Glossary of Actors

Project Inspector: Completes inspections of construction sites.

Community: Public individuals and organizations within the City of Calgary.

Consultant: An expert hired by the City of Calgary to provide professional services (e.g., design or regulatory applications).

Contractor: An individual or organization hired by the City of Calgary to complete construction activities.

Council: City of Calgary elected officials.

Design Team: The people involved in developing the restoration plan.

Engage Unit: Facilitates engagement with the public, following the Engage Policy and Engage Framework.

Environmental Education: City of Calgary Parks department that provides citizen outreach and education.

Environment and Safety Management: City of Calgary department that ensures City-wide compliance with environmental policies, including the ECO Plan Policy.

Finance: City of Calgary business unit that provides budgeting services to other business units.

Integrated Pest Management: Control invasive pest species following the City of Calgary Integrated Pest Management Plan.

Law: City of Calgary business unit that provides legal advice and legal document review for other business units.

Maintenance Staff: Operations personnel that maintain and care for Parks assets.

Operations: City of Calgary Parks department that manage active Parks assets.

PARIS: GIS-based asset management system for City of Calgary Parks.

Parks Community Strategist: Zone-based community contact for citizens regarding Parks-related projects and upcoming initiatives.

Parks Management Team: The group of City of Calgary Parks managers for each of the Parks departments.

Parks Sponsorship Lead: City of Calgary Parks individual responsible for managing relationships with business/industry partners and sponsorship opportunities for Parks initiatives and projects.

Producers/Nurseries: Supply plants and seeds for restoration projects.

Program Manager: Completes program-level tasks (e.g., prioritization of projects).

Program Sponsor: Supervises the overall restoration program.

Project Manager: The person responsible for overseeing the completion of a project.

Project Sponsor: Supervises the Project Manager and is accountable for a project.

Regulators: Internal City of Calgary permit and approval issuers (e.g., Environment and Safety Management and Urban Forestry) and external regulators (e.g., Alberta Environment and Parks Water and Public Lands).

Stakeholders: Individuals and groups that have an interest in an activity/initiative or will be affected by an activity/initiative in some way.

Subject Matter Expert: City of Calgary or external individuals who have expert-level knowledge about a specific subject (e.g., seed mix development, planting schedules, and erosion and sediment control).

Supply Management: City of Calgary business unit that provides procurement services to other business units.

Tangible Capital Assets: Manages the inventory of City of Calgary Parks assets.

Urban Conservation: City of Calgary department that includes Integrated Pest Management, Landscape Analysis, and Planning groups.

Urban Forestry: Manage the City of Calgary’s urban forests. Trees outside of natural areas are within the jurisdiction of Urban Forestry.

Water ESC Inspector: Completes review of ESC Plans and inspects the ESC measures at construction sites. A member of the Water business unit.

Zone Ecologist: Manage natural areas, coordinate integrated pest management activities, and review documents (e.g., biophysical impact assessments and restoration plans) in a specific geographic zone.

Zone Superintendent: Oversees parks maintenance and operations in specific geographic zones.
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SECTION 1.0

Habitat Restoration in Calgary
In 2011, under the Integrated Pest Management portfolio, City of Calgary Parks began the Naturalization Initiative with the goals of “naturalizing” low use manicured park sites, reducing long term input cost, and creating self-sustaining landscapes within the parks system.

While contributing to biodiversity, the primary focus of the Naturalization Initiative was to reduce inputs and costs associated with maintenance of manicured spaces. With recent changes in corporate policies and plans, the initiative has been restructured into the Habitat Restoration Program. The Habitat Restoration Program shifts the focus to equal prioritization of biodiversity improvements, ecosystem services, and financial efficiency.

This document is a manual for that Habitat Restoration Program, which provides the process, responsibilities, and tools necessary to complete restoration project identification, prioritization, planning, implementation, monitoring, and maintenance. This document is intended for internal purposes only.

### 1.1 Strategic Policy Alignment

In 2015, Council approved Our BiodiverCity: Calgary’s 10-year Biodiversity Strategic Plan. As outlined in the Plan, a healthy environment, rich in biodiversity is essential to our personal wellbeing and the health of our City. The Biodiversity Strategic Plan identifies the target of restoring 20% of Calgary’s open space by 2025. Since approval of the plan, the Parks Habitat Restoration Program has been under development, and the number and type of habitat restoration projects have been increasing steadily across The City. To meet this ambitious, city-wide target, City of Calgary Parks Urban Conservation will need to significantly ramp up activities and the number of projects it completes.

