Appendix 3

Administrative Summary of the Richard St Barbe Baker Afforestation Area Natural Area Management Plan and Conceptual Master Plan

INTRODUCTION

The City of Saskatoon's Green Infrastructure Strategy includes a goal to protect, restore, and manage significant natural areas in Saskatoon, including Richard St Barbe Baker Afforestation Area (RSBBAA). However, there are significant challenges to conserving RSBBAA including a lack of dedicated funding source and service level.

In 2023, WSP Canada, Inc., was contracted by the City to complete a Natural Area Management Plan and Conceptual Master Plan (the Plans) for RSBBAA. The Plans outline the steps needed to conserve the ecological and cultural elements of RSBBAA and provide a connection to nature for current and future generations. The Plans are intended to guide the conservation of RSBBAA but are not a directive. The Plans are best viewed as living documents and should be updated as new information becomes available, at least once every ten years.

Community members have shown great interest in RSBBAA. For example, three volunteer organizations have signed formal user agreements with the City to utilize the site, including taking on a lead role in site stewardship. A key consideration in the Plans is the need to balance the conservation of the site with the needs of active recreation groups that already utilize and steward the area.

The creation of the Plans is one step of many needed to protect, restore, and manage RSBBAA. Additional work is needed to establish a service level for the site, implement ecological restoration and site enhancements, and complete ongoing resource management. Further work is also needed to engage site users on the proposed enhancements, to ensure compatibility with existing site uses. Completion of the recommendations in the Plans will be subject to funding, including capital funding to implement site enhancements and restoration, and operating funding to maintain a dedicated service level.

About Richard St Barbe Baker Afforestation Area

RSBBAA is an afforested area in the southwest of Saskatoon. The dominant ecosystem is a mix of native and modified forests. The site contains a well-used trail system, a skills bike park, and the City's Southwest Off-Leash Recreation Area (SWOLRA).

Vision Statement for RSBBAA

Rustling leaves and sparkling wetlands, a refuge for wildlife and visitors.

An enduring place for those who speak for the trees.

LEGISLATIVE CONTEXT

The RSBBAA is subject to the policies and regulations of the City of Saskatoon (City). The highest-order planning documents for the City include the Official Community Plan No. 9700 (OCP; City of Saskatoon 2020a), and the accompanying Zoning Bylaw No. 8770 (City of Saskatoon, 2023a).

The Plans are informed by additional guiding documents and data sources including the Green Infrastructure Strategy (2020), the Meewasin Valley-wide Resource Management Plan (2017), the Blairmore Natural Areas Screening Final Report (2022), and Montgomery Place Local Area Plan (2018).

A portion of RSBBAA is within the Meewasin Conservation Zone. Approval is required from the Authority on any improvement valued over $25,000 in accordance with the Meewasin Valley Authority Act (Government of Saskatchewan, 1979).

ECOLOGICAL CONTEXT

Land cover

RSBBAA contains 86 hectares (ha) of Open Canopy Mixed Woodland, 33.5 ha of Tame Grassland, 9.9 ha of Wetland, and 3.3 ha of disturbed/developed areas and roads.

Flora

The dominant ecosystem at RSBBAA is woodland, which includes species like Manitoba maple, green ash, balsam poplar, common caragana, Siberian elm, and scotch pine.

In addition to other vegetation, three species of management concern (SOMC) are confirmed or have been historically observed on site: blue wild rye, red elderberry, and small yellow lady's slipper. Two SOMC have a high likelihood of being on site but are unconfirmed: bristle-leaved sedge and mucronate blue-eyed-grass.

There are also many citizen science records of flora in the area that are likely but not officially confirmed.

Fauna

Wildlife found on site include 27 confirmed species of migratory birds and 11 confirmed mammals such as white-tailed deer, elk, moose, and coyote.

Five fauna SOMC are confirmed on site: bank swallow, barn swallow, common nighthawk, horned grebe, and lesser yellowlegs. Two SOMC have a high likelihood of being on site but are unconfirmed: northern leopard frog and western tiger salamander.

There are many citizen science records of additional flora in the area that require confirmation.

Culturally significant species

Species that may be of interest to Indigenous communities were considered, but it was determined that additional engagement is needed prior to preparing detailed content or recommendations. Any content prepared in future must be respectful of any sensitivities about the role and location of important species.

Noxious or nuisance weeds

Sixteen provincially designated weeds were documented including absinthe, European buckthorn, and nodding thistle. And, although not listed under the *Weed Control Act*, common caragana is abundant on site. Caragana is an introduced species with aggressive tendencies.

