difficult to achieve an evenly sloped accessible pathway within the park property and subsequently can require retention walls to be located within private properties.
- c. Linear Parks, including narrow park spaces along retention ponds, should be designed to create connections within and between neighbourhoods. They should also support trail-based recreation opportunities for people within a neighbourhood.
- d. Linear parks should serve the following purposes:
 - i. Connect amenities within the neighbourhood, such as schools, play grounds, athletic fields, etc.
 - ii. Where possible, provide connectivity to broader neighbourhoods, parks and amenities.

- iii. Provide walking circuits within the neighbourhood. A walking circuit does not need to be only within park land, it can incorporate sidewalks, multi-use paths and walkway right of ways.
- e. Public walkways provide pedestrians, and where appropriate cyclists, street to street connections. Walkways (sometimes referred to as “cut-throughs”) provide a more direct connection to destinations, reducing distance and travel time for pedestrians and cyclists. They are usually aligned with adjoining connections, which may include sidewalks and/or pathways.
 - i. Minimum width for street-to-street walkways is 6m and maximum width is 9m to be considered right-of-way, as determined by the Transportation Standards Manual 2012.
- f. Minimum width for park areas adjacent to retention ponds, which include 2.4m pathways (provided swales are not located between property line and path), from property line to top 7:1 slope:
 - i. 6m for areas without tree planting.
 - ii. 12m for areas with tree planting on one side.
 - iii. 20m for areas that include tree planting on both sides.
 - iv. Space must be wider if pathway is wider.
- g. At minimum park paths must connect to a multi-use pathway or to a sidewalk for pedestrians and have a curb cut access to the street for cyclists.
- h. Street crossings:
 - i. Pathways shall be directed to crossings at intersection, where possible.
 - ii. Mid-block crossings, especially on collector streets, are discouraged. If a mid-block crossing is proposed, ensure approval by the Transportation Division, Public Works Department (PWD) before implementation.
 - iii. Pathways connecting across a roadway must align at a 90-degree angle, where possible. The maximum acceptable skew for a roadway crossing alignment is 75 degrees.
 - iv. Where park pathways accommodate cycling, they must connect to a roadway or to a bikeway. Cyclists are not permitted on sidewalks.

- v. Curb cuts must be provided for multi-use pathways crossing roadways.
- i. Lane crossings:
 - i. Pathways and linear parks should not be designed to cross back lanes.
- j. Paths connecting to streets without sidewalks:
 - i. All paths must connect to the street with a curb cut, allowing accessible entrance into the park.
 - ii. All pathway sections located within the street right-of-way, as part of a longer park path, must be constructed out of concrete or asphalt with detectible warning strip at roadway crossings, as per *City of Winnipeg Accessibility Design Standards* (section 1.2.6).
- k. Pathway junctions:
 - i. Where two paths intersect they should align at a 90-degree angle. The maximum acceptable skew for a pathway junction is 60 degrees.
- l. Access to play areas:
 - i. To comply with [WADS](#) all playgrounds require an accessible pathway leading to the play area.
 - ii. This does not include multi-use pathways, which should not be immediately adjacent to play areas in order to separate the faster moving bikes from the children at play.
- m. Parking lots:
 - i. Ensure a safe and accessible pathway is provided from a parking lot to adjacent park amenities or nearby pathways.
 - ii. Pathways should, as much as possible, be routed around parking lots. If pathway must go through a parking lot, pathway must be situated to allow for the safe movement of pedestrians and cyclists.
 - iii. Pathway routes shall be clearly marked out. Where pedestrian circulation crosses vehicular routes, a crosswalk, speed bumps, or signage shall be provided to highlight the conflict point and improve its visibility and safety.

- iv. Accessible pathways through parking lots must be clearly delineated by a curb, railing or parallel separator as per [WADS](#) (Section 1.1.3.1).
- n. Natural areas:
 - i. Scenic trails often pass through the natural areas of Winnipeg. Most parkways and major trail systems in Winnipeg exist within or are related to Ecologically Significant Natural Lands (ESNL). Strategic planning of ESNL goes hand in hand with any initiatives related to the creation or maintenance of recreational trails throughout the city.
 - ii. Location and trail materials of those to be located through existing natural areas must be determined in coordination with the City Naturalist, Urban Forester and Urban Designer.
- o. Along riverbanks:
 - i. Pathways and trails located along riverbanks shall be located on a case-by-case basis, dependent on riverbank conditions (ie: stability, habitat and safety), type of pathway/trail and purpose it is serving, and will be made of material suitable to these conditions.

4.5 Design Guidelines & Details/Specifications

4.5.1 Subsurface Materials

- a. Where questionable subgrade exists, geotechnical testing may be required to ensure the future stability of the pathways and trails (i.e. concern over silt).

4.5.2 Surface Materials

- a. Generally, all pathways and trails shall be constructed from crushed limestone, asphalt, poured-in-place concrete, or precast concrete paving material.
 - i. Commuter Routes (as defined in *Pedestrian and Cycling Strategies*) shall be asphalt.
 - ii. Multi-use pathways that are part of a broader transportation network, as identified in the *Pedestrian and Cycling Strategies*, should be constructed out of asphalt. Where possible and/or required ([WADS](#)) ensure clear delineation is established between the separated pedestrian and cyclist networks.

- iii. Pathways and trails in forests should be limestone unless designated Ecologically Significant Lands or other circumstances, as determined through design review, otherwise see **iv**.
- iv. Woodchip pathways and trails are acceptable only in specific circumstances such as informal trails and through Ecologically Significant Natural Areas.
- v. Rubber surfacing is acceptable for pathways only under approved circumstances by Park Superintendent.

4.5.3 **Pathway Width**

- a. Width of pedestrian pathways varies depending on the purpose and the existing or expected intensity of use. The minimum path widths should be designed as follows:
 - i. 1.8 m for granular and paved pathways to park amenities.
 - ii. 2.4 m for paved and granular primary spine pathways in parks.
 - iii. 3.5 m for multi-use paths (path shall be asphalt).
 - iv. 1.5 m where site conditions restrict the width of the path, only accepted in retrofit circumstances.

4.5.4 **Snow Clearing**

- a. Not all paths will be snow cleared, however, to facilitate the opportunity for seasonal maintenance, all pathways shall ensure a minimum offset of 1.0m from all obstacles on both sides, to avoid damage by maintenance equipment.

4.5.5 **Pathways Intersecting with Roads**

- a. Where park pathway provides both a pedestrian and cycling route and leads out to a sidewalk, extend pathway to street curb with curb ramp, to provide cyclist access to street or city bike route.
- b. Ensure pathway joins street at 75° – 90° angles (90° is preferred).
- c. Install bollards on path, adjacent to a street, to restrict vehicular access, according to site requirements.

4.5.6 **Accessible Routes**

- a. All new paths must comply with [WADS](#).
- b. Ensure no catch basins or manholes are located in pathway or within 60 cm of pathway, to remove potential for trip hazards.

4.5.7 **Pathway/Walkway Grading**

- i. See section **2.5.8c**

4.5.8 **Linear Path Amenities**

a. Require:

- i. Rest areas complete with at least one bench located every 300 to 400m for rest area.

ii. Locations:

- Shall not conflict with other adjacent uses (eg: too close to private yard deck or compost bin)
- Should be situated to take advantage of vistas or desirable site lines, where possible
- May include more sites along a waterway or pond (eg: vista, quiet reflecting pond, or natural habitat observation areas)
- Should include clustering of some benches for conversation areas
- Should take advantage of shade opportunities
- Should serve as meeting places, at desired locations, such as at entrances and nodes along pathways

iii. Waste receptacles:

- Located at pathway entrances

b. Optional:

- i. Lighting -- must be approved by Park Superintendent.

4.5.9 **Clearances**

- a. Pathways should ensure pedestrians and cyclists have a 2.5m clearance from all obstacles overhead.
- b. Locate trees a minimum of 2m away from edge of pathways.
- c. Locate waste receptacles, lighting and other amenities along the pathway to ensure a minimum distance of 1m from edge of item to the edge of pathway.

4.5.10 Submittals:

- a. Quality assurance testing for granular and asphalt paths sub-grade and base course as per [CW 3110](#).
- b. Quality assurance testing for asphalt as per [CW 3410](#).
- c. Quality assurance testing for concrete as per [CW 3310](#).
- d. Results to be submitted to Contract Administrator and Park Technologist.
- e. Tested submittals must meet specification before approval

4.6 Specifications

4.6.1 Park Specific Standard Specifications

Granular Pavement - Park Pathways.....	PSS 008
Asphalt Pavement - Park Pathways.....	PSS 009
Asphalt Pavement - Repair Fabric	PSS 009B
Cast-in-place Concrete Pavement	PSS 0011
Interlocking Paving Stones	PSS 0012

4.6.2 City of Winnipeg Standard Construction Specifications

Sub-grade, Sub base, & Base Coarse Construction	CW 3110
Supply and Installation of Geotextile Fabrics	CW 3130
Supply and Installation of Geogrid	CW 3135
Supply and Installation of Pavement Repair Fabric	CW 3140
Renewal of Existing Miscellaneous Concrete Slabs	CW 3235
Renewal of Existing Curbs	CW 3240
Portland Cement Concrete Pavement Works	CW 3310
Portland Cement Concrete Sidewalk	CW 3325
Detectable Warning Tiles	CW 3326
Installation of Interlocking Pavement Stones	CW 3330
Asphalt Concrete Pavement Works	CW 3410
Sodding.....	CW 3510

Seeding [CW 3520](#)

Topsoil and Finish Grading for Establishment of Turf Areas [CW 3540](#)

4.7 Construction Details

4.7.1 [Park Specific Construction Details](#)

Paving Stone Details [SCD-644](#)

Simple Park Path Crushed Limestone [SCD-645](#)

Park Pathway Crushed Limestone [SCD-646](#)

Park Pathway Asphalt [SCD-648](#)

Multi-Use Pathway (AT) Asphalt..... [SCD-648A](#)

Park Pathway Asphalt on “A base” [SCD-648B](#)

Park Pathway Wood Mulch [SCD-649](#)

100mm (4”) Thick Concrete Path..... [SCD-662](#)

100mm (4”) Thick Concrete Path with Thickened Edge [SCD-662A](#)

125mm (5”) Thick Reinforced Concrete Path..... [SCD-663](#)

125mm (5”) Thick Reinforced Concrete Path with Thickened Edge [SCD-663A](#)

Removable Steel Bollard..... [SCD-105C](#)

4.7.1 [City of Winnipeg Standard Construction Details](#)

Curb Ramp for 1500 Sidewalk at Intersections [SD-229A](#)

Detectable Warning Surface Tile for Intersections [SD-229AA](#)

Detectable Warning Surface Tile for Intersections [SD-229AB](#)

Curb Ramp for Pedestrian Corridor with a Traffic Control Device [SD-229AE](#)

Detectable Warning Surface Tile Orientation for o/s Intersections [SD-229AF](#)

Curb Ramp for Full Width Sidewalk at Intersections [SD-229BA](#)

Detectable Warning Surface Tile in Curb Ramps for Medians..... [SD-229BB](#)

Curb Ramp for Concrete Pavement..... [SD-229C](#)

Curb Ramp for Asphalt Overlay..... [SD-229D](#)

Curb Ramp and Depressed Curb w/ Detectable Warning Surface[SD-229E](#)

Sodding Details.....[SD-243](#)

4.8 **Urban Forestry Standards**

Specifications for Tree and Root Zone Protection.....Appendix A

[Tree Planting Details & Specifications Downtown Area and Regional Streets](#)

[Tree Removal Guidelines](#)

4.9 **The City of Winnipeg Accessibility Design Standards (WADS)**

General Space and Reach Requirements (Section 1.1.1)

Protruding and Overhead Objects (Section 1.1.2)

Accessible Routes, Paths, and Corridors (Section 1.1.3)

Ramps (Section 1.1.5)

Stairs (Section 1.1.6)

Handrails and Guards (Section 1.1.7)

Accessible Routes: Maintenance (Section 1.1.8)

Texture, Finishes and Colours (Section 1.2.1)

Signage (Section 1.2.4)

Detectable Warning Systems (Section 1.2.6)

Seating (Section 1.3.5)

Exterior Ground Surfaces (Section 2.1.1)

Streetscape (Section 2.1.3)

Curb Ramps and Truncated Dome Detectable Warning Surfaces (Section 2.1.5)

Parking (Section 2.3.1)

Outdoor Recreational Facilities (Section 2.3.3)

SECTION 5.0 Playgrounds

5.1 Purpose of section

The purpose of this section is to cover site planning and design guidelines for the development of new playgrounds or the redevelopment of existing playgrounds. Included in this section are guidelines for containment edging, safety surfacing materials, subsurface drainage, site furniture, fencing, tree planting and play equipment.

5.2 Overview

Playgrounds or play areas are defined as areas set aside for children's play. This may be spaces for installed play equipment and structures or informal natural play areas.