This project aligns with numerous municipal plans, policies and projects. Most notably, it is a key piece to realizing the Municipal Development Plan’s (mdp) goal of “Greening The City” and specific mdp objectives related to maintaining, protecting and restoring biodiversity, integrating ecological networks and encouraging sustainable landscape design practices.

Development of the Program also directly aligns with the imagineParks: A Long-Term Vision of Calgary’s Public Parks and Open Spaces; specifically goal 1.3: stewardship and ecological literacy and goal 2.1: natural environment conservation. Further alignment exists with One Calgary: 2019-2022 Service Plans and Budget; specifically, the Parks and Open Space service line priorities to: “Evaluate, protect and manage Calgary’s ecological corridors to support biodiversity and environmental resilience” and “use a balanced approach to managing prohibited weeds, mosquitos and other threats to our environment and quality of life.”

### 1.2 Goals and Objectives

The primary goals of the Habitat Restoration Program are to (1) improve biodiversity, (2) improve ecosystem services, and (3) improve financial efficiencies. Program objectives support each goal. The goals and respective objectives for each are provided in Table 1 on the following page.
Environmental | Social | Economic
--- | --- | ---
Goals | Improve biodiversity | Increase ecosystem services | Improve financial efficiencies

**Objectives**
- Increase native species diversity
  - Increase landscape habitat diversity
  - Create habitat for target species / communities
  - Reduce non-native species cover
- Improve landscape connectivity
  - Integrate and connect ecological networks throughout The City
- Maintain and improve ecosystem health
  - Reduce soil compaction
  - Reduce fertilizer and sediment loading into watercourses
  - Increase ecological resilience using species adaptable to ecological change (e.g., climate change, flooding)
- Decrease disturbance factors
  - Improve Habitat Condition Ratings
- Reduce carbon footprint
  - Decrease emissions from traditional maintenance (e.g., mowing, watering, driving)
- Provide equitable access to nature
  - Close proximity to parks; natural spaces
- Provide diversity of natural experience
  - Educational opportunities
  - Experiential (e.g., nature viewing, volunteer stewardship projects)
- Improve health benefits
  - (physical, mental, spiritual)
  - e.g., Reduce noise / wind / sun exposure
  - Aesthetics
- Increase ecological literacy
- Increase public participation
- Reduce capital costs
  - Gain efficiencies through collaboration amongst City of Calgary Parks projects and other Business Units
  - High quality project management
- Reduce operating costs
  - Reduce long-term maintenance costs / effort
  - Reduce time and materials
  - Reduce potable water use for irrigation
  - Reduce energy consumption
  - Reduce water treatment costs

**1.3 Guiding Principles**

The guiding principles of the *Habitat Restoration Program* provide direction for projects as they are completed. These principles should be incorporated into decisions that are made for projects within the Program.

1. Collaborate across City of Calgary Parks departments when planning, implementing, monitoring, and maintaining restoration projects.

2. Foster enhanced integration of natural landscapes into developed urban areas.

3. Ecological processes, structure, and function shall be an integral part of all habitat restoration project planning, design, and implementation.

4. Use the most pragmatic approach to achieve goals and objectives.

5. Incorporate sustainable design principles and current habitat restoration best practices into all projects.¹

6. Implement alternative land management practices, where appropriate (e.g., grazing, fire).

7. Use life-cycle thinking in all aspects of project design.

8. Promote the creation of green infrastructure vs. traditional urban infrastructure.²

---

¹ e.g., Low impact development (l.i.d) designs, best practices and current literature from the Society of Ecological Restoration.

² e.g., Promoting the design and construction of bio-retention ponds to treat storm water naturally vs. building a water treatment plant.
1.4 How to Use This Manual

The Habitat Restoration Program Manual is a resource that provides internal guidance for City of Calgary Parks restoration projects. The manual provides internal guidance primarily for City of Calgary Parks capital and operations-led restoration projects that have the goal of creating natural habitat. The Habitat Restoration Project Framework addresses restoration required for approved projects and unauthorized encroachments in natural areas.