Wildlife movement

Previous studies have not detected any obvious trends of wildlife movement. Wildlife have been observed to cross Township Road 362A and move between the Class V wetland and the Chappell Marsh Conservation Area.

HUMAN CONTEXT

History

The RSBBAA was established in 1960 with the intention of creating a greenbelt around Saskatoon. The area was named after Richard St. Barbe Baker, an internationally recognized forestry advisor and conservationist, who advocated for tree planting and reforestation efforts around the world.

Heritage and Cultural Significance

In its heritage screening for Blairmore Sector, EDI (2022) confirmed there were no archeological sites of heritage concern within the RSBBAA. However, Chappell Marsh is comprised of terrain that may have the potential to host archeologically sensitive sites. The Bone Trail, a Municipal Heritage Property featuring wheel ruts of a former historic trail, is located nearby in the Rural Municipality of Corman Park. Three quarter sections adjacent to the southeast of the RSBBAA were reported to have moderate to high potential to discover intact archaeological sites (NE/NW/SE-13-26-6-W5M) that are archeologically significant (EDI, 2022).

Further information about the heritage and cultural significance of RSBBAA is outlined in the Business Case for Heritage Designation - Richard St. Barbe Baker Afforestation Area report, received by City Council on September 28, 2020. The report also outlines opportunities, challenges, and implications of formally designating RSBBAA as a Municipal Heritage Property. Official heritage designation could be explored as an outcome of the RSBBAA Plans in future.

Ownership and Easements

The City of Saskatoon owns most of the site, with the eastern portion of the site falling under the jurisdiction of the Meewasin Valley Authority.

Three easement holders are present and include the following:

- CN Rail holds a Right-of-Way/easement along the exterior of the northern and western boundaries of the site.
- SaskPower holds a 33-meter-wide easement for three transmission lines, and a 15-meter-wide easement for a buried fibre line.
- TransGas/SaskEnergy owns the parking lot in the northeast corner of the RSBBAA and holds easements for several high-pressure gas lines throughout the site, including one 12-inch and two 16-inch-high pressure gas lines. The parking lot in the northeast corner of the RSBBAA also contains TransGas infrastructure.

Current Uses

The RSBBAA is currently host to both ecological and recreational uses including:

- Passive Recreation Uses**:** walking/hiking, birdwatching, and photography.
- Active Recreation Uses: all-season and fat tire biking, skills biking, cross country skiing
- Off-leash Dog Exercise: The SWOLRA is in the eastern portion of the site and has been in operation since 2013.
- Educational uses: including tours and interpretive signage.

User Groups

To enable short-term land uses at RSBBAA, the City has entered into temporary user agreements with volunteers groups including the Saskatoon Friends of the Afforestation Areas, Cedar Villa Bicycle Trails, and Flatlanders Fat Tire Bridgade.

