Appendix 2

2025

State of
THE GREEN NETWORK

City of Saskatoon

CONTENTS

The State of Report is a standardized Corporate Asset Management tool designed to give City Council and Executive Leadership a strategic overview of each infrastructure portfolio. It outlines the current condition, performance, risk levels, service level achievement and asset management capacity, promoting transparent, evidence-based decision-making across the organization. A Corporate Asset Management Consolidated Report consolidates findings from all asset portfolio State of Reports into one overall executive summary report.

1.0 INTRODUCTION

Saskatoon's Green Network is made up of a variety of assets, called "natural infrastructure", including parks, green spaces, the river, wetlands, the urban forest, and grasslands. Natural infrastructure can be thought of as infrastructure that grows (i.e., plants) and flows (i.e., water). It can be used in place of or integrated with built assets to enhance the resilience, performance, and lifespan of the City's infrastructure.

Natural infrastructure provides substantial benefits and services to both the City and residents including recreation, storm water management, drinking water provision, and carbon storage. Initial work to document these benefits occurred in a Natural Capital Asset Valuation pilot project that was presented to City Council in 2020. The project conservatively estimated that the value provided by wetlands, grasslands, and forests in Saskatoon exceeds $48 million annually. Recognizing the benefits and managing these assets to increase service provision is an essential part of the City's asset management system.

The Green Network provides Saskatoon residents and visitors with high quality, connected, and accessible natural infrastructure. Conserving, restoring, managing, connecting, and creating new natural infrastructure will support the City and community by:

- *Improving quality of life by enabling cultural and community activities like recreation, education, ceremonial use, and food production.*
- *Providing critical municipal services such as drinking water and storm water management.*
- *Supporting climate mitigation including carbon sequestration and storage; and climate adaptation including shade, cooling, and flood reduction.*
- *Providing essential habitat for key species, supporting biodiversity, and improving ecosystem health.*

Natural infrastructure also has multiple unique features that distinguishes it from the assets the City typically manages. Unlike built assets, natural infrastructure can regenerate, which means that it can appreciate over time rather than depreciating. Natural infrastructure often crosses ownership and jurisdictional boundaries, and so the City is sometimes involved in managing assets it doesn't own. And many assets such as wetlands, grasslands, and the river are irreplaceable and have no end of useful life. Some of these features also pose challenges when attempting to integrate natural infrastructure into traditional asset management practices. These unique considerations are discussed in more detail in Appendix A.

1.1 Strategic Drivers for Natural Infrastructure Management

In recent years, the City has been advancing its asset management system, including consideration for natural infrastructure. Guiding documents that drive Natural Infrastructure Management at the City include the Official Community Plan (2020), which includes policy statements to support the retention of natural assets; the Asset Management Policy (2020); the Green Infrastructure Strategy (2020); and the updated Climate Action Plan (scheduled for release in 2026).

To inform this work, a Natural Infrastructure Framework (Framework) has been prepared, which outlines recommended steps for the City to effectively identify, assess, manage, and fund priority natural infrastructure across its full life cycle. The Framework aligns with both the ISO

55000 Asset Management Standard and Nature is Infrastructure[1], a guidebook for including natural infrastructure in Asset Management Plans. Ultimately, delivery of the Framework will result in a finalized Asset Management Plan for the Green Network. More information about Strategic Drivers and the Natural Infrastructure Framework is included in Appendix B.

1.2 Report Scope

The Green Network crosses multiple ownership boundaries and jurisdictions, and the City is often involved in some level of stewardship of natural infrastructure it does not own. As such, this report focuses on:

- Natural infrastructure that is owned by the City; and
- Natural infrastructure that is on publicly accessible land owned by other entities which the City has a stewardship role in (e.g., the South Saskatchewan River).

While natural infrastructure on other privately owned lands contributes important services to the City and residents, these are out of scope for this report.

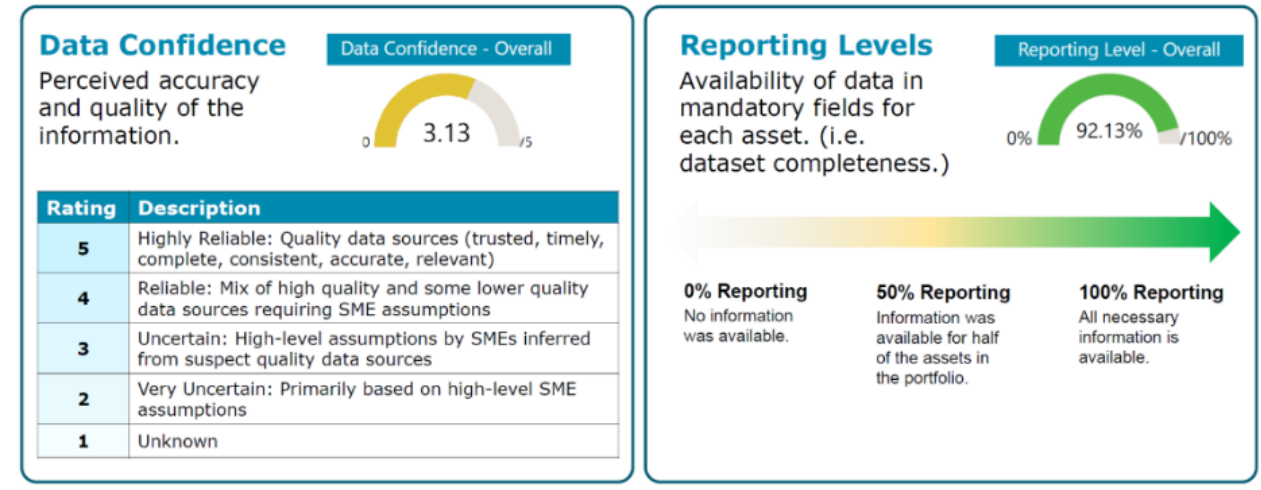
1.3 Terminology

Terminology in the field of natural infrastructure is evolving, both at the municipal and national level. As the City progresses its maturity in Natural Infrastructure Management, definitions of common terms will be finalized. In the interim, a list and description of common terms used in this document is included in Appendix C.

1.4 Data Confidence and Reporting Levels

Throughout this report, data confidence and reporting levels are recorded to help ensure transparency. These are summarized in the figure below.

Figure 1 Data Confidence and Reporting Levels as defined by the Canadian Network of Asset Managers



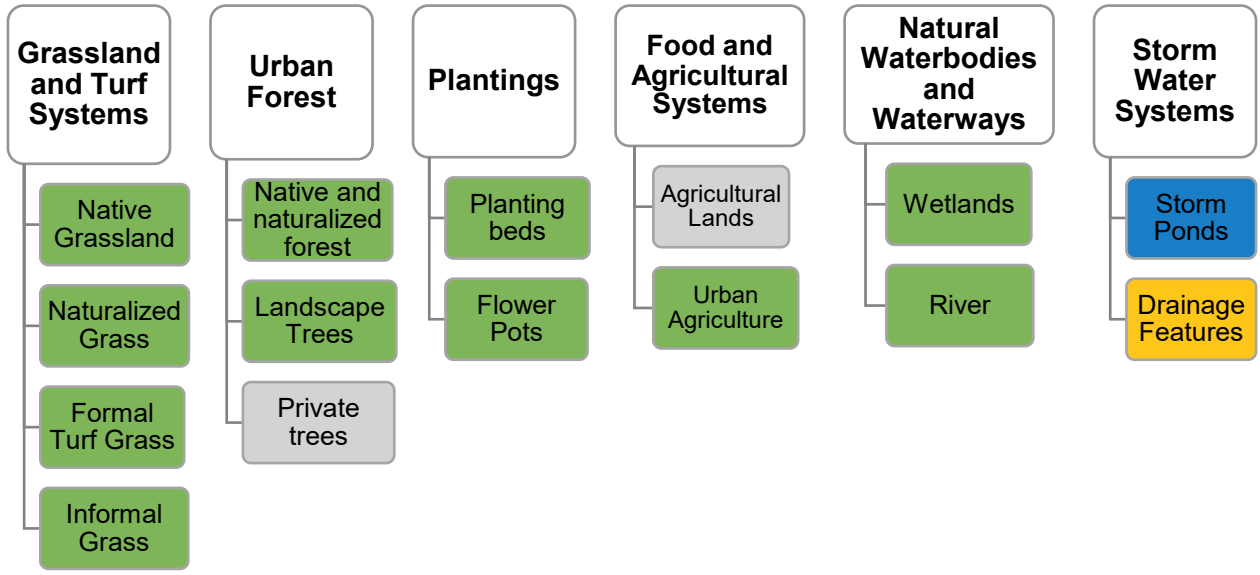
[1] Natural Assets Initiative, 2024. *Nature is Infrastructure: How to Include Natural Assets in Asset Management Plans*. Accessed from NAI-NAM-guidance-doc-april-2024.pdf.