Playgrounds constitute one of the core amenities in park land provisioning – as such are expected to be equitably distributed throughout the city. Even if a developer is not obligated to provide the specific amenities for a play space they must plan for their inclusion to meet the City's defined level of service

Siting of a play area is one of the key considerations. Appropriate co-location with other park amenities as well as separation from other activity areas make the spaces more enticing.

Our current focus on play is for children but the spaces created must also be comfortable and enticing to their care givers and as the population ages, that may shift to include consideration for a broader range of ages.

Playgrounds are considered important for the following reasons:

5.2.1 Value

- a. Winnipeg values play as important in promoting healthy child development as it contributes to the cognitive, physical, social and emotional well-being of children and youth. It also provides opportunities for caregivers to engage with the child. As our city continues to grow, so does the need for children to have a safe place to play, socialize and exercise.

5.2.2 Sense of Community

- a. Play spaces also help in developing a sense of community. These spaces are places where people gather, where neighbours meet and form friendships with others in their community.

5.2.3 Healthy Community

- a. The City of Winnipeg is a leader in delivering recreation services that build healthy communities. The City's role as a recreation and wellness leader and facilitator includes working to address age, gender, ability and cultural barriers to participation. The City prides itself on promoting and enabling opportunities for all age groups to be active as part of their daily lives by:
 - i. Ensuring all forms of new recreation amenities are designed with universal access features.
 - ii. Creating play areas that embrace inclusion by ensuring surfaces and structures are designed with everyone in mind.
 - iii. Striving to include amenities in parks that accommodate various abilities.
 - iv. Promoting inclusion of playgrounds and play areas in all neighbourhoods, establishes an early foothold in support of active, healthy outdoor lifestyle choices.

5.3 Definitions

Accessible – a site, building, structure or facility that can be approached, entered, and used by people, including those with physical, sensory, or cognitive disabilities.

Accessible Pathway – a pathway of asphalt, concrete or limestone material which allows ease of travel for wheelchairs, walkers, strollers, etc.

ADA – Americans with Disabilities Act – an equal opportunity civil rights act prohibiting discrimination of people with disabilities. A common reference understood by North American playground manufacturers.

Fine Motor Skills – movements using small muscles in hands, wrists and fingers (dexterity).

Gross motor Skills – movement of large muscle groups like arms, legs and torso.

Impact Attenuation – measure of shock absorbing properties in the context of safety surfacing below play equipment.

Inclusive Play – allowing all children with a wide range of disabilities to play together.

Motion Play Component – a play component within a playground that allows the user's entire body to move (i.e. seesaw, spring toy, spinner, etc.).

Tactile – describes an object that can be perceived using the sense of touch.

Wear Mat – an impact attenuation mat, designed to be installed in combination with safety surfacing products, anchored below ground, to prevent the displacement of safety surfacing in heavy use areas (slide exits and under swings).

WADS – The City of Winnipeg Accessibility Design Guidelines

5.4 Site Planning Guidelines

5.4.1 Distribution:

- a. The City of Winnipeg strives to have playground sites within a 600m walk from most residential properties. Geographic boundaries such as major roadways, railway lines and waterways all constitute barriers to movement (areas children either cannot or should not have to cross) that shall be taken into consideration when measuring walkability to playground spaces. Also, to be considered are other public playgrounds within walking distance, such as schools, and types of play equipment located in nearby parks.

5.4.2 Intent of play areas:

- a. Designed to offer the greatest play value while balancing risk and life cycle cost.
- b. Challenge users physically, socially, and mentally.
- c. Spaces where children can learn to interact with others, grow their imagination and practice fine and gross motor skills.

5.4.3 Site Design:

- a. Layout and circulation considerations:
 - i. Easy, visible entrance to site/play area.
 - ii. Location of play area should be close to seating and sodded play areas. Play areas should incorporate seating (for parents to be engaged and able to observe) and sodded areas to support simple running around as part of the play experience.
 - iii. Consider the amount of space needed for the intended play provision: determining what age groups it is intended to focus on and the amount of space needed dependent on whether the intent is to combine or separate the age categories 2-5 years and 5-12 years (see **5.5.2** for more detail).

- iv. Using existing site use patterns to help inform design (desire lines, etc.).
- b. Accessibility:
 - i. All playgrounds must comply with the [WADS](#) – not only the equipment but the access to and accommodations within the designate play space
 - ii. The minimum requirement for accessible play equipment must be as per [WADS](#), but exceeding the requirements is recommended. Consideration shall be made to all children using play equipment and how the play activities outlined in **5.5.6b** could be available to children with varying abilities.
 - iii. Must have an accessible pathway leading to the play structure with an accessible entrance into the safety surfacing; this must lead from either the sidewalk or curb cut off the street, towards a sitting area near the play area.
- c. Safety:
 - i. Ensure there are good sightlines to and through the play equipment areas.
 - ii. Provide shade, through use of tree planting, or utilizing existing tree canopy, capitalizing on shade cast by adjacent structures, as well as incorporating roof features and spaces beneath playstructure platforms for children to hang out
- d. Consider relationship with existing on-site building(s) to new play area, such as access points from the building (i.e. existing community centres or daycares that lease space on City property, wading pools, etc.).
- e. Situate seating and play areas to appropriate setbacks from streets to ensure safety, if this cannot be done then utilizing fencing to separate the play area from the street.

5.4.4 **Communication**

- a. When residential properties back onto the park site inform residents of any changes happening within the park, when appropriate.

5.5 **Design Guidelines**

5.5.1 **General**

- a. All newly designed or altered playgrounds must conform to current version of:
 - i. CAN/CSA-Z614.
 - ii. [City of Winnipeg Accessibility Design Standard \(WADS\)](#)

5.5.2 **Play Area**

- a. Defined by locations of formal installed play equipment and structures as well as informal natural play areas.
- b. Integration of universally accessible play features must consider the needs of both caregivers and children with disabilities
- c. Play areas can be designed for ages 2-5 years, 5-12 years or 2-12 years:
 - i. Create separate play areas for preschool (2-5 years) and school aged (5-12 years) children, if possible.
- d. Important play considerations for toddlers (2-5 years) (based on CSA guidelines):
 - i. Physical play – incorporate hard surface circuit for wheeled toys, grass play areas to run around, swings, and climbers.
 - ii. Social Play – create spaces with semi-enclosed areas (i.e. play house, store front), incorporate imaginative play components, and provide tables and sitting surfaces.
 - iii. Manipulative cognitive play – provide elements that allow kids to interact with and modify their environment (i.e. sandbox, natural areas).
 - iv. Quiet retreat play – think about providing spaces separated from high activity areas (i.e. hideaway, quiet seating area).
- e. Important play considerations for school aged children (5-12 years) (based on CSA guidelines):
 - i. Physical play; incorporating swings along with more advanced climbing structures, and overhead bars.
 - ii. Incorporates grass and/or hard surface play area to run around and play more structured games such as drop shot or hopscotch, tag, etc.
 - iii. Manipulative cognitive play (i.e. sand play, natural areas).
 - iv. Social play (i.e. seating areas, gathering spaces, natural areas).

5.5.3 **Safety (Protective) Surfacing Materials**

- a. Install safety surfacing in accordance with the product specification for impact attenuation.

- b. Loose-fill and unitary products are supported.
 - i. Loose-fill surfaces consist of small, individual pieces (such as engineered wood fibre or sand).
 - ii. Unitary is smooth and continuous (such as poured in play rubber, synthetic turf or rubber tiles).
- c. Engineered Wood Fiber Safety Surfacing (wood fibre):
 - i. Defined as a loose fill material similar to wood chips but specifically designed and manufactured for playground use, with properties that deter fire, insects and splintering.
 - ii. Per PSS 0018: Safety Surfacing – Engineered Wood Fibre.
 - iii. Considered a wheelchair accessible surface.
 - iv. Depth of safety surfacing – min. 300mm compacted (unless otherwise approved).
 - v. Approved products:
 - Zeagar Woodcarpet System 1, or
 - FibarSystem 200
 - other systems may be approved on a case-by-case basis
 - vi. Requires containment edging (see **5.5.5**).
 - vii. ‘Wear mats’ shall be installed beneath swing seats and slide exits in conjunction with the wood fibre surfacing.
 - viii. Requires a drainage layer (as per manufacturer’s specifications), complete with connection out to subsurface drainage system.
 - ix. Wood fibre product shall be supplied by an authorized distributor:
 - Delivery slips and/or a warranty certificate from an authorized supplier are to be submitted to the Contract Administrator prior to installation
 - x. Do not locate sand boxes or sand surfacing immediately adjacent to engineered wood fiber safety surfacing to prevent the mixing of materials.

- f. Sand Safety Surfacing:
 - i. Considered a loose fill surfacing.
 - ii. Per PSS 0021: Safety Surfacing – Sand.
 - iii. Not considered a wheelchair accessible surface.
 - iv. The City does not promote use of sand, due to concerns with compaction and use by animals as ‘litter boxes’, but it may be supported in specific approved circumstances.
 - v. Install to a min. depth of 355 mm after compaction.
 - vi. Requires containment edging.
 - vii. Sand may be inspected and tested at any time.
- g. Peastone Safety Surfacing:
 - i. No longer used in new or replacement applications as it is not an accessible surface and issues with spillage into surrounding areas.

5.5.4 **Play area Subsurface Drainage**

- a. Subsurface drainage is required for:
 - i. Engineered wood fibre safety surfacing.
 - ii. In any other application in which there is potential for the containment area to hold water.
- b. Per PSS 005: Subsurface Drainage.
- c. Drainage pipe shall be Multi-Flow or 100mm perforated PVC pipe or approved substitute (as per [SCD-659](#)).
- d. In retrofit applications, drain stone depth shall be increased where drainage using multi-flow or weeping tile is not possible (only in approved circumstances).

5.5.5 **Containment Edging**

- a. All play areas require edging to contain the loose safety surfacing material. Poured in place and rubber tiled safety surfacing shall include containment edging unless otherwise approved.
- b. Timber Edging with Cap:

- i. Per PSS 0014: Timber Edging.
 - ii. The most typical application in City playgrounds.
 - iii. Minimum 1-layer (or tier) however can be single, double or three-tiered, to best suit the circumstances
 - Height will be predicated on depth of material to be contained, depth of excavation, or change of grade in the play area
 - iv. Edging of more than three tiers will require additional reinforcement/ bracing.
 - v. All timbers shall be 140mm x 140mm ideally of a single length along any given edge, but with a minimum length of 1200mm.
 - vi. Timbers shall be capped with composite boards or approved substitute (as [per SCD-651](#) and/or [SCD 651A](#)).
 - vii. 90-degree angles are not allowed, in most cases, for ease of turf maintenance activities.
- c. Cast-In-Place Concrete Edging:
- i. Per PSS 0010: Cast-In-Place Concrete Edging – Playgrounds.
 - ii. Refer also to [SCD-643](#) and [CW 3310](#) and [CW3110](#).
 - iii. 90-degree angles and elaborate configurations are not allowed, in most cases, as it makes turf maintenance activities difficult.
- d. Additional Options (only in approved circumstances):
- i. Pre-Cast concrete Block Retaining Wall – Used in instances when cutting into existing berm.
 - ii. Vertical Wood Posts (Nature play).
 - iii. Boulders (Nature Play).

5.5.6 **Play Equipment:**

- a. Play equipment shall comply with the current CAN/CSA Z1614.
- b. Play equipment must provide as many as possible of the following play activities:
 - i. Imaginative Play.
 - ii. Sensory Experience (i.e. sight, touch, sound).

- iii. Climbing.
- iv. Balancing.
- v. Motion (i.e. spinning, rocking).
- vi. Sliding.
- c. Play structures and components shall comply with the [WADS](#). If a playstructure is proposed, it must include but not be limited to one transfer station for access of adult caregiver or reduced mobility access.
- d. Ramped access to the playstructure is preferred where budget and site conditions allow and required when the number of play components provided as per [WADS](#) are reached.
- e. Equipment and site amenities are to be constructed of durable, vandal resistant materials, requiring minimal maintenance as per PSS 015.
- f. Play equipment shall offer different play experiences than surrounding playgrounds within a 600m walking distance.
- g. Unacceptable Play Components are indicated in PSS 015.
- h. Swings:
 - i. When designing a play area for 2–5 years old children, swings shall include both belt seats as well as bucket seats. They can be combined on the same swing standard but not in the same bay. When an accessible swing seat is provided (product to be approved by Park Superintendent), it can be located within the same bay as a bucket seat, but not a belt seat.
- i. Natural Play Components and Earth Forms:
 - i. Will be considered on a case-by-case basis.
- j. Sandboxes:
 - i. Will be approved on a case-by-case basis.
 - ii. They should not be installed in shady areas – sun exposure is important to drying the sand and preventing mold and mildew.
 - iii. Per [SCD-660](#).

5.5.7 **Site Furniture**

- a. All play areas must include a minimum of the following site furniture (see [Section 8.0](#)) for more details:
 - i. One standard metal slat waste receptacle as per [SCD-119](#); to be installed off the path in a hard surface node near the closest park entry for ease of maintenance.
 - ii. One accessible bench with back and arms to be installed near the playground, placed on a bench node as per [SCD-136A](#) flanking the path.
 - iii. Other than the standard SCD items, all other styles of site furniture must be approved by the Park Superintendent and the Urban Designer.
- b. Signage (see also Section 8.0 – Site Furniture):
 - i. A permanently mounted sign including park name, address and 311 logo must be included and visible from both the play area and street.
 - ii. Sign shall be double sided as per [SCD 153](#) and [SCD 154](#).
 - iii. If signage is located within Riel District it must be bilingual.