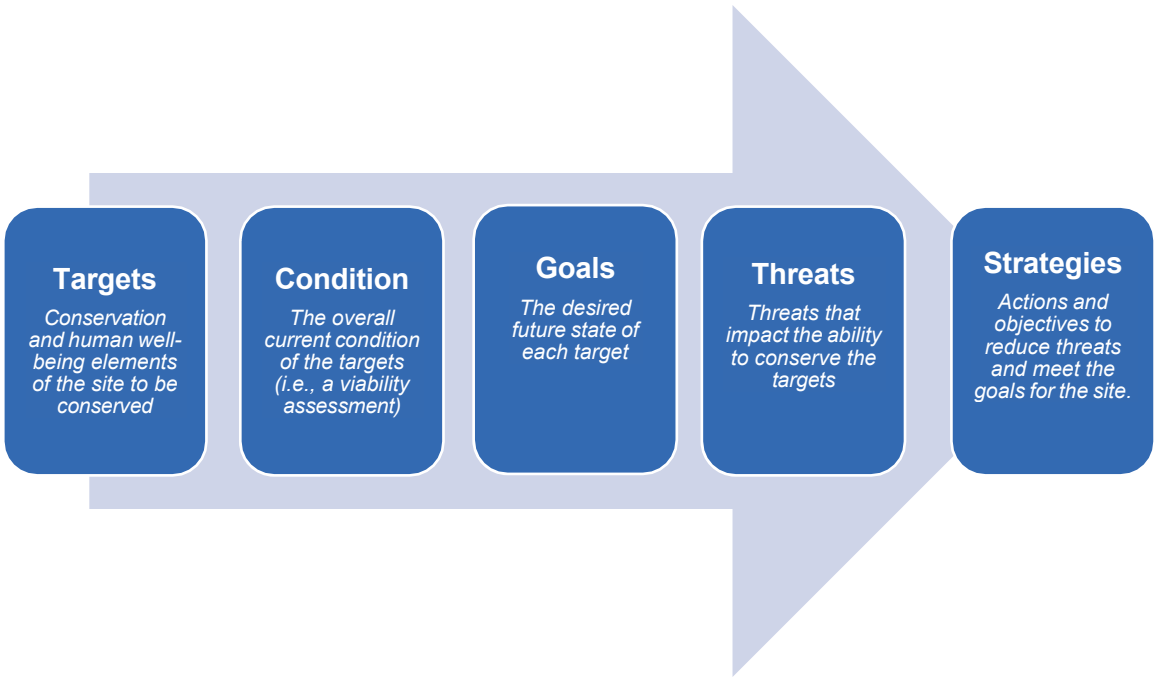
Unsanctioned Uses

While beloved by the community, the site is used for undesirable and unsanctioned uses. The legitimate user groups have notably attempted to discourage these uses. Unsanctioned uses include illegal hunting, illegal fires, illegal dumping, illegal vehicular use, and off-leash dogs outside the designated area.

CONSERVATION PLAN

Methodology

The Open Standards for the Practice of Conservation (2020) (Conservation Standards) was used to prepare the RSBBAA Plans. Using this approach, the Plans identify the targets, condition, goals, threats, and strategies for the site, as shown below.



Targets, Condition, and Goals

Targets identify the elements of RSBBAA that the Plans intend to conserve. The final list of targets is included in the table below.

Target	Description of Target	Current Condition	Goals
Forest	Forests at RSBBAA include both native communities like aspen stands, and the modified/afforested areas that include species like scotch pine, blue spruce, common caragana, green ash, and Siberian elm. The forest provides many ecosystem services and is important culturally to various user groups.	Fair	By 2035: • there is no reduction in forested habitat; and • the native flora species abundance and diversity is in a stable population with a Shannon-wiener Diversity Index of 3.0-3.49.
Wetlands	Wetlands can be found in two locations, making up approx. 7.4% of the site. Conserving wetlands has significant benefits to both natural ecosystems and to humans through ecosystem service provision.	Fair	By 2035: • there is no more than 10% reduction in the total extent of wetlands; • water quality meets the CCME WQI Value 80-90; and • catchment areas are functional.
Species of Management Concern (SOMC)	SOMC and their habitats identified to date include bank swallow, barn swallow, common nighthawk, horned grebe, lesser yellowlegs,	Good	By 2035: • there is an increase in detection of SOMC through habitat

	northern leopard frog, small yellow-lady's slipper, western tiger salamander, and a garter snake hibernacula. Preserving threatened habitats will help to conserve these species and their function in the ecosystem.		restoration initiatives and ongoing monitoring.
Historical and Cultural Connection	RSBBAA has a long history of use, and a positive connection to its namesake, Richard St. Barbe Baker. This target aims to highlight the historical and cultural importance of the site.	Not assessed	By 2035: • historically and culturally significant features are identified and protected; and • historical and cultural programs are developed and implemented.
Education and Connection to Nature	Education and connection to nature help to create a relationship to the land and encourage users to take care of the site. This can be achieved through activities like guided tours, interpretive signage, citizen science, and partnerships with local groups.	Not assessed	By 2035: • educational programs are identified and implemented; and • infrastructure and programs allow for a connection to the landscape.
Recreation	RSBBAA provides the community with a unique natural setting for both active and passive recreational uses. Activities like walking, hiking, biking, off-leash dog exercise, and bird watching offer both mental and physical stimulation which can improve fitness, alleviate stress, and boost overall health.	Not assessed	By 2035: • recreational uses are supported through infrastructure; and • a comprehensive recreational plan is developed and implemented.

Threats

Various threats were identified that may impact the ability to conserve the targets. The threats, and the degree to which they may be impacting each target, is shown in the table below.

Threat	Example of Threat	Risk to Conservation Target			Threat Summary
		Forest	Wetlands	SOMC	
Introduction of Invasive & Undesirable Species	Introduction of noxious weeds, pests and diseases, or invasive wildlife	High	High	High	High

Incompatible external land use	Transportation routes, CN Rail Line, Snow Storage area	Very high	Very high	High	Very high
Incompatible human use	Illegal land uses such as dumping; irresponsible or competing recreational uses	High	Medium	Medium	Medium
Suppression of natural disturbance regimes	Suppression of fire, grazing, and flooding	High	High	Very high	High
Fragmentation and barriers	Fences, walls, transportation routes, and broken connections between natural assets	Medium	Medium	High	Medium
Water management	Negative alterations to water bodies and hydrological systems	Low	Medium	High	Medium
Frequency and severity of storms	Flooding, wildfires, snowstorms, and hail	High	High	High	High
Increasing average temperatures and drought	Heat stress to people, plants, and wildlife	High	Very high	High	High
Changes to precipitation	Drought stress to people, plants, and wildlife	High	High	High	High
Summary Target Ratings		**Very high**	**Very high**	**Very high**	**Very high**