2.0 CURRENT INVENTORY AND VALUE

2.1 Categories of Natural Infrastructure

The Green Network includes multiple categories of natural infrastructure, which are shown in the figure below. These categories may be updated and refined in future as the City works to complete a comprehensive inventory of the Green Network.

Figure 2 Natural Infrastructure Categories and Sub-Categories in the Green Network



Assets included in this report
Assets included in the *2025 State of Report - Storm Water*
Assets excluded from this report
Assets excluded from this report, but which may be included in future reports

2.2 Inventory and Replacement Value

The inventory and current replacement value (CRV) of natural infrastructure is shown in Table 1, alongside the data confidence. This initial inventory is informed by City data sources including the City's Tree Inventory and Park Asset Inventory, as well as the 2019 Natural Areas Inventory completed by Meewasin for the City. The inventory is currently managed in spreadsheets, AutoCAD Drawings, and GIS databases by a variety of Stewards.

The CRV is based on the estimated cost to remove an asset and replace it with a similar asset that meets current standards. Valuation of natural infrastructure is an emerging field, and there

are various ways to define an asset's value.[2] Inventory caveats and limitations are discussed in Appendix D.

A note on natural assets

The inventory of natural assets (i.e., native grasslands, native and naturalized forests, wetlands, and the river) is informed by the Natural Areas Inventory, which includes privately-owned lands, as well as assets in future growth areas. Additional work is needed to define the natural assets that will be conserved during development and prioritized for management; identify the City's role in sites it does not own; and seek funding to address management gaps in conserved areas. Some of this work is occurring through the Natural Area Policy Framework, which is working to define and implement the processes needed to identify, prioritize, conserve, and manage natural areas and assets.

Table 1 Inventory and Current Replacement Value of Natural Infrastructure with Data Confidence

Asset Category	Sub Class	Inventory		Value	
		Asset Quantity	**Data Confidence**	**CRV (in millions)**	**Data Confidence**
Grassland and Turf Systems	Native grassland[3]	327 ha[4]	3	Irreplaceable[5]	5
	Naturalized grass	958 ha[4]	3	Unknown	1
	Formal turf grass	807 ha	4	Unknown	1
	Informal grass	408 ha	4	Unknown	1
Urban forest	Native forest	577 ha[4, 6]	3	Irreplaceable[5]	5
	Naturalized forest			Unknown	1
	Landscape trees	110,000 trees	5	$530	4
Plantings	Planting beds	36 ha	4	Unknown	1
	Flowerpots	1,050 flowerpots	5	$0.42	4
Food and ag systems	Urban agriculture	3 ha	4	Unknown	1
Natural waterbodies and waterways	Wetlands	1207 ha[4, 7]	3	Irreplaceable[5]	5
	River	388 ha[4]	5	Irreplaceable[5]	5

[2] Natural infrastructure valuation is discussed in detail in other reports including the 2022 report Getting Nature on the Balance Sheet: Recognizing the Financial Value Provided by Natural Assets in a Changing Climate by the Intact Centre on Climate Adaptation and University of Waterloo.
[3] Native grassland is called "known prairie" in the Natural Areas Inventory.
[4] Data source is the Natural Areas Inventory and includes non-City-owned land.
[5] Natural assets are considered irreplaceable. This means that if these assets are lost, it is generally not feasible or possible to reconstruct them, or to re-establish the services they provide.
[6] Native and naturalized forests are called "forest and shrubland" in the Natural Areas Inventory and include afforested areas. Native and naturalized forests are not separated in the current inventory.
[7] This includes approximately 109 ha of storm water systems. The storm water and wetland inventories have not yet been compared for duplicate data.

3.0 STEWARDS

The Green Network is a complex system with multiple asset types, jurisdictions, landowners, and land managers at play. As a result, the stewardship of natural infrastructure is also complex. The City's role and degree of influence in the Green Network varies in different types of spaces, which in turn informs the City's management approach of these spaces. A summary of these degrees of influence is included below.

Table 2 Degree of Influence of the City in Green Network Spaces

Degree of Influence	Types of spaces	Management approach
Limited or no control	• Lands and waters governed by First Nations • Assets governed by provincial or federal legislation (e.g., waterways, transportation networks) • Rail and airport management areas • Some utility offsets	• Advocacy • Partnerships • Meet legislative requirements
Influence	• Privately owned property, including residential yards and Industrial Commercial Institutional (ICI) sites • Crown utilities	• Communication / education • Bylaws • Development processes • Incentives • Programs
Direct control	• City-owned property and assets, such as parks, street trees, berms, buffers, and municipal facilities • Utility corridors • Rights-of-way	• City-led planning, design, and operations • Bylaws • Policies and procedures • Standards and specifications • Enforcement
Shared stewardship / co-management	• Community spaces on City property (e.g., allotment, boulevard, and community gardens) • Meewasin-managed areas and assets • User-group managed areas and assets	• Partnerships and coordination (e.g., regional and institutional partners like P4G and University of Saskatchewan) • Community stewardship • User agreements • Joint management (e.g., with Indigenous communities and rightsholders)

3.1 City Stewards

The roles and responsibilities of various City departments in the Green Network are summarized in the table below, along with the lifecycle phases associated with each activity (lifecycle phases are defined in Section 5.1).

Table 3 Roles of City Departments in the Green Network

City Department and role in the Green Network	Lifecycle Phases
Construction and Design	
• Responsible for new construction, including in some cases, natural infrastructure. • Coordinates with other Departments such as Parks to conserve natural infrastructure such as boulevards and trees when construction occurs. • Oversees Right-of-Way Permits.	Construct and secure
Facilities	
• Involved in maintenance of specific amenities that may be present in parks, formal green spaces, and natural and naturalized areas (e.g., buildings, lighting, washrooms, benches, water fountains, waste bins, picnic tables, signage, and bike racks) • Coordinates with Urban Forestry on reactive tree maintenance in and around outdoor pools, fire halls, arenas, and leisure centres.	Operate, maintain, and monitor
Finance	
• Supports budget allocations and funding applications for Green Network initiatives. • Addresses tangible capital assets, which currently do not include natural infrastructure due to limitations set by the Public Sector Accounting Board.	Non-infrastructure solutions
Indigenous Initiatives	
• Exploring the creation of urban ceremonial spaces in the Green Network. • Exploring opportunities to remove barriers to Indigenous land uses and access.	Plan and design
Parks	
• Provides input into the placement and development of parks, formal green spaces, and natural areas that are dedicated as Municipal Reserve during planning and development processes for greenfield areas. • Oversees planning and design work for new parks and green spaces.	Plan and design
• Oversees construction and establishment of new parks and green spaces. • Grows a variety of annuals and perennials for landscaping in the Civic Greenhouse and Nursery.	Construct and secure
• Oversees operations and maintenance of dedicated Park spaces, including formal naturalized parks and cemeteries (Woodlawn, Pioneer). • Oversees planting, water, pruning, and removal of trees in parks, streets, and some facilities. • Completes insect and disease surveillance through the Urban Biological Services program. • Manages the City's Allotment Gardens. • Provides and maintains floral displays along major public roadways, parks, public open spaces, at City Hall, and at civic facilities. • Installs and maintains flowerpots on street corners, centre medians, and boulevards. • Maintains road Rights-of-Way and berms including mowing, trimming, and litter pick up.	Operate, maintain, and monitor