5.5.8 **Fencing** (see also [Section 7.0](#))

- a. A barrier style fence may be required to control access and movement around a play area. Typically, the need is governed by safety concerns, based on proximity to traffic, or to separate incompatible park uses/amenities (i.e. athletic field, dog park, parking lot, etc.).
 - i. Where safety surfacing /containment edging of play equipment is located within 7.62m (25') of a local street property line, fencing is required to separate children from vehicles (unless otherwise approved).
 - ii. Where safety surfacing /containment edging of play equipment is located within 15m (50') of a collector street property line, fencing is required to separate children from vehicles (unless otherwise approved).
- b. When fencing is installed, note maintenance access requirements as per Section 7.0 – Fencing.
- c. Standard City park fencing styles are as per Section 7.0 - Fencing in this document and PSS 0023: Chain Link Fencing and Gates and PSS 0024: Ornamental Fencing and Gates.

5.5.9 Planting

- a. Tree planting is highly encouraged adjacent to play areas and seating areas in order to provide shade for caregivers and children using the park.
 - i. One caution is placement by sand boxes (see **5.5.6j**) – ensure the sand box receives sun exposure for part of the day.
- b. Applicable tree species, sizes, planting guidelines, and warranties as per Section 6.0 - Planting and PSS 0027: Planting.
- c. Trees species with surface roots pose a trip hazard and tend to push up through the safety surfacing, so shall not be planted next to play areas.
- d. When locating trees:
 - i. Allow 2.4m (8') minimum (unless otherwise approved) between the containment edge of the play area and the proposed deciduous tree to allow for large mowers to fit within the space for maintenance activities.
 - ii. Evergreen trees require a greater offset to account for branch spread. Placement is subject to approval by the City.
- e. Tree placement should not block views of the play area and seating areas from the street, nor block park signage.

5.5.10 Submittals:

- a. Quality assurance testing for concrete piles as per [CW 2160](#).
- b. Engineered wood fiber delivery slips and/or a warranty certificate as per PSS-018.
- c. Play equipment maintenance kits as per PSS 017.
- d. Results to be submitted to Contract Administrator and Park Technologist.
- e. Tested submittals must meet specification before approval.

5.6 Specifications

5.6.1 Park Specific Standard Specifications

Removals.....	PSS 003
Excavation and Grading	PSS 004
Subsurface Drainage	PSS 005

Place Concrete Edging – Playgrounds..... PSS 010

Timber Edging..... PSS 014

Playground Equipment PSS 015

Swing Sets..... PSS 016

Play Equipment Maintenance Kits..... PSS 017

Safety Surfacing – Engineered Wood Fibre PSS 018

Safety Surfacing – Poured-In-Place Rubber PSS 019

Safety Surfacing – Rubber Tile Systems PSS 020

Safety Surfacing – Sand..... PSS 021

Site Furnishings PSS 025

Planting..... PSS 027

Topsoil, Sodding and Seeding PSS 029

5.6.2 **City of Winnipeg Standard Construction Specifications**

Excavation Bedding and Backfill [CW 2030](#)

Clearing and Grubbing [CW 3010](#)

Subgrade, Sub-Base and Base Course Construction [CW 3110](#)

Earthwork and Grading..... [CW 3170](#)

Portland Cement Concrete Pavement Works [CW 3310](#)

5.7 **Construction Details**

5.7.1 **Park Specific Construction Details**

English Park Sign with Address..... [SCD-153](#)

Bilingual Park Sign with Address [SCD-154](#)

Engineered Wood Fibre Safety Surfacing Drainage [SCD-650](#)

Single Timber Edging with Cap [SCD-651](#)

Double Timber Edging with Cap [SCD-651A](#)

Timber Edging Detail to Fence..... [SCD-651B](#)

Double Timber Edging with Cap at accessible entrance	SCD-651C
Accessible Playground Ramp.....	SCD-656
Multi-Flow Drainage	SCD-659
Painted Wooden Sandbox on Granular Pad.....	SCD-660

5.8 [Urban Forestry Standards](#)

Specifications for Tree and Root Zone Protection.....Appendix A

[Tree Planting Details & Specifications Downtown Area and Regional Streets](#)

[Tree Removal Guidelines](#)

5.9 [The City of Winnipeg Accessibility Design Standards \(WADS\)](#)

Accessible Routes, Paths, and Corridors (Section 1.1.3)

Seating (Section 1.3.5)

Exterior Ground Surfaces (Section 2.1.1)

Plantings (Section 2.2.2)

Picnic Tables (Section 2.2.3)

Outdoor Recreational Facilities (Section 2.3.3)

Play Areas (Section 2.3.5)

SECTION 6.0 Planting

6.1 Purpose of Section

The purpose of this section is to cover site planning guidelines for the planting of trees, shrubs, perennials and annuals within parks, and to provide design guidelines for the selection, placement, installation and maintenance of plant material.

6.2 Overview

Winnipeg prides itself on the urban forest canopy and efforts to maintain a no-net tree loss. Any loss, removal or damage to the public tree canopy is subject to compensation, in accordance with industry standards to offset the cost of replacements.

Predominant focus on vegetation planting is trees, but there are some circumstances where shrubs, perennials and annuals may be supported. Accordingly, the Urban Forest branch and Park Superintendents have a key role in the review and approval of proposed plantings.

6.2.1 Application

- a. Plants in designed landscapes serve a variety of functions:
 - i. Visual appeal/ aesthetics.
 - ii. Shade and wind barriers.
 - iii. Erosion Control – planting of trees, shrubs, perennials and grasses along slopes helps stabilize the slope.
 - iv. Privacy, mark boundaries, or block unpleasant views.
 - v. Habitat – plants can provide food and shelter for wildlife and also encourage the presence of birds, butterflies and other wildlife.
- b. Proposals to incorporate planting within a parks space must:
 - i. Ensure ease of maintenance which includes but is not limited to the product selection, access to them and siting, which is essential to its success.
 - ii. Promote appropriate plant selection – choosing the right plant for the right location.

- iii. Ensure safety of both the person maintaining the plant bed and the potential visual screening created by the planting.
- iv. Concurrently consider environmental benefits such as wildlife habitat, erosion control and stormwater absorption.
- v. Capitalize on use of native plant materials, wherever possible.

6.3 Definitions

Annuals – plants which complete their life cycles within one growing season.

Caliper – a unit of measurement for tree trunk diameter:

- i. For trees up to 100mm (4”) caliper measured at 15cm (6”) above ground level.
- ii. For trees 100mm (4”) caliper and greater measured 30cm (12”) above ground level.

DBH – diameter at Breast Height; a unit of measuring the diameter of a tree by taking the diameter of the trunk at height of Measurer’s chest.

Gallon – typical unit for denoting standard container sizes.

Mulch – a protective covering spread in planted areas to reduce evaporation, maintain even soil temperature, prevent erosion, control weeds and/or enrich the soil. May be organic (e.g. woodchips) (preferable) or inorganic (e.g. decorative stone) (not very desirable).

Perennials – plants which regrow from root stock annually and may live for at least two subsequent years.

Planting Bed Soil – a three-way friable soil mix, used to replace excavated material to create healthy growing environments for new plantings.

6.4 Site Planning Guidelines

- a. Planting within parks includes trees, and may also include shrubs, perennials (including ornamental grasses) and annuals.
 - i. The planting of trees is most common in public parks as they provide shade, screening, seasonal interest, and require the least amount of maintenance.

- ii. The planting of shrubs, perennials and ornamental grasses must be kept to a minimum, with the aesthetics of the planting beds weighed against maintenance considerations.
 - iii. Annuals are only allowed in special circumstances where there is a community group dedicated to maintaining the beds.
- b. Unless otherwise approved, plant material must conform to the minimum planting size, as outlined in the table below:

Table 4 – Minimum Planting Size

Plant:	Size:
Deciduous shade tree	50-75 mm (2-3”) caliper
Ornamental tree	50-75 mm (2-3”) caliper
Evergreen tree	1800 mm (6’) height
Shrubs	2-gallon container
Vines	1-gallon container
Ground cover/perennials	100 mm (4”) pot

- c. The time of year planting occurs can be critical to the species establishment success and longevity, so must conform to the dates outlined below - note that inspections approval and acceptance are governed by these timelines.

Table 5 – Vegetation Installation and Maintenance Period

Vegetation:	Installation:	Maintenance Period:
Shrubs	May to October	30 days
Ground cover/ perennials	May to September 15*	30 days
Trees	Spring or Fall preferred	2 years

* Groundcover/ perennials can be planted later than the September 15 date if approved by the Contract Administrator, but the Warranty/Maintenance Period will not begin until May 15 of the following year.

6.5 Design Guidelines

6.5.1 Trees

- a. Tree diversification:
 - i. The diversity of tree species is important in combating new and existing insects and diseases. As a result:

- Only those trees species listed in the [City of Winnipeg Applicable Tree Species for Boulevard Plantings](#) may be planted along boulevards and in our parks, unless otherwise approved by City Forester or designate
 - Planting Concept Plans should include no more than 25% of any 1 (one) genus of tree for planting. Any deviation from the above guidelines must be approved by the City Forester, prior to installation
- b. Tree planting guidelines:
- i. Trees are to be planted in accordance with:
 - [The City of Winnipeg Tree Planting and Maintenance Specification](#)
 - [Boulevard Tree Planting Guidelines as Required Under Development Agreements](#)
 - [Tree Planting Details and Specifications for Downtown Area and Regional Streets](#)
- c. Tree selection to avoid hazards:
- i. Trees that drop large seeds and fruit such as apple trees, ornamental crab trees, and oak trees, shall not overhang or be positioned near accessible paths or walkways as they could pose a slipping hazard or make pushing a wheelchair difficult.
 - ii. Overhanging branches of trees or shrubs over walkways or paths shall not reduce the available headroom at any part of the walkway or path to less than 2500 mm (98 ½”).
 - iii. Trees with large surface roots (e.g. maples and poplars) may pose trip hazards and may cause heaving, cracks in pavement.
- d. Maintenance in the vicinity of trees:
- i. Tree species selection must consider maintenance requirement of the surrounding surfacing e.g. multi-stemmed trees/low canopy trees are difficult to mow under causing potential mechanical damage to tree.
 - ii. Be mindful of planting too close to park maintenance access point.
- e. Minimum clearances:

Table 6 – Minimum Tree Clearance

Location:	Distance (M):
Park related clearances:	
• Adjacent to pathways	2
• Adjacent to playground containment area	2.4
• CB’s + Manholes	3
• Light standards	3
• Fire hydrants	3
• Hydro poles	3
Additional (right of way) related clearances	
• Street intersections	6
• Private approaches	1.5

6.5.2 Shrubs and Perennials

- a. All proposed shrubs, perennials and grasses must be approved on a site-by-site basis. Only low maintenance, non-invasive and hardy shrubs and perennials will be considered.
- b. Planting bed materials:
 - i. For information on planting soil, fertilizer, landscape fabric, mulch and construction methods please refer to PSS 026 Planting Beds & Mulch.
 - ii. Mulch is to be 75 to 100mm depth of clean woodchip or bark mulch comprised of not less than 15mm nor larger than 75mm in length and not more than 20mm thick. Mulch is to be free of leaves, branches and other extraneous matter.
 - iii. Geotextile weed barrier is not to be used unless approved on a site-by-site basis. If employed, geotextiles are to be commercial grade, permeable non-woven fabrics designed for the intended purpose.
 - iv. Steel, aluminum or plastic garden edging products are not to be used, unless approved on a site-by-site basis. If employed, edging must be commercial grade and designed for the intended purpose.
- c. Installation:
 - i. Installation of perennials, grasses and shrubs shall be as per [SCD-501](#).
- d. Shrub and Perennial Selection in consideration of Persons with Disabilities:

- i. Colour contrasting plant material near walkways can be helpful as a guide for individuals with vision impairments.
- ii. Hedges along one side of a walkway can provide edge definition and straight-line orientation for individuals with vision impairments.
- iii. Shrubs with thorns and sharp edges shall be not be planted next to pathways.
- e. Visibility and safety:
 - i. Plantings within parks should not be so dense that they detract from opportunities for natural surveillance.
 - ii. Plant selection should always be based on growth rates, plant size at maturity and maintenance requirements. Do not select plants or place plants in locations that will require extensive pruning to maintain sightlines.
 - iii. When mulching planting beds, to prevent injuries and/or property damage, avoid rock mulches that can be easily thrown.

6.5.3 Annuals

- a. Annual plantings will not be approved in park planting beds to be maintained by the City,
 - i. with the exception of Regional Parks that may have floral displays.
- b. Annuals may be approved in planting beds only if maintained by the Developer or other community-based group. The design of these beds must take into consideration the need for future removal if maintenance by these groups does not continue.