Conservation Strategies

To reduce the threats and achieve the goals for each target, the following management strategies are recommended:

1. ***Baseline data collection and data management****:* Ongoing biophysical data collection and analysis (e.g., targeted baseline and monitoring) in an appropriate timeframe to support and confirm the successful execution of the conservation tools developed to restore/reclaim/enhance aspects of the site. Development of a data management system to collect, store and share data.
2. ***Policy, enforcement, and urban planning****:* Establish protection of the site through existing planning tools acquisition of additional lands; existing and future policy; ongoing governance and enforcement.
3. ***Buffering of adjacent lands****:* Reduce threats of invasive species and improve degraded lands through enhancement and improvement initiatives.
4. ***Enhancements and improvements****:* Reduce threats of invasive species and improve degraded lands through enhancement and improvement initiatives.

5. ***Invasive and undesirable species management****:* Control of invasive and undesirable species pursuant to applicable provincial legislation, regulations, policies, guidelines and bylaws.
6. ***Natural disturbance regime management*****:** Develop and implement natural disturbance regime management to promote healthy vegetation communities which normally would be subject to natural disturbances.
7. ***SOMC management****:* Protection of identified habitat and sensitive locations for known (current and future) SOMC within the site based on baseline/monitoring analysis, and present and future standards.
8. ***Historically and culturally significant species and features management:*** Historically and culturally significant species and features identified, protected, enhanced, and celebrated.
9. ***Water management****:* Management of all hydrological features within the site.
10. ***Ecological connectivity management****: Management* of intra and inter-connectivity.
11. ***Human use programming*****:** Planning for active and passive recreation of the site in balance with the ecological sensitivities of the site.

Detailed recommendations regarding the implementation of these strategies are included in the Plans and should be referenced prior to conservation work occurring.

HUMAN USE PLAN

The Human Use Plan provides recommendations for appropriate programming of RSBBAA while considering environmental sensitivities. Considerations include restrictions on use, the infrastructure required to support the recommended uses, and opportunities for community stewardship. These recommendations are intended to guide future site improvements.

Programming and Management Zones

Three management zones are proposed for the site, which will inform programming, management, and placement of appropriate site uses. The table below provides a summary of each zone.

Management Zone	Spatial Extent	Proposed Programming	Design considerations
Ecological Core	Existing wetlands and known locations of SOMC	Limited low-impact passive recreation	• Protect and buffer from other land uses.

			• Utilize barriers such as fences, gates, and barricades to limit access. • Enhance zone through planting or restoration activities. • Limit additional infrastructure and locate it at appropriate offsets from sensitive species. • Support educational opportunities to highlight importance of the natural assets.
Programmable Zone	Existing fair to degraded landscapes	Passive and active recreation	• Support the existing user groups and recreational uses. • Enhance zone through planting or restoration activities. • Infrastructure located at appropriate offsets from sensitive species. • Locate higher-impact infrastructure within existing degraded areas. • Support educational opportunities to highlight importance of the natural assets.
Utility Corridor	Existing utility rights-of-way	Passive recreation Utilities management	• Consider enhancements to biodiversity and human access while complying with utility easement requirements.

A map showing the proposed location of each zone is included below.

LEGEND:

- SITE BOUNDARY
- EXISTING CONTOUR (0.5M INTERVAL)
- MANAGEMENT ZONE 1: ECOLOGICAL CORE ZONE
- MANAGEMENT ZONE 2: PROGRAMMABLE ZONE
- MANAGEMENT ZONE 3: UTILITY CORRIDOR ZONE

0 25 50 100 150 200 250 SCALE 1:6000

CONSULTANT:

wsp

CLIENT:

City of Saskatoon

PROJECT TITLE:

RICHARD ST. BARBE BAKER AFFORESTATION AREA

SASKATOON, SASKATCHEWAN

DRAWING TITLE:

MANAGEMENT ZONES

Permitted Uses and Restrictions

To support the Human Well-Being Targets, the following uses are recommended to be permitted and encouraged. Certain restrictions on these activities are also proposed to reduce or remove impacts to ecological communities.