• Completes some maintenance around storm ponds between the high water line and turf. • Supports the prescribed fire program and the Canadian Prairies Prescribed Fire Exchange.	
• Oversees the Park Upgrade Program for existing parks located in established areas. • Completes tree replacements where needed, including through the Request a Boulevard Tree program.	Restore and enhance
• Oversees The Tree Protection Bylaw, 2024 and related procedures (Tree Protection Plans, Tree Permits) to help protect the urban forest. • Oversees the Park Access Permit Program, required for residents and contractors prior to accessing green space to minimize damage.	Non-infrastructure solutions
Planning and Development	
• Responsible for the development and implementation of the Official Community Plan, which includes policies designed to achieve the community's collective vision for the Green Network. • Prepares sector plans in future growth areas that provide a framework for future urban development, including the location and size of key components of the Green Network. • Manages and regulates development applications, including concept plans, in areas containing components of the Green Network. • Works collaboratively across the organization and with external partners to support initiatives related to the Green Network, including the Natural Area Policy and Process Project.	Plan and design
Recreation and Community Development	
• Ensures adherence to the Administration Policy for Park Development Guidelines related to the design of parks, formal green spaces, and natural areas that are dedicated as Municipal Reserve during planning and development processes for greenfield areas.	Plan and design
• Oversees the allocation of more than 300 sport fields in approximately 220 parks to accommodate recreation and sport user groups, including youth and adult; as well as managing lease agreements with various sport user groups. • Oversees the application and allocation process for the booking of over 500 special events. • Oversees the Animal Services Program including dog park operations and enforcement of the Animal Control Bylaw and Dangerous Animals Bylaw. • Oversees green space maintenance, as well as planting, watering, pruning, and removal of trees in golf courses, Gordie Howe Campground, and the Zoo. • Oversees the Community Garden Program in partnership with external groups like CHEP Good Food.	Operate, maintain, and monitor
Roadways, Fleet, and Support	
• Coordinates with other Departments such as Parks to conserve natural infrastructure such as boulevards and trees when transportation projects occur.	Plan and design

• Responsible for surface water drainage management through culverts and catch basins (up to the entry point of culvert or catch basin). Water & Sewer take over once the water enters the culvert or catch basin. • Responsible for street cleaning (spring, summer and fall debris removal programs) • Develop, manage and report out on the 2022 Salt Management Plan.	Operate, maintain, and monitor
Saskatoon Fire Department	
• Oversees Emergency Management for the City including the safe operation of green spaces through needle pick up. • Issues permits for open-air fires including ceremonial fires. • Partners with other agencies to implement a proactive response to manage health and safety issues related to encampments. • Supports the prescribed fire program and the Canadian Prairies Prescribed Fire Exchange.	Operate, maintain, and monitor
Saskatoon Land	
• Oversees the design of new neighbourhoods and developments (e.g. Neighbourhood Concept Plans). This includes the ability to influence park design and construction, planting choices, and natural area conservation. • May play a role in supporting the Green Network by entertaining pilot projects and outlining opportunities for collaboration.	Plan and design
Saskatoon Light and Power	
• Involved in pruning and removal of trees located on high voltage utility lines (with Urban Forestry).	Operate, maintain, and monitor
Saskatoon Water	
• Plans for and designs storm water management facilities, including in some cases, natural infrastructure. Saskatoon Water's role in storm water systems is defined in the *2025 State of Report - Storm Water.* • Designs the modification of wetlands that become part of the storm water system in alignment with the Wetland Policy. • During development review, reviews groundwater levels in relation to anticipated basement elevations to guide development into the groundwater level in compliance with The Waterworks Bylaw, 1996[8].	Plan and design
• Completes storm water quality monitoring at the river and Northeast Swale. • Oversees and monitors a network of groundwater monitoring locations to improve the City's understanding of localized groundwater levels, which informs the development review process.	Operate, maintain, and monitor
• Administers the Storm Water Management Credit Program.	Non-infrastructure solutions

[8] With a reliable and high-quality water source from the South Saskatchewan River, the City does not currently utilize groundwater as a source of drinking water. However, the City recognizes the value of groundwater and the need to protect it, and that actions that are taken above ground also matter underground. In 2021 The Waterworks Bylaw, 1996 was updated to prohibit new domestic-purpose pumping wells within city limits and create a new development standard for monitoring wells installed, maintained, and decommissioned during the land development process.

Sustainability	
• Oversees the Green Network Program, which works to implement the Green Infrastructure Strategy and its implementation plan Green Pathways. • Prepares funding applications and budget requests for Green Network initiatives. • Oversees the Climate Action Plan which addresses the role of the Green Network in climate adaptation and mitigation. • Provides input into greenfield development processes including Natural Area Screenings, Sector and Concept Planning.	Plan and design
• Compiles data collected by other Departments and reports on Green Network outcomes including inventories and valuation. • Oversees the Environmental Protection Program, which supports compliance with environmental legislation including Wetland Policy implementation, impacted sites management, spills response, and environmental management system implementation.	Operate, maintain, and monitor
• Develops and delivers programs in partnership with community organizations that educate the public about various aspects of the Green Network including Healthy Yards, Yellow Fish Road, and Student Action for a Sustainable Future. • Oversees an Environmental Grant for non-profit organizations that supports the City's environmental goals, including protection and enhancement of the Green Network. • Provides support for Boulevard Gardening.	Non-infrastructure solutions
• Manages specific projects that advance Green Network outcomes. • Provides subject matter expertise and coordinates /aligns with various other Departments on Green Network initiatives.	Various
Technical Services	
• Constructs natural infrastructure where it pertains to specific major projects. • Coordinates with other Departments such as Parks to conserve natural infrastructure such as boulevards and trees when major projects occur.	Construct and secure
Water and Waste Operations (WWO)	
• The role of WWO in the storm water system is defined in the *2025 State of Report - Storm Water.*	Various
• Coordinates with the Water Security Agency and Fisheries and Oceans Canada to develop relevant policies.	Plan and design
• Oversees Environmental Protection Officers for enforcement of the Waste Bylaw and coordination of spills response. • Oversees and operates the Landfill, Material Recovery Centre, and Organic Processing Facility (which have the potential to impact the river).	Operate, maintain, and monitor
• Supports the urban forest by providing free elm wood disposal at the Landfill to residents and contractors.	Disposal

3.2 Other Green Network Stewards

Other levels of government and a variety of external partners are involved in the Green Network. While not an exhaustive list, some of the key partners are included below.

Table 4 Roles of External Partners in the Green Network

External nations, governments, and partners and role in the Green Network	Life Cycle Phase
Indigenous Rightsholders	
The Green Network is part of Treaty 6 and the Traditional Homeland of the Métis Nation. Many First Nations and Métis have resided here since time immemorial and continue to call this land home. Rightsholders are First Nations and Métis peoples who have constitutionally recognized inherent rights to traditional resource practices like hunting, fishing, trapping and gathering, the right to practice one's own culture and customs including language and ceremony, and collective rights to self-government and self-determination. First Nations also hold Treaty Rights, which include the ability to maintain a traditional lifestyle, medals and annuities, harvesting and education rights, and reserve land entitlement, among others. There are multiple nations that have land interests in Saskatoon including through reserves and land holdings.	All
Meewasin	
The Meewasin Valley encompasses approximately 6,700 hectares of the South Saskatchewan River Valley, much of which is within city limits. Approximately one third of natural assets in Saskatoon are within the Meewasin Valley. Through The Meewasin Valley Authority Act, Meewasin is enabled to lead conservation, development, and education in their jurisdiction. Specifically, they: • Oversee the Meewasin development review process, which ensures that changes occurring within their jurisdiction are compatible with the overall vision for the river valley. • Oversee the design and construction of various natural and naturalized areas within their jurisdiction, including coordinated work with the City at multiple sites (e.g., the Northeast Swale, Beaver Creek Conservation Area, and Chief Whitecap Park). • Oversee the design, installation, and maintenance of the Meewasin Trail network. • Oversee the design and installation (and sometimes maintenance) of various amenities within natural and naturalized areas, including benches, waste bins, and plaques. • Oversee resource management activities at natural and naturalized areas, sometimes in partnership with the City, such as prescribed fires, grazing, invasive species management, and restoration. • Support the prescribed fire program and the Canadian Prairies Prescribed Fire Exchange. • Lead community education and interpretive programs at multiple sites. • Leverage core funding to support the above services through volunteers, donations, sponsorships, and grants. • Lead the National Urban Park exploration.	All
Government of Canada	