1.4.1 Target Audience

The manual is written for internal use by City of Calgary Parks staff, particularly for the responsible actors (e.g., Project Managers, Maintenance Staff, Zone Ecologists, etc.) that are identified for the various steps within the Habitat Restoration Program process.

The steps are written with the assumption that consultants and contractors will be procured for some of the planning and implementation of projects, but Project Managers can choose to use City resources for both project planning and implementation. For projects that are being planned and implemented wholly by The City, the procurement steps can be ignored and responsibility for applicable steps shifts from the Consultant and Contractor to City staff.

1.4.2 Types of Projects

The manual is for both City of Calgary Parks Urban Conservation capital projects and projects led by City of Calgary Parks Operations. While the manual is written to meet the requirements for capital Projects, non-capital Projects can be completed by selecting and using only those steps which apply to the Project type and size.

Manual Organization

The manual presents the restoration process in four stages:
- **Stage 1:** Identification and Prioritization
- **Stage 2:** Planning (Design)
- **Stage 3:** Implementation (Construction)
- **Stage 4:** Maintenance and Monitoring

Each stage is broken into steps for completing the stage. Within each step, the following information is presented:
- Step objective
- Key tasks
- Key considerations
- Responsibilities (RACI)
- Deliverables
- Reference Document(s)

While steps are presented sequentially, there are many steps that will occur concurrently.
SECTION 2.0

The Habitat Restoration Process
2.1 Process Components

The stages of the process address program-level activities and project-level activities, with Stages 1 and 4 containing program-level steps and Stages 2 and 3 containing entirely project-level steps. Depending on an individual’s role within City of Calgary Parks, they may be involved in only program-level steps, only project-level steps, or both.

The steps are modular in nature and can be taken individually or in sequence, as needed, for restoration process guidance. Depending on which step in the restoration process an individual is interested in, they can look at the guidance for that step and review what is necessary to complete that part of the process.

Steps are organized as checklists so that the responsible actor(s) for each step can easily check that necessary tasks and deliverables within that step are completed. For tasks where another actor must be contacted or a document sent to a specific place, contact information (e.g., email address) is provided. Templates and forms that are applicable to the tasks are provided in appendices. Reference documents for completing a task are also provided within each step.

The RACI chart within each step identifies who the responsible actor is [R], who is ultimately accountable [A], who must be consulted at points in the step [C], and who must be informed [I].

The responsible actors are the “do-ers” – they complete tasks and deliverables and ensure others are consulted and informed, as needed. The actors are people associated with the Project and have a role that must be fulfilled.

There can be multiple responsible actors for each step. The accountable actor is usually the responsible actor’s supervisor or the owner of a site/resource. There is only one accountable actor for each step. Those who need to be consulted consist of experts who can provide useful input for tasks and stakeholders affected by projects or programs. Consultation consists of two-way communication between different actors, while informing actors consists of one-way communication to those who are being informed.

As you move through the guide

For each step, symbols will be used to notify the reader when a key action is required. These actions include community engagement and communication, photomonitoring, interaction with the Restoration App, and Stage Gate requirements. Details for these activities will be presented within the key task, key considerations, and RACI for the corresponding step.

Acronyms

- **BIA**: Biophysical Impact Assessment
- **CCC**: Construction Completion Certificate
- **CPMF**: Calgary Project Management Framework
- **ECO**: Environmental Construction Operation Plan
- **ESC**: Erosion and Sediment Control
- **ESM**: Environmental and Safety Management
- **FAC**: Final Acceptance Certificate
- **GIS**: Geographic Information System
- **MDP**: Municipal Development Plan
- **NGO**: Non-Government Organization
- **PARIS**: Parks Asset Repository and Information System
- **RACI**: Responsible, Accountable, Consulted, Informed
- **RFP**: Request for Proposal
- **RFQ**: Request for Qualifications
- **RFSO**: Request for Standing Offer
- **SIR**: Supplementary Information Request
- **TBL**: Triple Bottom Line
- **TCA**: Tangible Capital Assets
- **WCB**: Workers Compensation Board
2.2 Process Stages

Stage 1 – Identification and Prioritization  pg 9

**Stage 1** includes five steps involving the identification and prioritization of potential restoration sites. The steps in **Stage 1** are wholly completed by City staff. In order to identify sites for Survey123 submission, City of Calgary staff should consider the Habitat Condition Rating, connectivity, and Parks Specific Management Plans. Community interest and support for restoration should also be considered prior to submitting to Survey123.