6.5.4 Submittals:

- a. Quality control testing and samples as per PSS 0026.
- b. Testing laboratory results to be submitted to Contract Administrator and Park Technologist.
- c. Tested submittals must meet specification before planting.

6.6 Specifications

6.6.1 Park Specific Standard Specifications

Planting Beds and Mulch..... PSS 0026

Planting.....	PSS 0027
6.6.2 City of Winnipeg Standard Construction Specifications	
Topsoil and Finish Grading for Establishment of Turf Areas	CW 3540
6.7 Construction Details	
6.7.1 Park Specific Construction Details	
Preparation of Planting Area	SCD-501
Coniferous Tree Planting (Parks).....	SCD-515
Deciduous Tree Planting (Tree Well)	SCD-516
Standard Detail for Tree Planting.....	SCD-517
Special Detail for Tree Planting with Tree Spade Excavated Pit.....	SCD-518
Special Detail for Tree Planting in Restricted Sites.....	SCD-519
6.8 Urban Forestry Standards	
Specifications for Tree and Root Zone Protection.....	Appendix A
Acceptable Tree Species for Boulevard Planting	
Boulevard Tree Planting Guidelines as Required under Development Agreements	
Tree Planting Details & Specifications Downtown Area and Regional Streets	
Tree Planting and Maintenance Specification	
Tree Removal Guidelines	
6.9 The City of Winnipeg Accessibility Design Standards (WADS)	
Protruding and Overhead Objects (Section 1.1.2)	
Accessible Routes, Path and Corridors (Section 1.1.3)	
Plantings (Section 2.2.2)	

SECTION 7.0 Fencing

7.1 Purpose of Section

This section identifies the standard fencing types approved by the City of Winnipeg (City) and the criteria for their application.

All fence locations and heights shall comply with the Winnipeg Zoning By-laws.

7.2 Overview

7.2.1 Fencing Requirements

- a. Provision of fencing in City parks is more of an exception than a rule. Unless there is a need to control movement for safety, keep people in or out, standard practice is to:
 - i. Not install fencing in order to make parks and open spaces as open and accessible as possible to the public both visually and physically.
 - ii. Focus fencing in locations that provide an important separation from vehicular traffic and to prevent vehicles from driving into park space.
 - iii. Leave the installation of fencing of lot lines adjacent to private property:
 - For existing parks this is left to the discretion of the adjacent property owner in order to allow them to determine the degree of access (physical or visual) they have to the adjacent park
 - For new developments there is often a condition of the development application approval, that the developer provide property line delineation (which can take various forms) with the private property that then becomes the responsibility of the property owner thereafter
 - ◆ This ensures a uniform treatment and consistent look and feel, especially when there are multiple lots that back onto the park
- b. In the following situations fencing must be installed as part of park construction:
 - i. All instances where vehicles can easily drive onto the park space, such as along back lanes, parking areas, etc. In these cases, bollard fencing shall be installed.
 - ii. To separate incompatible uses, such as dog parks and playgrounds, playgrounds and traffic, etc.

7.2.2 Maintenance

- a. Unless specified otherwise, fencing and fence maintenance situated within park property limits is the responsibility of the City of Winnipeg's Public Works Department, Parks and Open Space Division. Any exceptions to the City's guidelines need to be approved by the City prior to installation.

7.2.3 Site Access

- a. Anytime fencing is used along the edge of the park abutting a right of way (street or lane), ensure there is access into the park for maintenance vehicles (see **7.4.3b**).

7.3 Definitions

Barrier fencing – a style of continuous fencing intended to prevent movement through. Can be solid or open style.

Bollard - a sturdy vertical post made of wood or steel, which when used in a series, acts to delineate a park boundary, demarcate a trail entrance, as an aesthetic park entry feature, or when spaced appropriately can prevent vehicular access into a park or onto a pathway.

Open style fencing – styles of fencing that allows for clear sight lines through it, including but not limited to chain link, wrought iron, etc.

Property line delineation – a visual means of demarcating the edge of a property – for parks purposes it refers to any number of methods of clearly demarcating the property line between a park and an adjacent property.

Snow Fencing – a temporary, lightweight, durable plastic fence that prevents snow from drifting onto desired areas or used as a safety barrier and/or tree protection during construction.

7.4 Site Planning Guidelines

7.4.1 Fence Purpose

The purpose for fencing falls under four main categories:

- a. Control:
 - i. To contain an activity/user (off-leash dog area, wading pool, etc.).
 - ii. To stop or slow movement down in proximity to a busy street, lane or parking area.
 - iii. To prevent vehicular access to a site.

- iv. To control potential encroachment into park space.
- v. To stop a ball from exiting a play area.
- b. Separate:
 - i. To separate uses (i.e. between basketball and tennis courts).
 - ii. To clarify maintenance limits.
 - iii. To demarcate a property line when a demarcation is deemed necessary.
- c. Safety:
 - i. To assist in directing travel along a safe route.
 - ii. To prevent small children from inadvertently running into a vehicle dominated area particularly if play equipment is located close to the vehicular environment.
 - iii. To prevent small children from running into multi-modal spaces, such as bike paths.

NOTE: in all cases, fencing shall not impede universal access to a site.

- d. Aesthetic:
 - i. To make park location more identifiable from the street.
 - ii. To enhance a park entrance.

7.4.2 **Fencing Styles**

- a. Common Park Fencing:
 - i. Chain link – galvanized (CW 3550, PSS 0023) (varying heights depending on application – see Design Guidelines for details)
 - Used to enclose, contain, demarcate, control movement and provide property line delineation.
 - ii. Post bollards ([SCD-105B](#))
 - Used to demarcate park frontages and prevent vehicular access
 - iii. Post and chain fencing for vehicle access ([SCD-105G](#))
 - Used to create maintenance access into park spaces where post bollards are used.

- iv. Trail bollard ([SCD-105D](#))
 - Used in conjunction with trail ID signage to demarcate the entrance to a trail, more of a signage feature than a fence
- v. Removable steel bollard ([SCD-105C](#))
 - Used most often in conjunction with a wide path where vehicular traffic needs to be prevented, but pathway access for maintenance vehicles is required
- b. Specialty fencing (approved at the discretion of the Park Superintendent):
 - i. When selection specialty products ensure they are non-rusting, galvanized metal, powder coated product, aluminum, timber and lumber.
 - ii. Ornamental fencing (i.e. wrought iron, powder-coated aluminum):
 - Must have flat-top - no projections, especially around playgrounds to comply with CSA Play space guidelines
 - iii. Post and wood fencing ([SCD-105F](#), [SCD-105H](#), [SCD-105HI](#)):
 - Used to provide separation between park space and adjacent uses
 - Heavy duty post and wood fencing ([SCD-105H](#)) is used to prevent vehicular traffic, in situations such as next to parking lots or back lanes
 - iv. Chain link fencing with pressure treated wood posts ([SCD-152B](#)):
 - A more aesthetically pleasing barrier fence than typical chain link fencing
 - v. Wood fence – no set styles.
 - vi. Parking fencing – also referred to as ‘Light Proof Barrier/ Fence’ ([SCD-629](#)):
 - Includes a cross member that help shields headlights
- c. Temporary Fencing:
 - i. Such as snow fencing or steel construction safety fencing.

7.4.3 Gates

- a. Pedestrian:
 - i. Pedestrian gates are not used except where locking of an enclosed area is required, such as for fenced basketball courts, off leash parks, wading pools, etc. In lieu of gates, the City of Winnipeg uses ‘baffle’ openings (see Chain Link Fence Entrance Baffle Detail [SCD-633](#)).
- b. Vehicular:
 - i. Vehicular gates are used for maintenance access into a park space. Common types are:
 - Post and chain (and see **7.4.2a.iii**)
 - Dual swing chain link gate
 - Utility or farm gates
 - ◆ Used when necessary to prevent vehicular access to a site, and usually in association with a road or driveway

7.5 Design Guidelines

7.5.1 Fencing Applications

- a. General:
 - i. Metal fencing in proximity to Manitoba Hydro infrastructure must be grounded-consult Manitoba Hydro for requirements
 - ii. When fence is located along a lane or parking area where cars or snow clearing equipment may back into it, additional bracing may be required to protect fence.
 - iii. Limit projections above top of fence (ideally a flat top with no projections to mitigate potential head entrapment or entanglement concerns
 - iv. Except as listed below, style of fencing shall be determined in consultation with the Park Superintendent and/or Urban Designer
- b. Tennis courts:
 - i. Chain link 3.0–3.6m (10’–12’) perimeter fencing:

- With a minimum of two (2) pedestrian gates & one (1) maintenance gate
- c. Pickleball courts:
- i. Chain link 3.0m (10') high perimeter fencing:
 - With a minimum of two pedestrian access gates and one 3.0m (10') wide min. maintenance access gate
 - If there are 2 courts back to back they will require 1.2m (4') high fencing to separate the courts
 - If pickleball court is located adjacent to tennis court a 1.2m (4') high fence is required to separate the two courts
- d. Basketball courts:
- i. Desired, but in some circumstances may be optional
 - ii. At minimum segments should be installed along the short end of the court behind the net, to control balls
 - Chain link 3.0–3.6m (10'–12') perimeter
 - ◆ with a minimum of two (2) pedestrian gates & one (1) maintenance gate
- e. Wading pools:
- i. If drained daily then no fence is required but 1.0m (3') is often installed as a control/ containment device to help monitor bather load.
- f. Outdoor swimming pools:
- i. Determined by Public Health Act.
- g. Playgrounds:
- i. Refer to **5.5.8**.
 - ii. Fencing in or near playgrounds must comply with *CSA Standards* for playground safety with regards to entanglement and head entrapment.
- h. Property line fencing:
- i. Bollard-style along street edge to delineate park boundaries.
 - ii. Sometimes chain link is used as a barrier near a lane or street.

- iii. Chain link height typically 1.2 m (4').
- iv. For pedestrian access, chain link with baffles style gates 1.2 m (4') high is used to slow down/control movement at lanes or entrances with playgrounds near streets.
- v. Side and rear property lines left to the adjacent property owner to fence.
- vi. Be aware that there are often utility easements along the front of properties that may impact siting of fences.
- vii. When installing, removing or repairing property line fencing be aware that survey monuments may be present - ensure monument integrity throughout the process – refer to [Survey Infrastructure Protection Program](#).

7.5.2 **Locating Fence**

- a. Minimum 0.3m (1') inside property line.
- b. Before excavating for posts always ensure underground utility locates have been completed.
- c. Caution when excavating for posts around trees:
 - i. Refer to Appendix A “Specifications for Tree and Root Zone Protection”.
- d. Do not locate fencing where it will facilitate access to building roofs or power lines.

7.5.3 **Installation**

- a. In certain circumstances, as requested by the Park Superintendent, fences to be installed within a compacted granular strip extending a min. of 150 mm (6”) beyond the edge of the fence on either side (to act as a mow strip which facilitates easier maintenance).
- b. Install according to the installation specifications.

7.5.4 **Universal Access considerations**

- a. Gates or openings should address the full range of users that may pass through them. Openings that are an appropriate width are essential for wheelchair access as well as access for those using other mobility devices, strollers or walkers.
- b. Gates or openings shall comply with Section 1.1.4 Gates, Turnstiles and Revolving Doors in the [City of Winnipeg Accessibility Design Standards](#).

- i. Openings for fencing or bollards for universal access into or within park spaces shall be minimum 1.2m width.
- c. Hardware should be suitable for independent use, and self-closing.
- d. Where gates are incorporated into a chain-link fencing system, the posts at either side of the gate should incorporate a pronounced colour contrast from the fence and the surrounding environment, this can be done through adding high visibility signage, high visibility tape, paint, etc.

7.6 Specifications

7.6.1 Park Specific Standard Specifications

Timber Post Bollards, Fencing and Gates	PSS 0022
Chain Link Fencing and Gates	PSS 0023
Ornamental Fencing and Gates	PSS 0024

7.6.2 City of Winnipeg Standard Construction Specifications

Chain link and Drift Control Fence	CW 3550
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7.7 Construction Details

7.7.1 Park Specific Standard Construction Details

Post and Chain Fencing.....	SCD-105A
Post Bollard	SCD-105B
Removable Steel Bollard.....	SCD-105C
Trail Bollard	SCD-105D
Post and Wood Fencing.....	SCD-105E
Post and Wood Fencing Double Sided Park Sign	SCD-105E2
Post and Wood Fencing (Heavy Duty)	SCD-105F
Post and Chain Fencing for Vehicle Access	SCD-105G
Chain Link Fence with Pressure Treated Posts	SCD-152B
Footing Detail Straight Pile Surface Mount.....	SCD-300
Footing Detail Straight Pile	SCD-301

Footing Detail Bell Pile	SCD-302
Light Proof Barrier Fence	SCD-629
Chain Link Fence Entrance Baffle Detail.....	SCD-633
Timber Edging Detail to Fence.....	SCD-651B

7.8 [Urban Forestry Standards](#)

Specifications for Tree and Root Zone Protection.....Appendix A

[Tree Planting Details & Specifications Downtown Area and Regional Streets](#)

[Tree Removal Guidelines](#)

7.9 [The City of Winnipeg Accessibility Design Standards \(WADS\)](#)

Gates, Turnstiles and Revolving Doors (Section 1.1.4)

Handrails and Guards (Section 1.1.7)

SECTION 8.0 Site Furniture

8.1 Purpose of section

The purpose of this section is to cover site planning and design guidelines for the selection and placement of site furniture in parks.