• Responsible for overseeing and implementing relevant legislation including the Migratory Bird Convention Act, Species at Risk Act, and Navigable Waters Act. • Provides overarching direction on biodiversity and natural infrastructure (e.g., through the Canada 2030 Nature Strategy). • Provides funding for Green Network initiatives, including Natural Infrastructure Funding. • Is developing the National Urban Parks Program, including a potential National Urban Park site in Saskatoon.	All
Government of Saskatchewan	
• Responsible for overseeing and implementing relevant legislation including The Planning and Development Act, 2007, and Invasive Species Legislation such as the Weed Control Act, the Pest Control Act, and Dutch Elm Disease Regulations. • Responsible for Aquatic Habitat Protection Permits for the riverbank (issued through the Water Security Agency). • Provides funding for initiatives, including partial funding for the Urban Biological Services program.	All
Other landowners and authorities	
A variety of additional landowners and authorities manage natural infrastructure within their jurisdictions including but not limited to the University of Saskatchewan[9], School Divisions, the Saskatoon North Partnership for Growth (P4G), Wanuskewin Heritage Park, private golf courses, cemeteries, the Saskatoon Airport Authority, businesses, and homeowners.	Various
Community Organizations	
Multiple community organizations have a role in Green Network stewardship. While not an exhaustive list, some examples are included below. • Community and non-profit organizations including Ducks Unlimited Canada, Living Sky Wildlife Rehabilitation, the Native Plant Society of Saskatchewan, Saskatchewan Environmental Society, Saskatoon Nature Society, the Swale Watchers, Wild About Saskatoon, and many others support biodiversity, provide education, and advocate for nature in the city. • CHEP Good Food supports Saskatoon's community garden network by acting as a liaison between gardeners and the City, helps facilitate the start-up of gardens on non-municipal land, and offers a variety of educational opportunities to gardeners. • Saskatchewan Association of Watersheds is a provincial stewardship group that supports the implementation of best practices for watershed health including educational programs, the prairie watersheds climate program, hydrologic drought response planning, and the environmental agricultural program.	Various

[9] The University of Saskatchewan owns and manages multiple Green Network sites, including Kernen Prairie, one of the last remaining patches of Fescue Prairie in Saskatchewan, and Patterson Garden Arboretum.

• SOS Trees is involved in planning volunteer tree planting events and supporting follow up maintenance such as watering. In some cases, volunteer groups are involved in stewardship activities at specific sites. For example: • The City has an agreement with the Saskatoon Mountain Bike Alliance Incorporated (SMBA), also known as the Saskatoon Trail Alliance, to conduct basic trail maintenance of non-park / tertiary trails (mainly along the riverbank), for which neither the City nor Meewasin has a service level. • At Richard St Barbe Baker Afforestation Areas (RSBBAA) the City has entered into temporary user agreements (which include maintenance activities) with the Saskatoon Friends of the Afforestation Areas, Cedar Villa Bicycle Trails, and Flatlander Fat Tire Brigade.	
Private Developers	
A variety of private developers oversee the design of new neighbourhoods and developments (e.g., Neighbourhood Concept Plans), which may include park construction, tree planting, and natural area conservation.	Various

4.0 THE ASSET PERFORMANCE WITH DATA CONFIDENCE

4.1 Condition Assessment Methodology & Programs

Because there is a wide range of natural infrastructure in the Green Network, there is no single standardized method used by the City for natural infrastructure condition assessments. Subject matter experts responsible for natural infrastructure can provide informed opinions on the condition of individual assets, but this information is not yet in a reportable format. Some of the methods currently used are described below, with additional detail in Appendix E.

- In greenfield areas, natural assets like native grasslands, wetlands, and forests are assessed through Natural Area Screenings during Sector and Concept Planning. After these areas have been prioritized for management, a variety of methods may be used to assess condition, which are typically guided by the Conservation Standards framework.
- Landscape trees are assessed as part of cyclical maintenance activities by trained arborists. Assessments include a visual inspection to determine if a tree is hazardous, interfering with adjacent infrastructure, being impacted by pests, or if pruning or removal is required. Inspections generally occur every 7 years for street trees, 13 years for park trees, and 15 years for shelterbelts. Reactive inspections occur as needed.
- At the City scale, the urban forest is being monitored for several indicators including vulnerabilities to climate change, pests, drought, disease, development pressures, and age and species distribution.
- Planting beds are visually inspected weekly for quality and quantity of plant material, quantity of weeds, and pests.

- There is no formal assessment process in place for naturalized grass, formal turf grass, or informal grass. City staff who are subject matter experts can provide anecdotal reports about the condition of these assets, but these reports have not been summarized.

Once an asset has been assessed, its condition should be summarized into an applicable rating system on a scale appropriate for the specific asset. An example of a potential 5-point rating system is included below. A 5-point scale may not be applicable for all assets. Given the uniqueness of natural infrastructure (see Appendix A) the standard rating system has been modified slightly to better reflect the assets described in this report.

Table 5 Potential Condition Rating Definitions for Natural Infrastructure

Rating	Summary	Definition
Very Good Rating of 1.0	Fit for future	The natural infrastructure is generally in very good condition, is new, or recently restored / rehabilitated. A few elements may show general signs of deterioration that require attention. Ecosystems are functioning within the natural range of variation and require a low level of human maintenance / intervention to continue functioning.
Good Rating of 2.0	Adequate for now	The natural infrastructure is generally in good condition. Some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies. Ecosystems are functioning within the natural range of variation but may require some more dedicated human maintenance / intervention to continue functioning.
Fair Rating of 3.0	Requires attention	The natural infrastructure is in fair condition. It shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies. Ecosystems lie outside the natural range of variation and require human intervention or maintenance. If unchecked, the area will be vulnerable to serious degradation.
Poor Rating of 4.0	At risk	The natural infrastructure is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration. Allowing an ecosystem to remain in this condition for an extended period will make restoration of the area practically impossible.
Critical Rating of 5.0	Unfit for sustained service	The natural infrastructure is in critical condition, or beyond expected service life, and there are widespread signs of advanced deterioration. Some assets may be unusable. Restoration of the area or asset may be too costly / time consuming to be achieved.

4.2 Current Condition of Infrastructure & Service Life

Section 4.1 outlines some of the methods currently used to assess condition which informs planning, management, and maintenance activities. However, condition ratings for natural infrastructure have not been comprehensively assessed, and the desired condition of assets is

not yet established. Condition ratings and desired condition of our assets will be developed and reported in future.

4.3 The Service Levels

The City's overall service objective is to improve the quantity, distribution, diversity, quality, and public safety of natural infrastructure to form a Green Network that supports the needs of the community and critical habitat for key species.

Service levels for specific spaces are informed by the primary function of that space. For example, natural assets such as wetlands, native grasslands, and native forests should primarily be conserved to ensure their continued ecological function and service delivery. Whereas parks and formal green spaces are primarily intended to support public use, with the specific use informing the service level (e.g., sports field turf may be managed to a higher service level than other turf).

While some service levels have been established, such as through the 2017 Service Level for Park Maintenance and Design report, service levels for the Green Network as a whole have not yet been formalized. Some potential preliminary service levels, and Administration's current progress, is included in the table below. Service levels and associated performance targets will be formalized and reported on in future.

Table 6 Examples of preliminary service levels, with current and target performance

Green Network Service Level Category	Applicable Asset	Current Performance	Target Performance
Quantity (Number or area of assets)	All	See Section 2.2	Not yet established.
Distribution (Allocation)	All	Green space allocation currently varies from less than 2 ha per 1000 people to over 10 ha.[10]	The Official Community Plan, Bylaw 8769 identifies a ratio of four (4) hectares of public open space for everyone one thousand (1000) persons as a desirable standard for Saskatoon.
Distribution (Distance)	All	53% of Saskatoon's population live within a 3 minute walk to a public green space; 28% live within 3-5 minutes; 17% live within 5-10 minutes; 1% live over 10 minutes.[11]	Residents live a maximum of 400 meters (approx. 5 min) from a public green space, as indicated in the City's design standard for park space.

[10] City of Saskatoon, 2020. *Saskatoon's Green Infrastructure Strategy: Towards an Interconnected Green Network*.
[11] Meewasin, 2019. *Natural Areas Inventory for the City of Saskatoon*.