Stage 2 – Planning (Design)  pg 15

**Stage 2** includes six steps involving Project planning and design. The components of **Stage 2** can be completed internally by City staff or specific steps can be delegated to a Consultant. If the Project is completed internally, procurement steps (Steps 2.2 and 2.6) can be ignored and the responsible party for all steps defaults to City staff.

Stage 3 – Implementation (Construction)  pg 26

**Stage 3** includes ten steps that address the implementation of the Project. Construction follows the final restoration design from **Stage 2** and is usually completed by a Contractor, that is procured during Step 2.6, or an internal Operations or Integrated Pest Management crew. There are also options for involving the Community in construction; these options are outlined in the **Community Involvement Guide**.

Stage 4 – Monitoring and Maintenance  pg 39

**Stage 4** consists of four steps that are divided into project-level and program-level monitoring and maintenance. **Steps 1 to 3** address project-level monitoring and maintenance, while **step 4** addresses program-level monitoring. There are also options for involving the Community in monitoring and maintenance; these options are outlined in the **Community Involvement Guide**.
Stage 1: Identification and Prioritization

1.1 Site Identification
   - Survey 123

1.3 Sequence Ranked Sites and Determine Project List
   - Project List Report
   - CIG 3.2.2(i)

1.5 Identify Funding Sources

State 2 Planning (Design)

1.2 Complete Desktop Evaluation of Site
   - Site Evaluation Form
   - Citywide Spatial Data

1.4 Assign Project Budget and Managers
   - Project Summary
   - Project Charter

Start Habitat Restoration Process
Objective
Identify potential sites for restoration and gather preliminary site information to be used for prioritization and planning.

Key Tasks
• Site identification is documented using a Survey 123 form.
  » The form is available through the Survey 123 iOS or Android apps using a City of Calgary ArcGIS Online login. A PDF version is included in Appendix A for reference.
  » Any City staff trained by Urban Conservation can complete the form.
  » The Community and proponents external to City of Calgary Parks can bring forward projects to the Parks Community Strategist and the Zone Ecologist.

• The actor that identifies the site enters the proposed project boundary and site information into the Restoration App.

• The actor that identifies the site informs their supervisor that they have put forward a site for habitat restoration.

Key Considerations
• To use the Survey 123 form, a user must have an ArcGIS Online account and have gone through the training provided by Urban Conservation.

• There are manuals available for using both Survey 123 and the Restoration App (see Reference Documents adjacent).

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Complete Desktop Evaluation of Site

Objective
Evaluate and assign a score for each potential site based on an analysis of site features.

Key Tasks
• The Program Manager completes the Site Evaluation Form for each site (see Appendix B for the form) in order to produce a site evaluation score.
• The Program Manager updates the Restoration App with the site evaluation score.

Key Considerations
• The Site Evaluation Form assesses the following triple bottom line (tBL) criteria:
  » Existing site conditions;
  » Location;
  » Connectivity;
  » Threats;
  » Benefits;
  » Site maintenance cost savings;
  » Risks;
  » Ecosystem services; and
  » Existing use.

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Sequence Ranked Sites and Determine Project List

**Objective**

Prioritize which sites will be restored during the subsequent restoration funding/yearly cycle.

**Key Tasks**

- The Program Manager and Program Sponsor complete a non-spatial sequencing analysis of the top scored sites from *Step 1.2 Site Evaluation*.

- The sequencing exercise results in a *Project List Report* that the Program Manager develops.
  
  » The *Project List Report* identifies which sites are being prioritized for restoration, provides the Site Evaluation Score, and lists the non-spatial sequencing criteria applied to the decision-making process.

**Key Considerations**

- The sequencing analysis can be influenced by:
  
  » Funding sources;
  » Existing land-use;
  » Logistical opportunities;
  » Collaboration/volunteer opportunities;
  » Political environment; and
  » Unforeseen events since earlier planning (e.g., flood, fire, beavers, etc.).

- Multiple sites can be bundled to create one Project. Bundling sites may benefit completion efficiency (e.g., multiple sites along Memorial Drive could be bundled into a Memorial Drive Project).

- Council is likely only to need consultation on large and/or complex projects.

- For larger projects, the Parks Management Team may be consulted.