8.2 Overview

Site furnishings are important amenities in parks, as they provide comfort and enhance the use and enjoyment of playgrounds, parks, school grounds, and other outdoor spaces. They should accommodate all users and be easily accessible without becoming potential obstructions. For the purpose of this chapter, site furnishings refer to benches, waste receptacles, picnic tables, lighting, barbeque pits and park name signs.

8.3 Definitions

Accessible seating – convenient resting places and amenities for all individuals, particularly those who may have difficulty with standing or walking for extended periods. Accessible seating must include at minimum a back and arm rests.

Accessible signage – provides essential information to everyone; it should be simple, uncluttered and use plain language and easily understood symbols or diagrams.

Sustainable Site Furnishings – site furnishings made from sustainable materials and/or high-quality recycled materials (e.g. plastics and/or metals) that are easily maintained with replaceable modular components.

WADS – The City of Winnipeg Accessibility Design Guidelines

8.4 Site Planning

Minimum of 1/3 of all seating and seating areas shall be accessible to all persons and must comply with the [Winnipeg Accessibility Design Standards](#).

Specific siting criteria is captured within the Design Guidelines for each specific site furnishing category.

8.5 Design Guidelines

8.5.1 General Guidelines

- a. All site furnishing designs and specifications that do not have or that deviate from the standard specifications must be reviewed and approved by the City of Winnipeg Parks and Open Space Division.
- b. Site furnishings should be consistent style and aesthetic with existing furniture within the park and surrounding areas.
- c. Materials shall be low maintenance, durable and easily replaceable.
- d. Linear structures (including benches) that may be attractive to skateboard use shall be designed to either accommodate skateboards use (i.e. include steel coping) or include skate deterrents.

8.5.2 **Park Benches**

- a. Park bench designs should:
 - i. Ensure greatest comfort for individual users:
 - No sharp or rough edges
 - no pinch points
 - if possible maintain a more moderate temperature (not excessively hot or cold)
 - ii. Be easy to maintain,
 - iii. Have a durable finish, and be resistant to vandalism.
- b. Minimum requirement:
 - i. Each neighborhood scale park shall have a minimum of one (1) bench with back and arm rests located on a hard surface pad (concrete, asphalt or crushed limestone) integrated in along an accessible walkway.
 - ii. Each community scale park shall have a minimum of three (3) benches located on a hard surface pad, one (1) of which minimum must have a back and arm rests integrated in along an accessible walkway, as per [SCD-136A](#).
 - iii. Linear parks shall have a minimum of one (1) bench with back and arm rests located on a hard surface pad as per [SCD-136A](#) spaced no more than 300-400m apart, as per [WADS](#).
- c. Siting: locate park benches so as to:

- i. Take advantage of locations which can provide shelter from the elements.
 - ii. Capitalize on views.
 - iii. Be situated adjacent to and integrated into circulation paths, as bench nodes and at intervals along long routes.
 - iv. Provide a variety of options for park users such as:
 - Sunlight/shade
 - Solitude/activity
 - Formal/informal settings
 - v. Benches must be accessible with arm and back rests:
 - Backless benches may be provided as long as there are some accessible benches in the vicinity
- d. Typical products
- i. Parks most frequently promote benches with backs and arm rests, which are compliant for universal access, however backless benched man be incorporated so long accessible seating in provided in the vicinity:
 - These should be within visual and conversation range
 - ii. Benches with backs: Park benches shall be the following standard City products, or an approved equivalent:
 - Tache Bench Composite with Arms (posts set in concrete) – as per [SCD-121A](#). Composite Cedar tone slats and galvanized metal frame. A third, middle arm, can be added upon request
 - Tache Bench Composite with Arms Surface Mount – as per [SCD-121E](#) Composite Cedar tone slats and galvanized metal frame. A third, middle arm, can be added upon request
 - iii. Backless benches:
 - Tache Backless Bench Composite with Arms (posts set in concrete) – as per [SCD-121C](#) Composite Cedar tone slats and galvanized metal frame –a third, middle arm, can be added upon request

- Tache Backless Bench Composite with Arms – Surface Mount as per [SCD-121D](#) Composite Cedar tone slats and galvanized metal frame – a third, middle arm, can be added upon request

8.5.3 **Waste Receptacles:**

- a. Minimum requirement:
 - i. Each park space shall have a minimum of one (1) metal slat waste receptacle placed at each entry point to the park.
 - ii. Each waste receptacle shall be secured with a locking mechanism, which:
 - Must be easily accessible and easily replaceable
 - Pad locks are the only acceptable locking mechanism unless otherwise approved by the Park Superintendent
- b. Siting:
 - i. Waste receptacles shall not be placed near park benches or picnic tables to keep wasps and smell away from seating areas.
 - ii. They shall be installed, where possible, in physical line with bollards along the front of the park and surrounded by hard surfacing for ease of mowing.
 - iii. Waste receptacles must be located in a manner that allows them to be able to be emptied from the side.
- c. Waste receptacles shall be the following standard City products, or an approved equivalent:
 - i. Metal Slat Waste Receptacle – as per [SCD-119](#), which is comprised of:
 - Metal Slat Waste Receptacle, Galvanized finish, permanently installed framework
 - Wire Basket Insert, galvanized finish – removable basket for emptying
 - ii. Waste Receptacle Expanded Metal Basket – as per [SCD-106](#) Galvanized finish – only to be used as supplementary waste receptacles to a site.
 - Requires a vertical element (such as a fence or light standard) to which to lock this product

- d. Where circumstances warrant, such as high levels of waste and where they can be located to be easily accessible by large truck (use must be approved by park superintendent):
 - i. Inground Waste Receptacle – Alpha Maxi (30”) or an approved equivalent:
 - Contact: ALFA Products Inc.; P: 1-800-665-7487; F: (204) 694-7133; [Email](#); [website](#)

8.5.4 Picnic Table

- a. Minimum requirement:
 - i. Each community scale park shall have a minimum of one (1) accessible picnic table located on a hard surface pad as per [SCD-136A](#).
 - ii. If more than one table, then 1/3 of the provision shall be accessible picnic tables.
- b. Placement and anchoring:
 - i. Accessible picnic tables must be located on a hard surface (asphalt, concrete or compacted granular area that is adjacent to an accessible path):
 - All picnic tables installed on compacted granular or on asphalt surfaces shall be anchored using two (2) duckbill anchors
 - All picnic tables on concrete or asphalt surfaces shall be surface mounted with minimum four (4) wedge anchors, typically one per leg
 - ii. Additional non-accessible picnic tables may be located on turf:
 - Tables located in turf shall be anchored with one (1) duckbill anchor to allow for movement to facilitate mowing under the picnic table
- c. Parks picnic tables shall be the following standard City products, or an approved equivalent:
 - i. ‘Picnic table’ Tache Style Metal Frame Picnic Table – as per [SCD-122](#). Wood slats painted finish standard colour cedar. Standard metal frame galvanized.
 - ii. “Accessible picnic table’ - Tache Style Wheelchair Metal Frame Picnic Table – as per [SCD-122A](#). Wood slats painted finish standard colour cedar. Standard metal frame galvanized.

- The accessible picnic table concurrently must be set on a hard surface pad that is connected to an accessible pathway

8.5.5 **Lighting:**

- a. Typically, lighting is not a requirement for park spaces as most parks are open only from dawn until dusk according to the Park By-Law.
- b. Lighting may be required:
 - i. When there is an important pedestrian linkage that is not already accommodated by a nearby street (i.e. certain linear parks), or
 - ii. When extending use of sport areas (such as outdoor rinks, basketball courts, etc.).
- c. When used, lighting should provide comfortable, evenly distributed light along circulation routes, at entrances, at frequently used amenities and in areas of potential hazard, appropriate or the intended use.
- d. It is important to keep the principles of Crime Prevention Through Environmental Design (CPTED) in mind when lighting a park.
- e. Park lighting shall be the following standard City products, or an approved equivalent:
 - i. Lumenpulse –PUR100Y, or approved equal.
 - ii. 4.5m (15') high poles.
 - iii. Piles shall be poured in place concrete as per [SCD-652](#) or precast concrete piles as per [SCD-655](#):
 - In areas of fill or on slopes such as near storm water retention ponds only poured in place piles as per [SCD-652](#) shall be acceptable

8.5.6 **Park Name Signage**

- a. Park name signage shall comply with [WADS](#).
- b. All signage within the Riel community shall be bilingual.
- c. Siting:
 - i. Park Name signs shall be located along the street front for ease of readability from the street or sidewalk.

- ii. If there is a playground nearby, the address of the park must be visible from the playground site to quickly be able to provide the park address in case of emergency.
- d. Park name signs shall be the following standard City products, or an approved equivalent:
 - i. English park sign w/ address – as per [SCD-153](#). Single sided #52501101 or double sided #52501103. Park name and address to be included on the Park sign shall be obtained by Contract Administrator prior to ordering.
 - ii. Bilingual park sign w/ address – as per [SCD-154](#). Single sided #52501104 or double sided #52501105. Park name and address to be included on the Park sign shall be obtained by Contract Administrator prior to ordering.

8.5.7 **Bike Racks**

- a. Bicycle racks are the most common short-term bicycle parking equipment:
 - i. Where supplied shall be installed on a hard surface area, secured to the ground.
- b. Siting:
 - i. Bike racks should be installed in such a manner that:
 - The rack, or any bike parked in the rack, does not overlap with pedestrian pathways
 - They are in relatively visible location
 - They are located close to activity areas that patrons may bike to
- c. Product: when selecting bicycle racks, the following attributes should be considered:
 - i. Can supports the bicycle upright by its frame in two places.
 - ii. Prevents the wheel of the bicycle from tipping over.
 - iii. Enables the frame and one or, preferably, both wheels to be secured without necessitating wheel removal.
 - iv. Supports a wide variety of bicycle shapes and sizes.
 - v. Allows front-in or back-in parking.
 - vi. Does not damage any part of the bicycle.

- vii. Accommodates most popular locking devices, in particular cables and high security U-shaped bike locks.
 - viii. Can be installed using tamper-proof fasteners or embedded in the ground.
 - ix. Resists being cut or detached using common hand tools.
 - x. Is simple to operate for a wide variety of users.
 - xi. Is clearly identified for its intended use.
- d. Bike Racks shall be secured.

8.5.8 **Barbeque Pits**

- a. Barbeque pits must be approved on a site by site basis.
- b. They shall be located on a hard surface pad and shall have at minimum one (1) accessible picnic table included on the pad.
- c. Barbeque pits shall be the following standard City products, or an approved equivalent.
- d. Round Steel BBQ pit – as per [SCD-155](#).

8.5.9 **Concrete Foundations**

- a. All in-ground mounted waste receptacles, benches and bike racks are to be set in concrete footings or piles to ensure stability and prevent frost heaving. Refer to PSS 006 in the installation of the concrete works for all below ground components.
 - i. Installation:
 - all posts and supports shall be centered in the concrete footing such that there is a complete collar of concrete around each post and support
 - where posts are not perfectly centered there should be a minimum of 2” concrete at any point around the post
 - all concrete footings shall be installed to the dimensions as shown on the Standard Construction Detail

8.5.10 **Surface Mounting**

- a. All surface-mounted site furniture and amenities are to be anchored using fasteners that will prevent lifting or removal of site furniture, such as epoxied anchor bolts or wedge anchors.

8.6 Specifications

8.6.1 Park Specific Standard Specifications

Cast-In-Place Concrete Foundations.....	PSS 006
Site Furnishings	PSS 0025

8.6.2 [City of Winnipeg Standard Construction Specifications](#)

Concrete Underground Structures and Works.....	CW 2160
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8.7 Construction Details

8.7.1 [Park specific Construction Details](#)

Waste Receptacle Expand Metal Basket.....	SCD-106
Waste Receptacle Metal Slat Type.....	SCD-119
Waste Receptacle Side Opening Metal Slat Type – Surface Mount.....	SCD-119A
Tache Bench Composite with Arms.....	SCD-121A
Tache Backless Bench Composite with Arms.....	SCD-121C
Tache Backless Bench Composite with Arms – Surface Mount.....	SCD-121E
Tache Style Metal Frame Picnic Table.....	SCD-122
Tache Style Wheelchair Metal Frame Picnic Table	SCD-122A
Accessible Bench Node & Picnic Table Layout.....	SCD-136A
English Park Sign with Address.....	SCD-153
Bilingual Park Sign with Address	SCD-154
Round Steel BBQ pit.....	SCD-155
Park Light Based Detail	SCD-652
Park Light on Precast Pile Detail.....	SCD-655

8.8 [The City of Winnipeg Accessibility Design Standards \(WADS\)](#)

Signage (Section 1.2.4)

Seating (Section 1.3.5)

Exterior Lighting (Section 2.1.2)

Picnic Tables (Section 2.2.3)

SECTION 9.0 Grassland Naturalization & Natural Area Protection

9.1 Purpose of Section

The purpose of this section is to cover site planning and design guidelines for the establishment of naturalized areas and the protection of existing natural areas. It highlights continued commitment to our natural landscape and the City' intentions to foster and preserve these spaces for the future.