Distribution (Canopy Cover)	Urban forest	As of 2017, Saskatoon had an average canopy cover of 9%, with 12% in built-up areas. The canopy is distributed unevenly throughout the city, ranging from 2% to 39% across neighbourhoods.[10]	Achieve 15-20% canopy cover by 2060, as indicated in the Urban Forest Management Plan.
Diversity (Species Abundance)	All	Saskatoon and surrounding areas are home to at least 524 unique species, including 70 rare or COSEWIC[12] ranked species in the Saskatoon region.[13]	Biodiversity targets have not yet been established.
Diversity (Naturalized Areas)	Grassland and turf systems	In 2025, there are 17 naturalized parks in Saskatoon, making up approx. 11% of the Parks inventory. Of these, 12 are managed fully by Parks, and 5 are co-managed between Parks and Meewasin.	Transition 5% (30 hectares) of irrigated parks to a naturalized state to support the City's naturalization and water conservation targets, as indicated in the City's Water Conservation Strategy.[14]
Diversity (tree species)	Urban forest	Current City inventory has approximately 23% ash and 25% elm.[15]	No more than 10% of any one species (e.g., American elm) and 20% of any one genus (e.g., elm or ash), as indicated in the Urban Forest Management Plan.
Quality (Turf)	Formal turf grass	Unknown	Formal turf grass spaces are visibly clean and aesthetically pleasing year-round, turf conditions provide safe areas for neighbourhood recreation, sport and special events.
Quality (Carbon Sequestration)	All	Unknown	To be determined (baseline is maintained or increases)
Safety and Quality (Urban Forest)	Urban forest	Most street and park trees are maintained cyclically to mitigate hazards and minimize impacts to other infrastructure.	All street and park trees are maintained cyclically and on a suitable frequency including those at facilities, Woodlawn Cemetery, and Business Improvement Districts. City trees are pruned away from infrastructure within the calendar year, with hazardous trees prioritized.

[12] Committee On the Status of Endangered Wildlife In Canada.
[13] Meewasin Valley Authority, 2021. *State of the Valley: Path to Progress 2014-2018*.
[14] Does not include the hectares already included in the City's Naturalized Parks Program.
[15] City of Saskatoon: https://www.saskatoon.ca/environmental-initiatives/green-network/urban-forest.

4.4 Asset Criticality & Risk

A variety of threats may compromise the quantity, quality, and function of the Green Network, which in turn reduces the network's ability to deliver services to the community. Existing reports such as Climate Projections and Possible Impacts, the City of Saskatoon Preliminary Climate Assessment (March 2025), the Meewasin Valley-wide Resource Management Plan, and Saskatoon's Flood Control Strategy have completed risk assessments that are relevant to natural infrastructure. Commonly identified risks include biodiversity loss, climate change, funding gaps, invasive species, and land use pressures. These are described in more detail in Appendix F. However, the City has not yet completed a formal risk assessment of the Green Network, defined asset criticality, or prepared risk mitigation plans.

5.0 INVESTMENT STRATEGIES & NEEDS

5.1 Lifecycle Programs & Analysis

Life cycle stages for Natural Infrastructure Management are included in the table below, as well as examples of specific activities within each stage. In future, the City will complete a full assessment of the life cycle activities needed to manage the Green Network, identify activities currently completed by the City and its partners, and identify associated funding needs and gaps.

Table 7 Life Cycle Stages and Activities

Life Cycle Stage and Description	Example Activities
Non-infrastructure solutions: instruments that support the protection, construction, or operations of natural infrastructure such as policies, processes, or regulations.	• Bylaw enforcement (Tree Protection, Animal Control, Wetland Policy, etc.) • Implementation and enforcement of other instruments (e.g., Natural Area Policy Framework) • Management of standards and specifications (e.g., Park Development Standards, Naturalized Storm Pond Guidelines)
Plan and design: activities that plan for, study, design, and/or secure funding for the protection, construction, or operations of natural infrastructure.	• The preparation and review of plans that include natural infrastructure. • Acquisition of land that could become part of the Green Network. • Planning and design work, including securement of funding and public engagement.
Construct and secure: activities that lead to the installation of new natural infrastructure.	• Installation and establishment of natural infrastructure • Plant propagation (nursery and greenhouse) • Procurement of plants and trees

Operate, maintain, and monitor: ongoing activities to manage natural infrastructure, ensure municipal services and community benefits are realized, and/or retain the desired conditions and outcomes of the natural infrastructure.	• Integrated weed management • Waste management (litter pick up) • Resource management activities (prescribed fire, grazing, etc.) • Turf management (overseeding, topdressing, fertilizing) • Shrub and bed maintenance – conventional, naturalized • Private tree services (DED sampling and clearing ROW) • Cyclical and reactive tree maintenance (inspections, pruning, removal, stumping) • Flower pot program • Tree protection
Restore and enhance: activities to return existing natural infrastructure to its original state and service capability or improve its condition and increase its service output.	• Restoration / remediation – natural areas • Renewal / upgrades – parks • Removal of dead, dying, and diseased trees • Tree re-planting
Disposal: the removal and disposal of an asset at the end of its useful life. Disposal typically only applies to specific vegetation, and not to natural infrastructure as a whole.	• Proper disposal of invasive weeds and elm wood • Other organic material disposal

5.2 Funding Requirements & Investment Strategies

A comprehensive assessment of the funding gap for the Green Network has not yet been completed. The City is still building its capacity in Natural Infrastructure Management and will work to define funding and investments needs in future. A preliminary list of actions and associated funding needs to support this work is included in Section 5.3.

5.3 List of Recommendations & Action Plans

Various activities are needed to build the City's overall capacity in Natural Infrastructure Management and begin to achieve service objectives for natural infrastructure. Recommended activities and associated funding estimates are summarized in the table below.

To make progress towards the conservation, management, and growth of the Green Network, capital funding requests will be submitted to budget in alignment with *Pathways for an Integrated Green Network (Green Pathways)*, the implementation plan for the Green Infrastructure Strategy. For the 2026-2027 budget cycle, the major capital submission is entitled Natural and Naturalized Areas Portfolios. Continuous improvement and capacity building in asset management will be integrated, where appropriate, into these capital work plans.

Table 8 Recommended activities and associated funding for the Green Network

Activity	Description	Funding Estimate and Status	
		One-Time Funding	Annual Funding
Asset Management Plan for Natural Infrastructure	Develop an Asset Management Plan for natural infrastructure using the process outlined in Appendix B. Work should include a stewardship gap analysis, establishment of condition assessment methodologies, replacement costs, levels of service, risk assessment, life cycle management, cost analysis, and funding strategies.	Unfunded	n/a
Inventory improvements and updates	Refine the Green Network asset categories and hierarchy. Complete an update to the inventory using refined asset categories, and incorporate additional data like condition, risks, and ownership.	Funded - Work is planned to be completed by existing resources through the Parks Asset Management Program.	n/a
Data management	Formalize a data management system to house the Green Network inventory and related attributes (e.g., condition assessments). Formalize the inventory and related data within all related SAP, EAM, and asset management software.	Funded - Work is planned to be completed by existing resources through the Parks Asset Management Program.	n/a
Implement the Natural Area Policy Framework	Implement the Natural Area Policy Framework, which is working to identify and prioritize natural areas that should be conserved during development and incorporated into the formal managed inventory.	Unfunded - Capital funds to support this work are included as part of *Pathways* budget submissions.	n/a
Condition assessments	Implement condition assessments for prioritized assets that will become part of the managed inventory to better understand the current state of assets and lifecycle funding needs.	n/a	Unfunded - $75,000 needed annually for naturalized grass, formal turf grass, informal grass, and planting beds.