Permitted Use	Description	Restrictions on Activity
Passive Recreation	Low impact activities such as walking/hiking, birdwatching, photography, and snow shoeing.	Visitors must remain on trails. Use of site is recommended to be from dawn to dusk to avoid unwanted uses of the site.
Active Recreation	All season biking, including fat tire biking, Adaptive Mountain Biking, and Skills biking. Off-leash dog exercise. Winter activities such as cross-country skiing and snow shoeing can be considered and encouraged on designated trails if compatible with other uses.	Visitors must remain on trails or in designated areas. Use of site is recommended to be from dawn to dusk to avoid unwanted uses of the site.
Education	Group tours (e.g., school groups) or self-guided.	Same restrictions as “Passive recreation.”
Harvesting	Harvesting of culturally significant plants by designated professionals or individuals.	Parameters to be developed through further engagement. Considerations may include specific areas or plants which can be harvested, and seasonal periods of harvesting.
Citizen Science	Public assists in collecting data to accelerate scientific research.	Same restrictions as “Passive recreation.”

Proposed Site Enhancements

Enhancements to RSBBAA are proposed that align with the conservation targets and management zones. Detailed recommendations to implement each improvement are included in the Conceptual Master Plan. A visual representation of the improvements is shown on the map below.

LEGEND:

- SITE BOUNDARY
- EXISTING CONTOUR (0.5M INTERVAL)
- EXISTING ROAD
- PROPOSED ROAD (P2)
- PRIMARY TRAIL (P1)
- SECONDARY TRAIL (P1)
- TERTIARY TRAIL (P1)
- BOARDWALK (P1; P2 WETLAND OUTLOOK)
- EXISTING EXTERNAL TRAIL
- PERIMETER FENCE (P1)
- OFF-LEASH DOG PARK FENCE (P1)
- SAFETY FENCE (P2)
- SITE ACCESS
- (P) PARKING AREA (P1)
- (G) GATHERING AREA (P2)
- (B) SEATING (P1)
- (W) WASHROOM FACILITIES (P2)
- FOREST RESTORATION AREA (P1)
- WETLAND RESTORATION AREA (P1)
- UTILITY CORRIDOR PLANTING AREA (P1)

NOTES:

- PLAN IS CONCEPTUAL ONLY AND NOT FOR CONSTRUCTION.
- P1 REFERS TO PHASE 1 OF PROPOSED IMPLEMENTATION.
- P2 REFERS TO PHASE 2 OF PROPOSED IMPLEMENTATION.

0 25 50 100 150 200 250

SCALE 1:6000

CONSULTANT:

wsp

CLIENT:

City of Saskatoon

PROJECT TITLE:

RICHARD ST. BARBE BAKER AFFORESTATION AREA

SASKATOON, SASKATCHEWAN

DRAWING TITLE:

CONCEPTUAL PLAN

A summary of the proposed improvements is provided below.

Improvement	Function	Description and Examples
Buffering	Provide a buffer between the site and incompatible land uses.	• Tree planting in exposed areas.
Human Use	Support the recreational uses of the site while conserving the natural assets.	Through engagement with current site users, enhancements could be designed for: • Controlled site access • Circulation route and seating notes • Off-leash dog park • Skills park • Fat tire and adaptive mountain biking course • Gathering area • Wetland outlook • Communications programming • Site furniture and materials
Historical and cultural improvements	Connects users to the historical and cultural significance of the site.	• Educational signage • Inclusion of culturally significant species in restoration improvements
Restoration and reclamation improvements	Intentionally returning degraded ecosystems to a more natural state.	• Forest and wetland restoration work including tree planting.
Ecological Connectivity Improvements	To enhance connectivity for wildlife and ecosystem processes within the site, and between RSBBAA and other natural areas.	• Baseline data collection is needed first.
SOMC Improvements	Support habitat for species of management concern.	• Songbird house • Waterfowl box • Bat house
Storm water management	Establish targets to ensure that future development will not compromise wetland function.	• To be determined.

Planting plan		• Tree planting in exposed area • Pollinator gardens under utility corridors

Implementation of the Plans

Before implementing the Plans, detailed design and cost estimates for the proposed enhancements will be required. During this stage, the design may be subject to further review by the City, including the Crime Prevention Through Environmental Design (CPTED) committee. Review by other approving bodies or jurisdictions including Meewasin's Conservation Advisory Committee, utility companies, and nearby jurisdictions (e.g., the Rural Municipality of Corman Park) may also be required. In some cases, additional engagement, particularly with existing site user groups, is recommended to validate the desired placement and design of enhancements.

The Conceptual Master Plan outlines the recommended approach to implement site enhancements, including applicable standards, construction approach and risk mitigation measures, establishment and maintenance, integrated pest management, and monitoring. The Plan should be referenced for specific recommendations during the detailed design stage.