9.2 Overview

9.2.1 Natural Areas

- a. Areas predominantly inhabited by native vegetation in natural occurring growing patterns, are considered to be “Natural areas”. Natural areas provide opportunities to establish and/or protect parks, open spaces and greenways to meet the recreational and leisure needs of the community.

9.2.2 Personal Benefits

- a. Access to healthy landscapes – As the natural elements of our increasingly developed urban landscape become more and more rare, their retention as healthy natural elements or intact cultural elements increases in importance.
- b. Creating a sense of place – reflects meaning that people ascribe to a place. How we interact with, perceive and describe spaces influences the well-being of people. Access and positive exposure to healthy landscapes and connection to cultural and historical places and events help establish a bond between people and places that that can perpetuate motivation to stay connected to similar environments.

9.2.3 Ecological Benefits

- a. Protects Natural Heritage – Naturalization preserves forests, reintroduces prairie grasses and wildflowers, and restores healthy wetlands. This process allows vibrant Manitoba plant communities to remain integrated in our urban environment and protected for future generations.
- b. Improves Stream Health and Riverbank Stability – Restoring natural vegetation along riverbanks filters pollutants, reduces erosion and provides a healthier environment for fish and other aquatic species.

- c. Increases Biodiversity – Natural areas provide a place for a wide variety of wildflowers, trees and shrubs. These plants attract and sustain a diversity of birds and butterflies.
- d. Enhances Water Quality – Natural wetlands and naturalized retention basins remove nutrients and pollutants from runoff water before it flows downstream into our rivers and lakes. Existing or naturalized tall grass prairie areas within urban environments are much better at absorbing and cleansing runoff than typical turf areas. Native prairie plants have an extensive and deep root system which creates a superior soil structure and promotes soil porosity. This porosity increases water infiltration into the soil, provides more space for water storage and promotes a greater level of biological activity in the soil which is important for the breakdown of pollutants.
- e. Promotes percolation and ground water recharge – Precipitation runoff is greatly sped up in urban and in suburban areas with the increase of non-permeable ground cover and the movement from surface water to below grade pipes. Natural areas within urban environments are extremely important to help absorb and cleanse the water that moves along our streets and yards, picking up vehicle pollutants, landscaping chemicals and animal waste. Forest spaces absorb a much greater amount of water than turf grass. The shrub and groundcover layer do the same. When the remaining water enters the ground plane, it either becomes absorbed into the soil and moves underground as subsurface flow or it filters down as deep percolation.
- f. Slows run off and soil erosion – Interception of rain water by leaves, branches and the vegetation on the forest floor reduces the intensity of rain events. Some of the intercepted water is lost to evaporation while the remainder is slowed in its path to the soil. Only when the soil is saturated does any remaining water on the ground runoff to lower land.
- g. Increases carbon sequestration – Natural areas take in and store atmospheric carbon dioxide, a potent greenhouse gas. In a forested area captured carbon dioxide is converted to biomass. In a grassland most of the carbon is stored underground in the extensive roots and soil surrounding the prairie plants.

9.2.4 Challenges

- a. Naturalization is a long-term process and some areas can take many years to develop into vibrant and diverse natural communities. A naturalization project is not maintenance free. The initial phases of naturalization can result in annual weeds such as penny cress and green foxtail which take advantage of bare soil. In mature naturalization areas invasive plants such as creeping thistle and burdock may become problematic. Proactive maintenance involving establishment mowing, hand pulling or cutting of invasive plants may be required. Eventually, the transition will lead to a more stable and diverse collection of native plants and weeds will be reduced.
- b. Litter can also become a problem in some areas when vegetation collects wind-blown paper or plastic refuse. Dumping trash, grass clippings or other garden waste into these areas is illegal and also problematic. Proper garbage disposal, composting yard waste and no littering, can prevent and help solve these problems.

9.3 Definitions

Invasive Species – non-native plants which invade natural areas and crowd out native species and thereby reduce biodiversity.

Native Plants – any plant that is indigenous to a particular area and has developed the ability to survive and reproduce in the local environment.

Native Grass Seed Mix – a mix of native prairie grass seeds.

Naturalization – a process where a disturbed site is encouraged to return to a natural state through tree planting, prairie and wetland restoration and no or reduced mowing.

No-Mow Areas – non-mowed buffer zones typically near waterways and along existing natural areas that encourage the natural regeneration of native plant species and/or can be supplemented with native grass seed.

Riparian Zone – the transitional zone between an upland area and a natural water body dominated by moisture loving plants and typically covered by tree canopy.

Tall Grass Prairie – a complex ecosystem characterized by a wide variety of grasses, flowers and wildlife dominated by grasses that can reach over two (2) meters in height and are adapted to fertile soils and higher precipitation levels (~500mm per year).

9.4 Site Planning Guidelines

9.4.1 Application

- a. Naturalization can occur along rivers, creeks, retention ponds, park spaces as well as on boulevards and medians in the City.
- b. Naturalization should be considered for areas directly adjacent to existing natural areas, especially where it can be used to connect these spaces with other areas of natural habitat.
- c. Where a pathway is to be located along a naturalized stormwater retention pond, grassland naturalization shall be located between the pond and the edge of the path.

9.4.2 Approvals

- a. Any proposals for Naturalization must be approved by the Park Superintendent and City Naturalist.
- b. Native seed mixes have been accepted along boulevards and park spaces, but before approval the specific area must be vetted through the Park Superintendent and City Naturalist to ensure that the area can withstand the conditions of that site and can be maintained in the long run.

9.5 Design Guidelines

9.5.1 Topsoil

- a. Minimum 150mm compacted depth of topsoil for grassland naturalization areas.
- b. Must be inspected before seeding can commence.

9.5.2 Seed

- a. Seed blends or mixtures shall be approved by City Naturalist prior to sowing. Refer to PSS 0028 for approved seed mixes.
 - i. Deviations to this must be reviewed and approved by the City Naturalist before installation can be considered.
- b. Seed for naturalization projects shall be selected from the most local source population available. This refers to the genetic origin of the seed source and not the geographic location where it was grown or purchased.

- c. Grassland naturalization areas are to be local native tall grass prairie seed with specific mixes for each slope, aspect and elevation.
- d. No-mow areas are to be local native grass seed with species having a maximum growing height of 450mm and selected for both intermittent wet and dry areas.
- e. Riparian areas are to be local native grass seed with species adapted to intermittent flooding and low light conditions. Specific mixes are required for each slope, aspect and elevation.

9.5.3 Installation Period

- a. Seeding must take place in Spring, before June 15.
- b. No seeding shall be done on frozen soil or when any other condition unfavourable to successful seed germination is present.

9.5.4 Installation method

- a. Refer to PSS-0028.

9.5.5 Maintenance Period

- a. Native Grass Seed Mix:
 - i. Native Grass Seed Mix has a minimum three-growing season establishment and turnover period, as per Table 7 – Warranty + Maintenance stages.
 - ii. The City of Winnipeg’s Naturalist Services Branch shall be called to inspect areas seeded with native grasses once seed has germinated and shows signs of successful growth. If the grasses are established with good cover, to the satisfaction of the City Naturalist, a two-year warranty and maintenance period shall begin.

Table 7 – Warranty + Maintenance stages

Year	Spring (before June 15)	Fall (between September 1 and October 20th)
1	Seeding	Naturalist Services Inspects seed growth – if satisfactory Construction Completion given & 10% of parkland securities are released
2	Maintenance	Developer responsible to undertake maintenance in accordance to the the specs of seeded area

3	Maintenance and inspection	If growth meets requirements of PSS 0028 “Termination of Maintenance Period” Developer calls Naturalist Services out to inspect and accept grassland naturalization – if satisfactory Final Acceptance given & 10% (or remaining) parkland securities are released
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9.6 Specifications

9.6.1 Park Specific Standard Specifications

Establishment of Natural Seeded Areas PSS 0028
 Topsoil, Sodding and Seeding PSS 0029

9.6.2 City of Winnipeg Standard Construction Specifications

Seeding [CW 3520](#)
 Topsoil and Finish Grading for Establishment of Turf Areas [CW 3540](#)

9.7 Construction Details

9.7.1 City of Winnipeg Standard Details

Sodding Detail [SD-243](#)

9.8 Urban Forestry Standards

Specifications for Tree and Root Zone Protection..... Appendix A
[Tree Planting Details & Specifications Downtown Area and Regional Streets](#)
[Tree Removal Guidelines](#)

SECTION 10.0 Athletic Fields

10.1 Purpose of Section

The purpose of this section is to cover site planning and design guidelines for athletic fields: rectangular athletic fields used for soccer, football, rugby, lacrosse, and ultimate Frisbee; ball diamonds, including baseball and softball; cricket fields; and, disc golf.

10.2 Overview

10.2.1 Application

- a. Athletic fields in public parks are created for both recreational pick-up play as well as competitive sport.
 - i. Pick up sports tend to be more informal spaces, and can be smaller sizes.
 - ii. Competitive sport fields tend to lean toward the largest size and sites aim to collocate multiple fields to support tournament play.
- b. Athletic fields are most often the largest element in a park thus become a key form determinant for park locations and specific site layouts.
- c. Designing for these uses should consider flexible use of space, multiple use opportunities, and future trends in sports.
- d. Opportunities for spontaneous/unstructured play on athletic fields should be promoted.
 - i. Priority for athletic fields should follow the following overall hierarchy:
 - Youth (via Community Centres)
 - Youth and School User Groups (via the City)
 - Adults (via the City)

10.2.2 Operation and Maintenance

- a. While the City is ultimately responsible for maintenance and operation of park land, there are a variety of partnerships that have developed to allow for more quality control over certain fields and courts. These include a lease agreement with a user group, a Joint Use Agreement with a School Division, or the Sweat Equity Maintenance Program in which the Community Centre is responsible for the maintenance of the fields. The following outlines the many possible options:
- b. Ownership:
 - i. City.
 - ii. School Division (Joint Use Agreement).
- c. Maintenance:
 - i. City.
 - ii. School Division.
 - iii. Community Centre (Sweat Equity Maintenance Program).
 - iv. Leasee.
- d. Management:
 - i. City (Bookings).
 - ii. Community Centre.
 - iii. Leasee.

10.3 Definitions

Athletic Field – also referred to as sports fields.

Joint Use Agreement – recognizes a partnership between the City of Winnipeg and other entities, most often school divisions and recreation organizations. These agreements are used to secure public access to non-City facilities (such as school sports fields); they guide the planning and development of joint use sites for school and park purposes and service providers.

Multi-use sites - provide open space for passive and active recreational uses. May include programmed areas or be entirely unprogrammed. Should include core amenities where space permits.

Programmed fields/sites - designed to serve specific public recreational interests, as determined by City.

Sweat Equity Maintenance Program – an annual grant, administered through the General Council for Winnipeg Community Centres (GCWCC) to offset costs for Community Center organizations to maintain some of the fields they use. The maintenance can either be full or partial.

10.4 Site Planning Guidelines

10.4.1 Applicable Siting

- a. Programmed fields should be located in Regional, Regional Sport or Community Parks, but they are sometimes located in larger neighbourhood parks that serve as satellite sites to the Community Centre.
- b. Planning and design of parks in new developments shall conform to the level of service requirements outline in the Park Strategy
- c. Shall be laid out based on the largest field size in order to accommodate a variety of sports fields and ages using the field.
- d. Site planning considerations shall include laying out the field in the best orientation, with adequate spacing between fields and surrounding elements, and minimize overlap of fields (see details that follow and refer to Canadian National Standards and best practices)

10.5 Design Guidelines

10.5.1 General

- a. The field of play must be free from obstacles, such as catch basins and manholes.
- b. New athletic fields, including their buffer zones/ runout zones, shall be built using 150mm of topsoil below the sod.
- c. When an athletic field (U13 fields and up) is located on a new park site a water service is required for the park site.
- d. Northings and Eastings for the field corners shall be marked on the layout plan.

10.5.2 **Water Service**

- a. Meter pit with double check valve assembly, backflow preventer and meter in corrugated steel pipe as per SD-241B with 50mm water line.
- b. Located inside the park property line close to the street edge, near the field location
- c. A meter pit can serve more than one field areas.
- d. Depending on where the athletic field(s) is located on site an extended water line with quick coupler located in a lockable box may be required.

10.5.3 **Site Grading**

- a. All informal or formal athletic fields, including at minimum 3m of their buffer zones shall have a level playing field, graded with no areas of ponding water. Rectangular athletic fields drainage patterns shall be as per the preferred sports field grading options shown in [SCD-306](#), with minimum and maximum slopes as per section 6.1 Earthwork, Grading and Land Drainage. If site conditions do not allow, the City may consider solutions other than the preferred sports field grading options.
- b. In cases where the field has poor drainage (i.e. less than 1% grade is attainable), a subsurface drainage system shall be installed to increase drainage.