			Unknown – funding needed for other assets.
Operations and Maintenance	Implement urban forest life cycle management activities including planting, maintaining, removal, and replacement of trees.	Unfunded - $675,000 one-time funding needed to catch up with neighbourhood pruning by the end of 2026.[16]	Unfunded - $72,000 needed annually for Woodlawn Cemetery pruning. Unfunded - $42,000 needed annually for tree management at Civic Facilities (planting, maintaining, removing, and replacing).
	Implement life cycle management activities for other Green Network assets.		Unknown – funding needed for other assets.
Green Network improvements	Implement site enhancements in priority natural areas, parks, trees, other green spaces, plant trees, and increase naturalization.	<u>Park upgrades and enhancements</u> Unknown – funding needed for natural infrastructure. <u>Naturalization</u> Unfunded - Capital funds to support this work are included as part of *Pathways* budget submissions. <u>Other Green Network improvements</u> Unknown	<u>Urban Forest</u> Unfunded - $600,000 needed annually to meet 2060 canopy goal based on planting an additional 800 trees per year.
Total known funding gap		**$675,000 (one-time)**	**$789,000 (annual)**

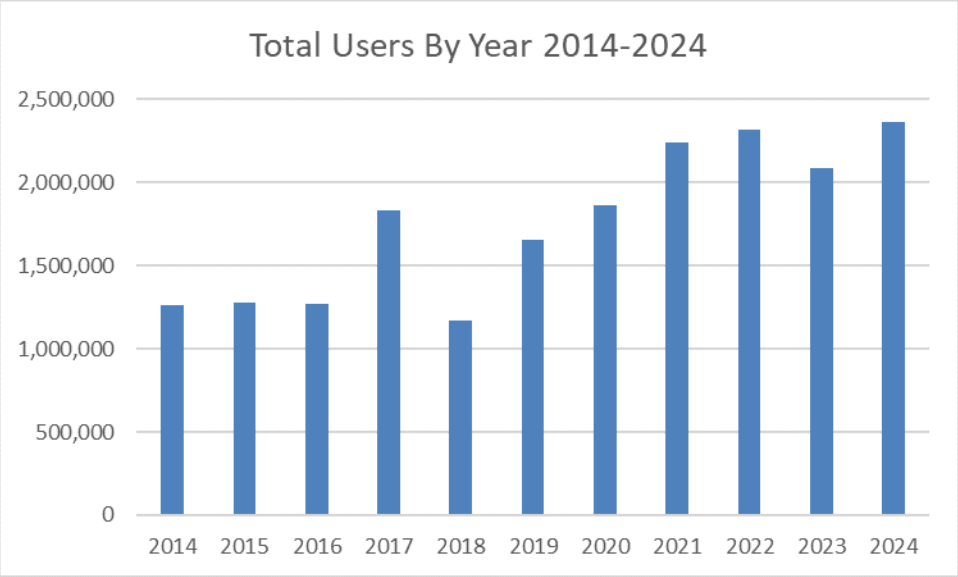
[16] The City is anticipating an overspend in neighbourhood pruning of $150,000 in 2025 and $525,000 in 2026.

6.0 FORECASTED STATE OF THE GREEN NETWORK

Because the current and desired condition of the Green Network is not yet established, the forecasted state of natural infrastructure is currently unknown. However, the City is working towards several overall priorities for the Green Network including conserving priority natural assets during development, enhancing parks and green spaces including through naturalization, and increasing the urban forest canopy (see Section 4.3 for additional details).

Additionally, the City is monitoring risks like climate change (discussed in Appendix F), as well as various trends that are expected to impact the future state of the Green Network. For example, as Saskatoon's population grows, more residents and visitors are accessing public green spaces, which may put increasing strain on the network. This trend is highlighted by the graph below, which shows a steady increase in Meewasin Trail usage since 2014 with the highest number of recorded visits in 2024 at 2.365 million.

Figure 3 Meewasin Trail User Rates 2014-2024



Additionally, at both the municipal and national levels, there is a trend towards an increase in housing density, as indicated by recent zoning changes brought about by the Housing Accelerator Fund. Increasing density in urban areas reinforces the need for high quality natural infrastructure in built-up areas that can support the green space needs of a growing population.

As the City expands and more residents and visitors access the Green Network, and as threats such as climate change progress, work is needed to ensure that natural infrastructure is adequate - in terms of its quality, quantity, connectivity, and distribution – to meet the community's needs. As Administration progresses its maturity in Natural Infrastructure Management and works towards a Green Network Asset Management Plan, the City will be better equipped to report on the overall state of the Network and how it can respond to future challenges.

APPENDICES

Appendix A: Uniqueness of Natural Infrastructure

To paraphrase a recent report[17] from the Natural Assets Initiative, natural infrastructure has several unique features that make it an essential part of the City's asset management system. Some of these features also pose challenges when attempting to integrate natural infrastructure into a traditional asset management plan. For example:

- **Irreplaceable**: Unlike many built assets, natural infrastructure can be irreplaceable and/ or take decades, if not centuries, to regenerate once depleted. Some features, like native grasslands, wetlands, and mature trees, are irreplaceable once lost, making their long-term conservation critical.
- **No End of Useful Life**: High quality natural assets like grasslands, forests, and wetlands generally do not have an end to their useful life. If left alone, natural infrastructure can generally exist indefinitely (aside from individual plants like trees eventually dying and needing replacement). However, in most contexts, natural infrastructure experiences some form of human impact. Natural infrastructure in urban settings experiences various degrees of degradation, through impacts such as invasive species, illegal dumping, incompatible uses, and habitat loss and fragmentation. In such situations, its ability to provide services depreciates if adequate management and resourcing are not in place. This reinforces the need for natural infrastructure to be considered a key part of a City's asset management plan.
- **Regenerative:** Unlike grey infrastructure, natural infrastructure can reseed, spread, and regenerate. While this is beneficial in some cases (i.e., restoration projects), it can pose maintenance challenges as well (i.e. back lane vegetation, weeds). Due to natural infrastructure's regenerative qualities, it requires ongoing maintenance to care for the growth that is desired and manage the growth that is not.
- **Provision of Multiple Service Benefits:** Natural infrastructure provides a wide array of ecosystem services - including carbon sequestration, recreation, cooling, and flood control - often simultaneously. This is sometimes referred to as co-benefits or benefits stacking.
- **Long-term Benefits and Costs**: Managing natural infrastructure requires a long-term perspective due to its ability to regenerate. While investments in natural infrastructure may not yield immediate returns, the benefits can be substantial in the form of ecosystem services, resilience against climate variability and extreme weather events, and enhanced quality of life.
- **Data Discrepancies:** Unlike conventional assets, natural infrastructure is often not well-documented or easily quantified. Collecting and maintaining accurate data on these assets can be challenging, requiring specialized knowledge and methods.
- **Jurisdictional Boundaries:** Natural infrastructure, and the services it provides, crosses jurisdictional boundaries. For example, while the South Saskatchewan River (which spans two provinces) provides drinking water to Saskatoon and surrounding

[17] Natural Assets Initiative, 2024. *Nature Is Infrastructure: How to Include Natural Assets in Asset Management Plans*.

communities, the portion of the river within City limits is 388 hectares. Furthermore, natural areas such as swale complexes extend well into the region. While the overall health and vitality of the Green Network is linked to larger systems beyond Saskatoon, for the purposes of this report, only the portion of assets within City limits are examined.

- **Multiple Landowners**: All natural infrastructure provides ecosystem services, regardless of land ownership. Some natural infrastructure within the Green Network is, at least in part, located on privately-owned land and is not under the City's direct control. As such, the City must consider approaches such as policies, partnerships, stewardship programs, conservation easements, or joint-management arrangements to achieve desired levels of service for privately owned natural infrastructure.