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<td>Subject Matter Experts; Community; Council; Zone Ecologists</td>
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Assign Project Managers and Budgets

Objective
Assign Project Managers to projects and determine budget estimates.

Key Tasks
- The Program Sponsor, in consultation with the Program Manager, assigns projects to Project Managers.
  - Projects are the collection of ranked sites, as determined in Step 1.3.
- The Program Sponsor, in consultation with the Program Manager, Project Managers, and Zone Ecologists, determine budget estimates for each project.
- The Program Sponsor emails Project Managers with a list of their assigned Projects and where Project information is located.
- Once the Project Managers have been identified, the Program Manager, Program Sponsor, and Project Managers work together to develop a Project Charter.
  - The Program Charter can be completed yearly to encompass numerous Projects, instead of creating a Project Charter for each individual Project.
  - Larger Projects can still have their own independent Project Charters.

Key Considerations
- The following consideration should be made when assigning projects to Project Managers:
  - Existing and future workload;
  - Habitat expertise; and
  - Location of Projects being assigned.

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Identify Funding Sources

Objective

Identify funding sources and allocate budget to the Projects prioritized during Step 1.3.

Key Tasks

- The Program Manager and Program Sponsor, in consultation with Operations and Project Managers, estimate budget requirements for Projects.
- The Program Manager and Program Sponsor determine, in consultation with the Parks Sponsorship Lead, whether external funding sources can be obtained.
- The Program Manager and Program Sponsor determine what internal funding sources are required to complete the project(s).
- The Program Sponsor documents and tracks funding commitments.

Key Considerations

- The identification of funding sources can occur at any point during Stage 1.
- Examples of external funding sources include:
  » Provincial programs;
  » Federal programs;
  » Sponsorships; and
  » Non-Government Organization (NGO) partnerships.
- Internal funding can come from Operations or through capital funding.
- Operations funded projects may still apply for capital funding to supplement or enhance the project.
- Identified funding can come from multiple sources, including internal City and external sources.
- City funding is normally requested or assigned for the restoration program on an annual basis.

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Deliverable(s)

- Preliminary Annual Program Budget

Reference Document(s)

- Not Applicable
Site Assessment and Conceptual Plan

Objective

Complete a Conceptual Plan that provides the framework for developing a detailed design and the basis for a scope of work, if using a Consultant for the detailed design.

Key Tasks

- The Project Manager develops the Conceptual Plan that includes the following sections:
  - **Mission Statement**: Describe the overall goal of the project and why it is taking place.
  - **Ecological Overview**: Provide general biophysical site information that will influence restoration design:
    - Soils;
    - Vegetation community;
    - Invasive species;
    - Water quality/quantity;
    - Slope;
    - Aspect; and
    - Exposure.
  - **Feasibility Assessment**: Identify the non-biophysical strengths, weaknesses, opportunities, threats, and constraints for the project. Some examples include:
    - Legal and regulatory requirements;
    - Risks;
    - Land/park-use;
    - Public perception;
    - Utilities; and
    - Unknowns/assumptions.
  - **Reference Habitat Description**: Identify the target habitat, based on City asset nomenclature; describe the general target habitat composition, including wildlife use and plant species.
  - **Restoration Hypothesis**: Describe the general outcome of restoring the site.
  - **Implementation Planning**: Estimate the Project timeline; describe potential key interventions/prescriptions; and develop a cost estimate.
  - **Regulatory Checklist**: Identify which regulatory requirements may be triggered by the Project (using the Regulatory Checklist in Appendix C).

- If the Project was not included in the Program-level Project/Program Charter, the Project Manager completes a Project Charter.

- The Project Manager updates the Restoration App with Project information and a Project status update.

Deliverable(s)

- Conceptual Restoration Plan
- Completed Regulatory Checklist

Reference Document(s)

- City of Calgary Habitat Restoration Project Framework
- City of Calgary Estimation, Contingency, and Schedule Guidance
- City of Calgary Estimation Checklist
- Restoration App User Training Manual

Engagement & Communications

- See page 45, Section 3.2.2(ii) of Community Involvement Guide for more information on engagement & communications activities.
**Key Considerations**

- The *Conceptual Plan* provides the basis for detailed design. Site characteristics and constraints that will influence detailed design need to be identified during this step.

- The Project Manager should visit the site and complete a preliminary site assessment so that the conceptual design is not solely based on desktop information.