10.5.4 **Maintenance Period**

- a. For newly installed grass fields, required maintenance shall be 90 days versus the standard 30-day maintenance period for sod.
 - i. in new communities governed by a development agreement all sodded areas are subject to warranty and maintenance period as specified in the agreement.

10.5.5 **Construction Inspection**

- a. Athletic fields must be inspected once site is graded and before topsoil is installed.
- b. Topsoil samples must be submitted.
- c. Topsoil depths will be measured.
- d. Invoice for fertilizer to be submitted.
- e. Sod delivery slips to be submitted.

10.5.6 **Soccer Fields**

- a. Field of play shall include and be designed so the field of play can be adjusted every year to avoid wear spots at goal mouths.

- b. Shall have a minimum buffer zone of 5m along sidelines and 10m behind goal ends free from obstacles. 7m sideline buffer zone is preferred to allow for spectator space. 10m buffer zone is ideal. Trees shall be set back 10m from the field of play. These dimensions do not include the area required for shifting the field to prevent wear spots.
- c. Should be laid out parallel to the property lines for ease of future line painting.
- d. Fields orientation for soccer should be ideally north-south.
- e. Portable Soccer Goals:
 - i. Goals must be portable and able to be securely anchored. Anchors shall be supplied by Parks and Open Space (POS).
 - ii. Goals to be delivered to POS yard. POS shall install standards once field has been accepted and turf is ready for organized sport activity.
- f. Any new field shall consider the ability to provide parking so as to not overwhelm the neighbourhood with on-street parking during games.
- g. Required Amenities:
 - i. Portable Soccer Goals.
 - ii. Fencing if goal ends are located along the street (unless otherwise approved based on site conditions).
 - iii. Water service (for fields sized 2,500sm and up).
- h. Optional Amenities:
 - i. Waste receptacle.
 - ii. Lighting, complete with electrical service.
 - iii. Bike rack.

10.5.7 **Football Fields**

- a. Field size shall be as per [SCD-360](#).
- b. Field orientation should be north-south.
- c. The field design for game fields shall include consideration of space for bleachers, scoreboard signage and lighting.

- d. New football fields shall not be located where lighting the field will negatively affect surrounding residents.
- e. Required Amenities:
 - i. Upright Goal posts.
 - ii. Lighting.
 - iii. Bleachers.
 - iv. Water service.

10.5.8 **Optional Amenities**

- a. Waste receptacles.
- b. Bike rack.
- c. Score board.
- d. Storage facilities.

10.5.9 **Ultimate Field**

- a. Ultimate Field size shall be as per [SCD-351](#).
- b. Field orientation should be north-south.
- c. Shall have a minimum buffer zone of 5m free from obstacles.
- d. Required Amenities:
 - i. Water service.
- e. Optional Amenities:
 - i. Waste receptacles.
 - ii. Lighting.
 - iii. Bench(es).
 - iv. Bike rack.

10.5.10 **Cricket Pitch and Fields**

- a. Cricket pitches can be either granular or concrete with artificial turf top. Most commonly concrete pitches are gaining popularity since they require less maintenance. Concrete pitches however have a much higher chance of movement in

our clay soils thus this should be taken into consideration when choosing pitch surfacing.

- b. Pitch orientation for cricket should be typically north-south.
- c. Required Amenities:
 - i. Water service.
- d. Optional Amenities:
 - i. Waste receptacle.
 - ii. Bench(es).
 - iii. Picnic table(s).
 - iv. Bike rack.
 - v. Storage facilities.
 - vi. Lighting.

10.5.11 **Baseball and Softball**

- a. Diamonds should be oriented so the setting sun is neither in the eyes of the batter or the players in the field.
- b. Fields should be graded at a slope of around 1 to 1.5%.
- c. If a fence is installed around the field, a granular warning track on the inside of the fence is required to warn players of the upcoming fence.
- d. The design of a baseball or softball diamond shall consider space for bleachers, either included in the project or for future installation.
- e. Ensure proper buffer space from adjoining uses. If adequate buffers cannot be achieved higher fencing shall be required to prevent foul balls from entering adjacent spaces.
 - i. Minimum 20 m buffer measured from backstop edge to property lines or other park uses.
- f. Required Amenities:
 - i. Players benches.
 - ii. Backstop.

- iii. Water service for baseball diamonds.
- g. Optional Amenities:
 - i. Wings for players boxes
 - ii. Waste receptacle.
 - iii. Outfield fencing.
 - iv. Bleachers.
 - v. Bike rack.
 - vi. Storage facilities.
 - vii. Lighting.
 - viii. Batting cages.

10.5.12 Submittals

- a. Topsoil sample – to testing laboratory.
- b. Sod sample – tickets/ receipts.

10.6 Specifications

10.6.1 City of Winnipeg Standard Construction Specifications

Clearing and Grubbing	CW 3010
Installation of Sub Drains.....	CW 3120
Earthwork and Grading	CW 3170
Sodding.....	CW 3510
Seeding	CW 3520
Topsoil and Finish Grading for Establishment of Turf Areas	CW 3540
Manual Irrigation System	CW 3530

10.7 Construction Details

10.7.1 Park Specific Construction Details

- a. General
 - Optimal Drainage Patterns for Sports Fields.....[SCD-306](#)

b. Baseball

Ball Diamonds Players Box [SCD-330](#)

Ball Diamonds Backstop..... [SCD-331](#)

Ball Diamonds Baseball Dimensions..... [SCD-333](#)

c. Softball

Ball Diamonds Softball Typical Skinned Infield..... [SCD-332](#)

Ball Diamonds Softball Dimensions..... [SCD-334](#)

d. Ultimate Frisbee Field

Ultimate Frisbee Field [SCD-351](#)

e. Football Field

Sports Standard Tackle Football Field..... [SCD-360](#)

Sports Standard Flag Football Field [SCD-361](#)

f. Soccer Field

Sports Standard Soccer Field Manitoba Standard [SCD-370](#)

Sports Standard Soccer Field FIFA Standard..... [SCD-371](#)

g. Cricket

Cricket Pitch with Concrete Base [SCD-375](#)

Cricket Pitch with Granular Base..... [SCD-376](#)

Cricket Batting Cage..... [SCD-377](#)

Senior Soccer Fields with Cricket Pitch Field..... [SCD-378](#)

Cricket Play Field..... [SCD-379](#)

10.7.2 **[City of Winnipeg Standard Construction Details](#)**

Standard Pipe Bedding Classes [SD-001](#)

Standard Trench and Excavation Backfill Classes [SD-002](#)

Water Service 20mm to 50mm [SD-012](#)

Watermain and Water Service Insulation [SD-018](#)

Standard Catch Basin in Boulevard.....[SD-025](#)

Typical Double Check Valve Assembly and Meter in C.S.P. Enclosure.....[SD-241B](#)

Sodding Details.....[SD-243](#)

10.8 **Urban Forestry Standards**

Specifications for Tree and Root Zone Protection.....Appendix A

[Tree Planting Details & Specifications Downtown Area and Regional Streets](#)

[Tree Removal Guidelines](#)

SECTION 11.0 Sport Courts

11.1 Purpose of Section

The purpose of this section is to cover site planning and design guidelines for sport courts (hard surface sport courts such as tennis/pickleball courts and basketball courts, and soft courts such as lawn bowling, petanque, beach volleyball courts).

11.2 Overview

Designing for sport courts should consider flexible use of space, multiple use opportunities, and future trends in sports. Examples of this include pickleball lines over tennis or basketball courts, or integrating hockey nets into the fencing of basketball courts creating opportunities for ball hockey within the court.

Hard surfaces treatments on Winnipeg's clay soils can be challenging for long term integrity, therefore the quality and standards in construction for hard surface areas are extremely important.

11.3 Definitions

Sports court surfacing – a surfacing layer on top of the concrete or asphalt court specifically designed for sport courts. Can range from a thin acrylic surface to add colour and grip to the court surface to a thicker rubberized surface to aid with impact absorption.

11.4 Site Planning Guidelines

11.4.1 Layout

- a. Keep trees well away from edges of asphalt courts to keep roots away from court area.
- b. North-south orientation recommended for all courts.

11.4.2 Hard surface courts:

- a. Tennis and pickleball courts:
 - i. Should be located in Community Parks.
 - ii. When building tennis or pickleball courts, a minimum of 2 courts must be provided.

- iii. When possible, build pickleball only courts along with new tennis courts.
 - iv. New or re-constructed tennis courts shall have a minimum of one court also lined with pickleball lines.
 - v. Locate courts away from residential properties due to noise concerns.
- b. Basketball courts:
- i. Can consist of either full or half courts.
 - ii. Appropriate at Community Parks as full or half courts.
 - iii. Only half courts should be built in larger neighbourhood parks and only where adequate separation and or buffering can be provided to adjacent residential properties.
 - iv. Basketball hoops can also be installed along the edge of hockey rink boards creating basketball opportunities within asphalted outdoor hockey rinks.
 - v. Locate courts away from residential properties due to noise concerns.

11.4.3 **Soft Surface Courts**

- a. Beach Volleyball:
 - i. Shall only be installed at community center site, Regional parks or staffed site.
- b. Lawn Bowling, Bocce Ball, Petanque:
 - i. Contact City for information.

11.5 **Design Guidelines**

11.5.1 **Hard Surface Sport Courts**

- a. Site Grading:
 - i. Ensure there is adequate drainage surrounding the hard surface court so the base does not remain saturated.
 - ii. The slopes of the basketball courts shall be as per [SCD-320](#), as per Earthwork, Grading & Land Drainage **Section 2.0**:
 - Basketball court drainage to ideally be an even slope from ridge line that splits the long length of the court evenly

- iii. The slopes of tennis/ pickleball courts shall be as per Section 2.0. The surface should be sloped in one direction only, the direction of drainage should follow the short side of the court.
- b. Subsurface Materials:
- i. Before and during the construction of asphalt courts the following analysis is required:
 - Geotechnical analysis of subsurface (to determine if subsurface is satisfactory or if additional base or reinforcing will be required)
 - All court construction requires subgrade, and base compaction testing
 - ii. All trees and vegetation including root systems must be removed and treated to prevent future growth from court area.
 - iii. Must be well drained, which may require the inclusion of a perimeter drain.
- c. Surface Materials:
- i. Most hard surface sport courts are constructed out of asphalt, but concrete is also acceptable.
 - ii. Court surface shall include sports court surfacing, unless otherwise approved:
 - If the hard surface court is planned to be used as a skating area in the winter this should be taken into consideration when selecting the type of sport court surfacing (e.g. if a plexi-pave coating is proposed a heavy-duty layer of poly must be laid on the court surface before preparing the ice surface – this is to prevent damage from snow clearing)
 - iii. Before sports court surfacing is applied:
 - Asphalt must cure for a minimum of 14 days or as per manufacturer's specifications.
 - The court must be flooded with clean water and let sit for 45 minutes, the court shall then be inspected along with the contract administrator and any depressions deeper than 1.75mm shall be marked out and filled in with Court Patch Binder (this process shall repeat until no depressions over this size are found)

- d. Construction Inspection:
 - i. Excavation.
 - ii. Base layer installation complete.
 - iii. Asphalt installation complete.
 - iv. Subgrade and base compaction testing results to be provided to City. Each layer shall not be accepted until they meet the required compaction requirements.
- e. Submittals:
 - i. Compaction tests Quality assurance testing for asphalt court sub-grade and base course as per [CW 3110](#).
 - ii. Quality assurance testing for asphalt as per [CW 3410](#).
 - iii. Quality assurance testing for concrete piles as per [CW 2160](#).
- f. Basketball Court Size and Amenities:
 - i. Basketball Court size as per [SCD-320](#).
 - ii. Basketball court shall have a minimum 2m asphalt buffer around court playing surface clear of obstacles.
 - iii. Depending on the specific location and expected use, basketball courts may have no fencing, fencing behind the ends where the nets are located or be fully fenced, 3m (10') high fencing, as per 7.5.1d.
 - iv. When building fenced basketball courts, it is optional to add a hockey net into the fence as per the Basketball Court with Chain Link Hockey Goal standard construction detail as per [SCD-321](#).
 - v. Required amenities – to be located outside of buffer space:
 - Waste receptacle
 - Bike rack
 - vi. Optional amenities:
 - Bench
 - Fencing
 - Lighting

- g. Tennis/Pickleball courts:
- i. Tennis court size as per [SCD-340](#). For existing sites, because of site constraints, smaller dimensions between edge of court and fencing and smaller spacing between courts may be considered.
 - ii. Pickleball court size as per [SCD-342](#).
 - iii. Tennis court surfacing colour shall be blue with cape grey run out area.
 - Tennis court lines shall be white
 - Pickleball lines on tennis court shall be yellow
 - iv. Fencing is used to contain the ball within the court. Ensure mesh spacing and space between bottom of fence and ground is sized appropriately to contain the ball.
 - v. Tennis court fencing as per 60.
 - vi. Pickleball courts fencing as per 60.
 - vii. Required amenities:
 - Fencing
 - Waste receptacle
 - viii. Optional amenities:
 - Bench (1 per side)
 - Lighting
 - Bike rack

11.5.2 10.5.2. Soft Surface Courts

- a. Beach volleyball:
- i. Beach Volleyball court size to be 8m wide x 16m long for doubles play and 9m wide x 18m long for triples, fours and sixes play with a 3m to 4m wide sand buffer surrounding the court.
 - ii. Court orientation should be north-south.
 - iii. Shall have clearance height of at 7m minimum above the playing surface.
 - iv. Subsurface drainage required.