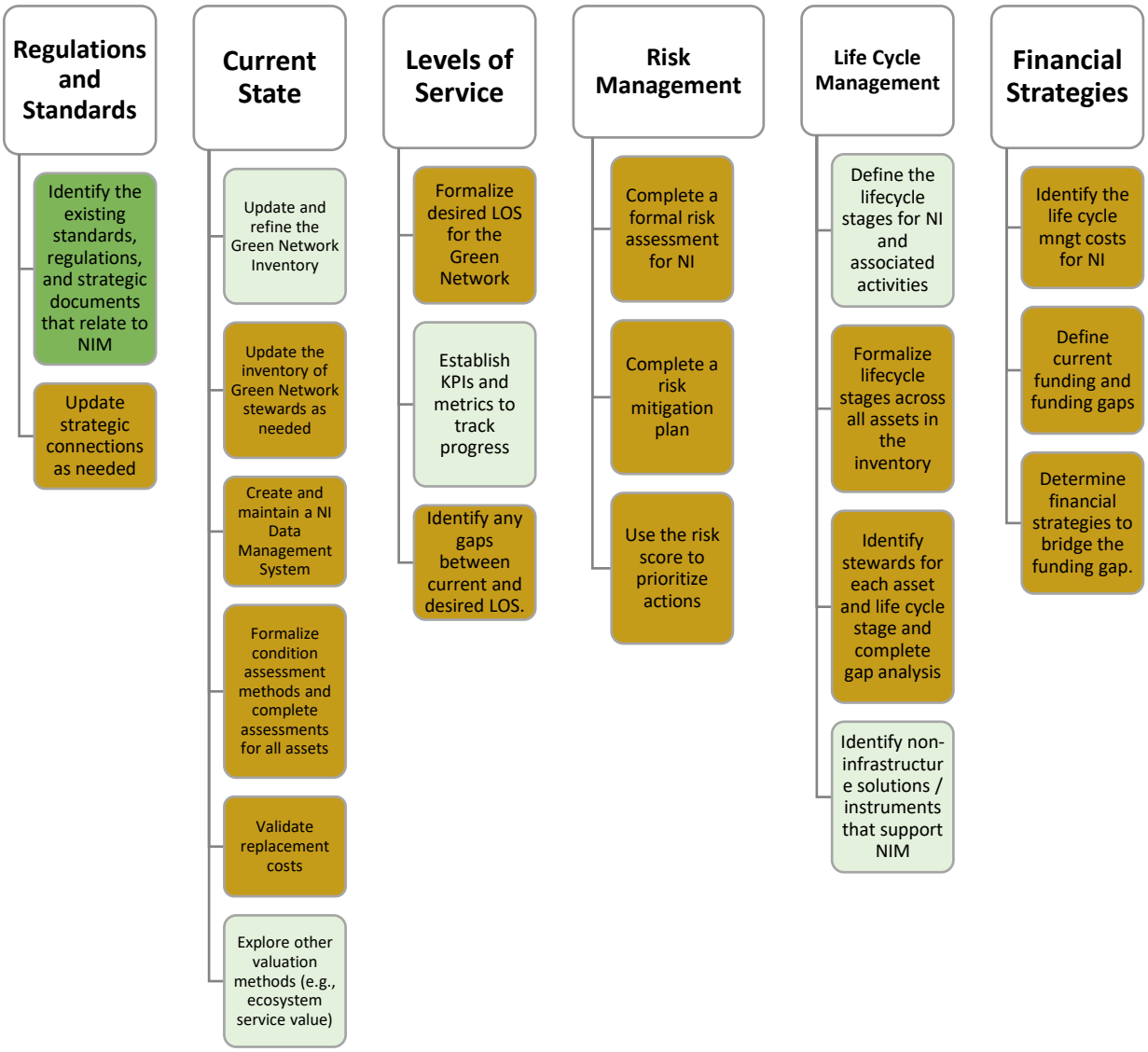
Appendix B: Strategic Drivers and Natural Infrastructure Framework

In recent years, the City has been advancing its asset management system, including consideration for natural infrastructure. While not an exhaustive list, several of the guiding documents that drive Natural Infrastructure Management at the City are listed below.

- The Official Community Plan, 2020 includes policy statements to support the retention of natural assets.
- The Asset Management Policy provides strategic direction for the City's asset management approach, and was updated in 2020 to include natural assets.
- The Green Infrastructure Strategy (2020) is the guiding document for this work and takes a nature-based approach to city planning to ensure Saskatoon is a connected and nature-friendly city that all residents can access. Its implementation plan, Pathways for an Integrated Green Network (Green Pathways), was approved by City Council in 2022 and includes *Action 1.4: Integrate natural assets into the City's asset management system*.
- The Urban Forest Management Plan (2021) and its implementation plan, Pathways to a Sustainable Urban Forest (2022), outline recommendations for the City to plan for, grow, manage, and protect the urban forest.
- The Green Network and nature-based solutions are an important part of the City's climate action planning and are part of the 2023 Climate Action Progress Report. An updated Climate Action Plan, scheduled for release in 2026, will include information on how the Green Network contributes to climate mitigation and adaptation.

A summary of the Natural Infrastructure Framework is included in the diagram below. Completion of the activities in the Framework will lead to the completion of a Green Network Asset Management Plan.

Figure 4 Natural Infrastructure Framework and Progress



Legend
- Action is complete
- Action is underway
- Action is upcoming

Abbreviations
KPI: Key Performance Indicator
LOS: Level of service
NI: Natural Infrastructure
NIM: Natural Infrastructure Management

Appendix C: Terminology

Terminology in the field of Natural Infrastructure Management is evolving, both at municipal and national levels. As the City progresses its maturity in Natural Infrastructure Management, definitions of common terms will be finalized. In the interim, common terms used in this report are included below.

- Green Network: The collection of natural infrastructure in Saskatoon.
- Natural Infrastructure (NI): The collection of growing and flowing assets in Saskatoon that form the Green Network, including but not limited to wetlands, grasslands, parks, forests, street trees, and other green spaces.
    - Green Infrastructure: A term similar to natural infrastructure which the City previously used (e.g., in the Green Infrastructure Strategy). Administration now uses the term “natural infrastructure” instead of “green infrastructure”, as it is more inclusive of natural areas and better reflects the scope of the City’s work.
- Natural Infrastructure Management (NIM): An asset management approach of utilizing natural infrastructure to deliver services, offering a sustainable alternative or complement to traditional "grey" infrastructure.
    - Natural Asset Management: A similar term to Natural Infrastructure Management, often used nationally to refer to the use and management of natural assets to provide municipal services. Natural asset management is also described in Saskatoon’s Official Community Plan as an approach for the responsible management of natural assets. Administration now uses the term “Natural Infrastructure Management” instead of “Natural Asset Management”, as it is more inclusive of parks and street trees.
- Natural Assets: Naturally occurring ecosystems found in Saskatoon including the river, grasslands, wetlands, and forests/shrublands. These were most recently defined in the 2019 Natural Areas Inventory. Several of the City’s policy documents including the Official Community Plan and Asset Management Policy refer to “natural assets.”
- Natural and Naturalized Areas: Sites that contain natural habitat and/or have been restored to mimic natural habitat (e.g., the Northeast Swale, the Small Swale, Richard St Barbe Baker Afforestation Area, Hyde Park).
- Natural Infrastructure Categories:
    - Grassland and turf systems:
        - Native grassland: areas comprised mainly by grass cover which are known to be dominated by native prairie vegetation. In the Natural Areas Inventory, these are referred to as “known prairie”.
        - Naturalized grass: areas predominated by grass cover with conditions that are reflective of higher degrees of ecological integrity and lower anthropogenic intensity. Exhaustive observations for the presence of native species have not been undertaken.

- Formal turf grass: Areas intentionally vegetated with grass that are actively managed and manicured for human use and often utilized for recreational or aesthetic purposes.
- Informal grass: Liminal vegetated spaces within urban areas that are not formally recognized or managed as public spaces for aesthetic or recreational purposes.

- Urban forest:
  - Native and naturalized forest: Natural areas predominated by native and naturalized tree or shrub cover including afforested areas.
  - Landscape trees: individually planted trees in highly maintained areas like parks, along streets (e.g., boulevards, medians), and at civic facilities.
- Plantings:
  - Planting beds: landscaped beds that include shrubs, forbs, grasses, and annuals.
  - Flowerpots: Floral displays maintained by Parks along major public roadways, parks, public open spaces, and at civic facilities.
- Food and agricultural systems:
  - Agricultural lands: Land used for the commercial production of field crops, fruits, field vegetables, sod, nursery, or livestock.
  - Urban agriculture: small scale food production features including community gardens, allotment gardens, and food forests.
- Natural water bodies and waterways:
  - Wetlands: Natural areas which are permanently or periodically saturated with water and are comprised of varying intensities of aquatic and terrestrial vegetation.
  - River: the portion of the South Saskatchewan River that flows within City limits.
- Storm Water Systems:
  - Storm ponds: systems designed for storm water management.
  - Drainage features: Vegetated drainage infrastructure such as ditches and swales.

Appendix D: Inventory Caveats and Limitations

There are various limitations with the current inventory data, which are summarized below.

- Built assets: Natural infrastructure is interconnected with much of the City's built assets. For example, built trails and amenities are features within parks, and constructed storm ponds have both natural and built components. While considered as part of an interconnected system, built assets associated with parks and storm water systems are discussed in the *2025 State of Parks and Open Space* and *2025 State of Storm Water* reports, respectively.
- Drainage features: Natural infrastructure that supports the storm water system such as riparian areas (i.e., the area between the natural water line and high-water line of a storm water pond) is not yet inventoried or managed. The Wetland Policy identifies that these areas should be managed as part of naturalized parks, but there is currently no formal inventory or service level for these features.
- National Urban Park: Meewasin is leading the National Urban Park (NUP) exploration for the Saskatoon region, including public engagement on the draft NUP boundary occurring in 2025. While there is some alignment between the City's Green Network inventory and the draft NUP boundaries, a full comparison has not yet been completed. This will be completed in future reporting.
- Outside City limits: The City is involved in management at several sites outside City limits including Chief Whitecap Park, Cranberry Flats Conservation Area, and Beaver Creek Conservation Area. These areas are not included in the inventory.
- Wetlands and Storm Water Facilities: Some of the facilities in the City's storm water inventory intersect with the City's wetland inventory, and Administration has not yet done a comprehensive assessment to identify duplicate data.