- The larger the Project, the more internal review time is needed to get the tender out to market; this can add significant time to the overall project schedule (e.g., 6 months to a year). The Project Manager should factor the timeline considerations into the project schedule.

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Objective

Procure consultant(s) to complete detailed restoration design and/or complete regulatory requirements.

Key Tasks

- The Project Manager completes a *Calgary Project Management Framework (cpmg)* Scope Statement.

- The Project Manager, in consultation with Finance and the Project Sponsor, determines budget coding and obtains a Reference Id for work.

- The Project Manager notifies the Supply Management department of their intention to procure a Consultant using a *PS-12 Procurement Strategy Request Form* sent to supplynewrequest@calgary.ca.

- In consultation with Supply, the Project Manager will prepare the procurement package (e.g., request for qualifications [rfq] and request for proposal [rfp]).

- Supply will help the Project Manager determine the best procurement route.
  
  » Within the procurement documents, the Project Manager will:
    
    ◊ Decide on procurement method;
    ◊ Write background, scope of work, project objectives, project team and stakeholders, deliverables, timelines and estimated budget;
    ◊ Determine the evaluation criteria and evaluation criteria weighting; and
    ◊ Identify additional information that is relevant to the scope of work and should be included as an appendix (e.g., templates).

- The Project Manager circulates the procurement package to Law, if applicable.

- If a Consultant is selected, the Project Manager requests the following forms to be completed by the Consultant:

  ◊ *Conditions of Contract*;
  ◊ *Due Diligence Form*; and
  ◊ *Required procurement package documents* (e.g., insurance, business license, etc.)

- The Project Manager submits a *Requisition in PeopleSoft* form to Finance and a requisition number to the Buyer so that a Purchase Order can be issued.

- Once the Purchase Order is issued, the Project Manager issues an *X705-Notice to Proceed form* to the Consultant(s).

Deliverable(s)

- Procurement Strategy Request Form PS-12
- *Calgary Project Management Framework Scope Statement*
- *Procurement Package*
- *Issued Purchase Order*

Reference Document(s)

- *City of Calgary Project Management Practices*
- *City of Calgary Contracting Strategies Guidance*
Key Considerations

- Check whether there are standing offers held by The City that fit the requirements of the Project.
- It may be desirable to package several small and medium sized projects into one procurement package for efficiency and cost savings.
- It may be desirable to split regulatory and design tasks between multiple consultants when using a request for standing offer (RFSo) in order to assign design tasks that cater to a consultant’s strength.
- Consider including professional designation requirements in the procurement package (e.g., Professional Biologist and Certified Ecological Restoration Practitioner).
- It may be desirable to package several small and medium sized projects into one procurement package for efficiency and cost savings.
- Circulating the procurement package to Law can add significantly to the Project schedule.
- Work cannot begin until a Purchase Order is issued.
- If an unexpected change in scope occurs during implementation of the project, there are several forms to be used, depending on the nature of the change.
  - X701 – change order – cash allowance or contingency allowance
  - X702 – change order – purchase order adjustment
  - X703 – change directive
  - X704 – change orders supplemental detail sheet
- The Project Manager must factor in the number of reviews for the deliverables into the scope of work.

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Regulatory Applications

Objective
Obtain municipal, provincial, and/or federal regulatory approvals, as required, for the Project.

Key Tasks

• Using the Regulatory Checklist from Step 2.1 as guidance, the Consultant creates the required reports and applications to satisfy Project regulatory requirements.

• The Consultant submits the deliverables to the Project Manager for review prior to submitting to the regulators.

• The Project Manager shares reports and applications with Subject Matter Experts (e.g., Water, Historical Resources, Law), as needed.

• Following the Project Manager review, the Consultant submits the completed applications to regulators (other than for City of Calgary Biophysical Impact Assessments [bia] and Environmental Construction Operation [eco] Plans).

• The Project Manager submits bia and eco Plans to appropriate City staff.

• The Consultant responds to all comments and supplementary information requests (sir) from the regulators (responses by Consultants are reviewed by the Project Manager).

Key Considerations

• Completing the bia early in the process allows for the identification and direction of regulatory requirements, preserves timelines as well as the ability to modify the Project, as needed.