- v. Sand surfacing shall be 0.3m to 0.4m deep. Sand type is important and cannot pack too tightly (surface too hard) or too loosely (creates dust).

11.6 Specifications

11.6.1 Park Specific Standard Specifications

Asphalt Pavement - Repair Fabric	PSS 009b
Sports Court Surfacing	PSS 013
Sport Standard	PSS 013B

11.6.2 City of Winnipeg Standard Construction Specifications

Clearing and Grubbing	CW 3010
Sub-grade, Sub-base & Base Coarse Construction	CW 3110
Installation of Sub Drains.....	CW 3120
Supply and Install of Geotextile Fabrics.....	CW 3130
Supply and Install of Geogrid.....	CW 3135
Supply and Installation of Pavement Repair Fabric	CW 3140
Earthwork and Grading	CW 3170
Joint and Crack Maintenance	CW 3250
Planning of Pavement	CW 3450
Sodding	CW 3510
Seeding	CW 3520
Topsoil and Finish Grading for Establishment of Turf Areas	CW 3540

11.7 Construction Details

11.7.1 Park specific Construction Details

a. General:

Footing Detail Straight Pile with Surface Mount	SCD-300
Footing Detail Straight Pile.....	SCD-301
Bell Pile Footing Detail.....	SCD-302

Tennis & Basketball Fencing.....[SCD-304](#)

Typical Sport Court Section.....[SCD-305](#)

b. Basketball

High School Basketball Court.....[SCD-320](#)

Street Hockey Basketball Court[SCD-321](#)

c. Tennis/Pickleball Courts

Asphalt Tennis Court.....[SCD-340](#)

Tennis Court with Multiple Pickleball Courts[SCD-341](#)

Single Pickleball Court.....[SCD-342](#)

d. Beach Volleyball Court

Beach Volleyball Court.....[SCD-350](#)

11.7.2 [City of Winnipeg Standard Construction Details](#)

Standard Pipe Bedding Classes[SD-001](#)

Standard Trench and Excavation Backfill Classes[SD-002](#)

Water Service 20mm to 50mm[SD-012](#)

Watermain and Water Service Insulation[SD-018](#)

Standard Catch Basin in Boulevard.....[SD-025](#)

Sodding Details.....[SD-243](#)

11.8 [Urban Forestry Standards](#)

Specifications for Tree and Root Zone Protection.....[Appendix A](#)

[Tree Planting Details & Specifications Downtown Area and Regional Streets](#)

[Tree Removal Guidelines](#)

SECTION 12.0 References

[2015 City of Winnipeg Accessibility Design Standard Third Edition](#)

[City of Winnipeg Active Transportation Action Plan 2008](#)

[Winnipeg Pedestrian and Cycling Strategies 2014](#)

[City of Winnipeg Parks Planning Standard Construction Detail Drawings](#)

[City of Winnipeg Standard Construction Specifications](#)

[City of Winnipeg Transportation Master Plan 2011](#)

[OurWinnipeg Initiative](#)

[Development Guidelines and Standard Specifications](#) – Greater Vernon Area, Regional District of North Okanagan – July 2013

<http://pediatrics.aappublications.org/content/119/1/182>

[City of Edmonton Design and Construction Standards Volume 5 Landscaping June 2017 Edition](#)

[City of Winnipeg Parks and Open Space Urban Forestry](#)

Harris, Charles W., Dines, Nicholas T. 1998. Time-Saver Standards for Landscape Architecture: Design and Construction Data 2nd Edition. New York: McGraw-Hill Publishing Company.

City of Winnipeg Urban Forestry – [Tree Planting Details and Specifications](#): Downtown Area and Regional Streets

[City of Winnipeg Survey Infrastructure Protection Program](#)

[International CPTED Association](#)

[Winnipeg Community Sport Policy](#), January 2012

[City of Winnipeg Athletic Field Review](#), May 2018

[Canadian Sport for Life \(CS4L\) and the Long-Term Athlete Development \(LTAD\) framework.](#)

[Winnipeg Community Sport Policy](#), January 2012

[Tennis Canada](#)

[International Tennis Federation](#) – Tennis Tech

Appendix A

Specifications for Tree and Root Zone Protection

DEFINITIONS

Access Routes: A route that is required for access to the construction site or is otherwise required for work to commence.

CA: Contract Administrator.

City Forester or Designate: As represented by a person employed by the City of Winnipeg as an Urban Forester, Supervisor of Urban Forestry Technical Services, or Forestry Technician authorized to provide consulting services.

Construction Area: The entire area of site disturbance, including excavation, construction traffic, equipment and materials storage, staging and parking areas, and access points.

DBH: Diameter at Breast Height – a measurement of the tree trunk, in centimeters, taken at 1.4m above grade.

Impervious Surface: An area with an existing paved surface such as concrete, asphalt surface, brick, or compacted granular.

Qualified Arborist: An arborist that holds a valid ISA certification and meets the general contractor requirements for the City of Winnipeg.

TPZ: Tree protection zone. This includes the soil inside the TPZ and the entire tree including roots, as calculated in Section 3.19.5.

TPZ Barrier: A physical barrier at the edge of the tree protection zone to ensure protection of the tree protection zone.

Tree Protection Plan: Is a report that outlines how construction work is to be done and the steps to be taken to protect trees within and adjacent to the construction site.

3.19 Tree Protection

- 3.19.1 No public tree may be pruned, damaged, or removed, without the written consent from the City Forester or Designate.
- 3.19.2 Where trees are to be preserved, a Tree Protection Plan is required to be submitted to the CA before any construction begins.
- 3.19.3 Specification for Tree Protection Zone applies to all public trees where the TPZ intersects with the Construction Area.
- 3.19.4 Tree Protection Zone (TPZ): A TPZ shall be established by surrounding all Tree and Root Zones that are to be protected:
 - a) No activity is permitted inside the TPZ, including any traffic, construction excavation, change of grade, or disposal/storage of materials, chemicals.
 - b) No accumulation of water or other substances as a result of activities associated with construction is permitted within the TPZ.
 - c) No parking of vehicles or equipment.
 - d) The outside of the boundary of the TPZ shall be delineated by a physical barrier as specified in 3.19.5 and 3.19.6.

3.19.5 TPZ Setback Distance:

- a) The following chart identifies the required distance for a TPZ. Distance is to be measured from the outside edge of the tree trunk, 30 cm above grade.

<u>Trunk Diameter (DBH)</u>	<u>Minimum Protection Distances Required</u>
<10.1 cm	2.0m
10.1 – 40.0 cm	2.4m
40.1 – 50.0 cm	3.0m
50.1 – 60.0 cm	3.6m
60.1 – 70.0 cm	4.2m
70.1 – 80.0 cm	4.8m
80.1 – 90.0 cm	5.4m
90.1 – 100.0 cm	6.0m
>100.0 cm	6.0 cm for each 1.0 cm of trunk diameter

- b) A physical TPZ barrier shall be constructed prior to the commencement of any disturbance on the Site by erecting a barrier as described in 3.19.5 and 3.19.6:
 - i) The Contractor shall obtain approval from the CA for placement and installation of barriers prior to commencing any construction activities.
 - ii) Barriers are to remain in place and be fully functional throughout the duration of the project until all work is completed to the satisfaction of the CA.
 - iii) Where the TPZ is interrupted by an impervious surface, the TPZ barrier will be installed at the edge of the hard surface area.

3.19.6 Materials for the TPZ Barrier shall meet the following specifications:

- a) Frame to consist of 50 x 100mm (2 x 4") wood posts set 450mm deep into finished grade at each of the 4 corners of the TPZ. Max spacing of 2m apart. 50X100mm rails (2 x 4") wood rails on top and bottom.
 - i) Where the frame is in contact with an impervious surface, wood rails and frame may be anchored or held in place by other means to the satisfaction of the CA.
- b) Orange plastic web snow fence securely fastened to the outside of the frame to act as a barrier.
- c) Where fill or excavation material must be stored within 1m of the outside of the TPZ, a barrier of ¾" thick plywood must be securely installed along the outside of the orange plastic web snow fencing and must be long enough to accommodate the full extent or fill or excavated material to ensure that no material enters the TPZ.
- d) The fence must be with a minimum of 1.2m to a maximum height of 1.8m. Adjustments may be made where height interferes with the normal branching habit of the tree and as accepted by the CA.
- e) A "Tree Protection Zone" sign must be mounted on any side facing foot and vehicular traffic, including construction traffic. The sign shall be produced in colour and be 45 x 60cm in size and made of white coroplast. A template for the sign will be provided by the CA. Only the provided design shall be used.

3.19.7 Pruning of Tree Branches:

- a) Branch pruning shall be performed prior to the start of the work to avoid anticipated conflicts between tree branches with construction activities or structures and are only to be performed by a Qualified Arborist with the written consent of the CA.

- b) Branch pruning shall be in accordance with practices found in the latest edition of the American National Standards Institute (ANSI) A300 and the latest edition of the companion publication “Best Management Practices – Tree Pruning”.
- c) No above-ground pruning work shall be permitted on elm trees for the period April 1st to July 31st in accordance with the Manitoba Forest Health Protection Act and Regulations unless deemed a safety hazard by the CA.
- d) Wood handling, transport, and disposal, shall be in accordance with Provincial and Federal legislation.

3.19.8 Pruning of Tree Roots:

- a) Root pruning shall be performed prior to start of the work to avoid anticipated conflicts between tree roots and construction activities or structures and are only to be performed with the written consent of the CA.
- b) Root pruning shall be done in accordance with practices found in the latest edition of the American National Standards Institute (ANSI) A300 and the latest edition of the companion publication “Best Management Practices – Root Pruning”.
- c) All exposed or surface roots greater than 40mm diameter damaged at the edge of the TPZ shall be cut cleanly by sawing. Severing or crushing roots by excavator or other mechanical device is not acceptable.
- d) Wood handling, transport, and disposal, shall be in accordance with Provincial and Federal legislation.

3.19.9 Activities within the TPZ Subject to Approval:

Specific activities that must occur within the TPZ are subject to approval by the CA and may be permitted under the following conditions:

- a) When access to the site must transect the TPZ because no alternative access routes are available, the access route shall be constructed using either:
 - i) A layer of wood chips 100 mm (4 inches) high covered with 50mm (2 inch) thick plywood, at minimum.
 - ii) Compaction mats of sufficient size and weight-bearing capacity for the planned work.
- b) Where work must be performed within the TPZ Barrier to install or repair underground utilities, tunneling or directional boring is preferred to open trenching across the roots as defined in CW2110 and CW 2130. All work must be in accordance with the latest edition of the American National Standards Institute (ANSI) A300 and

the latest edition of the companion publication “Best Management Practices – Managing Trees During Construction”.

c) If excavation is the only acceptable means of access to utilities then the contractor must arrange for Qualified Arborist to be on site to minimize risk to the public, workers, and tree(s).

3.19.10 Tree Protection Plan Violations, Tree Damage, and Compensation:

- a) Any damage that occurs to the above-ground parts of the tree, the roots, or soil within the TPZ is subject to assessment by the City Forester or Designate.
- b) Damaged branches, roots, or any part of the tree that may pose a safety risk is to be reported immediately to the CA.
- c) Where damage is deemed to be reparable, all remedial pruning or soil amendment activities must be performed by a Qualified Arborist.
- d) The contractor shall be responsible for the cost of any work required to repair damages to the tree or soil found within the TPZ.
- e) In cases where the City Forester or Designate determines that damage to:
 - i) Any public tree(s) not authorized for pruning or removal as part of the Work; or
 - ii) Any tree identified for preservation within the Construction Area and included on the Tree Protection Plan results in an irreparable risk to public safety, affected trees shall be removed by a Qualified Arborist, and the expense of the Contractor.
- f) Damage to any public tree(s) not authorized for pruning or removal as part of the Work, or failure to adhere to the approved Tree Protection Plan shall result in compensation requirements for the appraised value for damage to any part or whole tree(s); as determined by the City Forester or Designate.
 - a) Financial compensation shall be paid to the City of Winnipeg Urban Forestry Branch and submitted to 1539 Waverley Street, R3T 4V7.
 - b) Compensation will be calculated as follows:
 - i) For trees 10cm DBH and less, compensation values will be determined by the Urban Forestry’s Branch current cost of replacement (for the same or similar tree species).
 - ii) For trees greater than 10cm DBH, compensation values will be determined by using the method described in the latest edition of “The Guide for Plant Appraisals” by the Council of Tree and Landscape Appraisers.