Additionally, the Natural Areas Inventory, completed by Meewasin in 2019, informs the inventory of natural assets. However, there are several caveats that should be considered with respect to these data, including:

- Food and Agricultural Systems: there are 5,504 hectares of agricultural lands documented within city limits, comprising 23% of the city's footprint. While significant in size, much of these lands are subject to future urban development and are not anticipated to become managed City assets. As such, they have been excluded from this report.
- Greenfield areas: Many natural assets occur in greenfield areas of the City, and the City has not yet defined which assets will be conserved and incorporated into the managed inventory. This is something the City is working to define through the Natural Area Policy Framework.
- Land use changes: Significant land use changes, especially in new development areas, have occurred since the inventory was completed in 2019. As such, the quantity of certain natural infrastructure, especially wetlands, is anticipated to be lower overall now than it was in 2019.
- Private lands: Multiple natural assets occur on non-City-owned land (e.g., Kernen Prairie, Hudson Bay Swale, West Swale), and work is needed to analyze the role the City has in these assets, if any.

Appendix E: Condition Assessments

The current and desired condition assessment plan for natural infrastructure is summarized in the table below.

Table 9 Current and desired approaches for natural infrastructure condition assessments

Asset Category	Sub-Category	Current Condition Assessment Plan		Desired Condition Assessment Plan	
		Approach	Frequency	Approach	Frequency
Grassland and Turf Systems	Native grassland	Natural Area Screenings[18] (for greenfield areas)	During Sector and Concept Planning	Increase frequency of Screenings, especially field screenings.	5-year intervals following Sector Plan approval
		Conservation Standards[19] (for managed areas)	Ad hoc	TBD	TBD
	Naturalized grass	No formal assessment	Ad hoc	Formal condition assessment	5-to-7-year interval
	Formal turf grass	No formal assessment	Ad hoc	Formal condition assessment	5-to-7-year interval
	Informal grass	No formal assessment	Ad hoc	Formal condition assessment	As required
Urban Forest	Native and naturalized forest	Visual inspections for shelterbelts	Every 15 years	Adjust frequency based on usage and infrastructure	Unknown
		Natural Area Screenings (for greenfield areas)	During Sector and Concept Planning	TBD	TBD
		Conservation Standards (for managed areas)	Ad hoc	TBD	TBD

[18] Existing Natural Area Screening data are available for specific sectors including University Heights Neighbourhood No. 3 (which includes results for the Northeast and Small Swales), and Blairmore (which includes results for Richard St Barbe Baker Afforestation Area and George Genereux Urban Regional Park).

[19] Once a natural asset is conserved and formal management begins, condition may be assessed using approaches outlined in the Open Standards for the Practice of Conservation (Conservation Standards). The Conservation Standards have been used by both the City and Meewasin and applied to several natural and naturalized areas in Saskatoon, including the Northeast Swale, the Small Swale, and Richard St Barbe Baker Afforestation Area. Meewasin has also completed a Valley-wide Resource Management Plan, which uses the Conservation Standards to assess the overall state of natural areas in its jurisdiction.

	Landscape Trees	Cyclical visual inspection	Every 7 years (street trees)	Adjust frequency based on usage and infrastructure	Unknown
		Reactive inspections	As required	TBD	TBD
Plantings	Planting beds	Visual inspection (quality/quantity of plant material, quantity of weeds and pests)	Weekly	Visual inspection (quality/quantity of plant material, quantity of weeds and pests)	5-to-7-year interval
	Flowerpots	Visual inspection (quality/quantity of plant material, quantity of weeds and pests)	Weekly		Weekly
Food and agricultural systems	Urban agriculture	Not currently assessed	n/a	TBD	TBD
Natural waterbodies and waterways	Wetlands	Natural area Screenings (for greenfield areas)	During Sector and Concept Planning	Increase frequency of Screenings, especially field screenings.	5-year intervals following Sector Plan approval
		Conservation Standards (for managed areas)	Ad hoc	TBD	TBD
	River	Storm water quality monitoring at outfalls	Bi-weekly	TBD	TBD

Appendix F: Risks to the Green Network

Commonly identified risks to the Green Network are summarized below. Several of these interact and compound, such as climate change leading to higher flooding risks.

- Biodiversity Loss: It is globally recognized that urgent action is required to halt and reverse biodiversity loss. Saskatoon is home to over 500 unique species, including 70 rare or endangered species. Many species of plants, animals, and other biota are critical for the overall function of ecosystems.
- Climate change is anticipated to lead to damage or degradation of natural infrastructure through increased heat, flooding, and drought stress on soils, plants, and animals; as well as “weather whiplash” (rapid transitions between two extremes such as temperature swings). Climate change also exacerbates other risks. For example, cottony ash psyllid – whose impact is intensified by warmer winters – has already led to the loss of many ash trees in the city. These indirect risks of climate change are reflected in other risk categories.
- Damage: direct damage to natural infrastructure can occur for a variety of reasons including wear-and-tear, accidental damage arising during management or construction, intentional damage (e.g., vandalism), and weather events (e.g. storms, wind, drought, fluctuating temperatures, flooding).
- Funding gaps: Inadequate funding for the Green Network reduces or prevents the City’s ability to invest in new natural infrastructure through capital investment and maintain

existing natural infrastructure to our desired level of service through operational funding. It also impacts the City's overall capacity to plan and coordinate initiatives that support the Green Network and can lead to missed opportunities to leverage external funding.

- Incompatible uses of the Green Network emerge when the use of a space is not compatible with its overall function, or there is a lack of capacity for a site to support the number of uses. In park spaces, this can occur when there are a variety of recreational uses that are using a space in conflicting ways. In the urban forest, this can occur when utilities, services, and other infrastructure compete for the same space as trees. In natural areas, this can occur when an ecosystem is used for a purpose that degrades its function.
- Increased Demand: As Saskatoon's population grows, more residents are accessing public green spaces and, in some cases, usage is higher than an area has capacity for.
- Invasive species include novels plants, animals, and insects that negatively impact natural infrastructure. Different types of invasive species impact natural infrastructure in different ways. For example, the urban forest is more at risk from novel insects and the diseases they carry (e.g., Emerald Ash Borer, Dutch Elm Disease beetle, Cottony Ash Psyllid). Whereas native grasslands and wetlands are more at risk from noxious and nuisance weeds.
- Land use pressures: The City must balance a variety of land use needs including housing, servicing, transportation, and other development. These pressures can result in the loss or fragmentation of natural infrastructure. In greenfield areas, land use pressures tend to impact native ecosystems such as wetlands and grasslands. In built-up areas, land use pressures tend to impact trees, parks, and other formal green spaces.
- Limited planning and coordination: When natural infrastructure is not planned for proactively, it can lead to damage or removal of natural infrastructure, as well as lost opportunities to incorporate natural elements into complimentary infrastructure. The City also faces challenges as it does not have clear standards, policies, guidelines, and/or procedures to support all forms of natural infrastructure, which can impact consistency, coordination, and efficiency in project delivery.
- Overland Flooding[20]: Analysis of historic air photos indicates that many areas of the city prone to overland flooding were historically part of large wetland complexes that have since been removed or filled. Alteration or removal of natural infrastructure can have an adverse impact on local drainage patterns, and in turn, can lead to damage to other infrastructure.
- Pollution, contaminants, and waste: Pollutants and contaminants can impact the quality and function of natural infrastructure and include hydrocarbons, road salts, chemicals, heavy metals, and garbage.
- Poor growing conditions: Include poor soil quality, lack of irrigation, and inadequate establishment periods. Poor conditions can reduce the quality and function of natural infrastructure.

[20] The Federal Land Use Guide for Flood Risk Areas from Natural Resources Canada (2022) outlines the role of land use planning in flood risk reduction, which could be explored further in future.