• The Regulatory Checklist is a preliminary tool for identifying regulatory requirements. It is the responsibility of the Consultant to use their professional judgment and experience to identify all regulatory requirements for the Project.

• Draft Restoration Plans may be required for inclusion within regulatory submissions, so Step 2.3 may occur concurrently with Step 2.4.

• Results of the bia should inform design through the identification of site sensitivities, constraints, regulatory requirements, and mitigation measures.

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Deliverable(s)

• Technical Reports
• Regulatory Applications to all relevant levels of government
• sir Responses
• Regulatory Approvals

Reference Document(s)

• Conceptual Plan
• Regulatory Checklist
• City of Calgary Biophysical Impact Assessment Framework
Draft Restoration Plan

Objective
Complete a draft Restoration Plan that details the strategy for implementing the restoration design. The draft is reviewed by stakeholders to ensure it aligns with restoration best management practices, maintenance capabilities, community planning, and land-use planning.

Key Tasks
• The Consultant completes the Restoration Plan. The Restoration Plan consists of the following drawings (specific drawing requirements are provided in Appendix C):
  » Location;
  » Restoration Planning;
  » Integrated Pest Management;
  » Site Preparation;
  » Planting;
  » Seeding;
  » Implementation;
  » Construction Maintenance; and
  » Operational Monitoring and Maintenance.

• Depending on the complexity of the Project and contract requirements, the Consultant completes a Restoration Plan Report.
  » The Restoration Plan Report is separate from the drawings.
  » The Restoration Plan Report contains more detailed background information about the site, a detailed monitoring plan, and other information that requires more detailed explanation that can be included on a drawing. It may accompany the drawing set, but the drawing package should be a standalone document; containing all the information the contractor or crew needs to implement the project.

• The Consultant contacts nurseries and plant producers to ensure species chosen for restoration will be available. Other materials sources should also be contacted to ensure product availability (e.g. esd materials).

• The Consultant submits the draft Restoration Plan to the Project Manager for an initial review.

• Once the Consultant has addressed comments from the initial review, the Consultant submits the draft Restoration Plan to the Project Manager for secondary review.

Deliverable(s)
• A series of draft Restoration Plans

Reference Document(s)
• City of Calgary Seed Mix Guidelines
• City of Calgary Soil Handling Recommendations
• City of Calgary Plant List Guidelines
• City of Calgary Development Guidelines and Standard Specifications: Landscape Construction

Engagement & Communications
• See page 45, Section 3.2.2(ii) of Community Involvement Guide for more information on engagement & communications activities.
Key Tasks, continued

- During the secondary review, the Project Manager shares the *draft Restoration Plan* with Project stakeholders (e.g., Project Sponsor, Project Inspector, Zone Ecologist, Zone Superintendent, and relevant Subject Matter Experts) for their review.

  » Stakeholder includes internal and external people or entities whose feedback may be beneficial to the Project.

- The Project Manager provides feedback from the secondary review to the Consultant.

- The Consultant addresses feedback from the secondary review and finalizes the Restoration Plan (**Step 2.6**).

- The Consultant provides a construction and maintenance cost estimate.

- The Consultant provides quantities (e.g., seed amount, tree numbers, topsoil volume, etc.) for the tender.

Key Considerations

- The *Restoration Plan* consists of a series of drawings that provide all the information necessary to complete restoration implementation.

- Set a deadline for comments when sharing the *draft Restoration Plan*.

- All major changes should be addressed during **Step 2.5**. Major changes should not be required when finalizing the *Restoration Plan* in **Step 2.6**.

- Additional reviews may be required, if deemed necessary by the Project Manager. The Project Manager must notify the Consultant if the number of required reviews exceeds what is outlined in the contract.

- Depending on the complexity of the Project, a report that provides detailed background information, design considerations, and monitoring requirements may be submitted separately from the drawing package. The drawing package should contain all information that a Contractor or crew requires for implementing a Project.

- Within the monitoring section of the *Restoration Plan*, details around photomonitoring locations, frequency, and general requirements must be provided.

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<td>Project Sponsor</td>
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Finalized Restoration Plan

**Objective**

Complete final review to “tidy up” and finalize the *Restoration Plan*.

**Key Tasks**

- The Consultant addresses feedback from the secondary review in *Step 2.5*.
- The Consultant submits the *Restoration Plan* to the Project Manager for a final review.
- During the final review, the Project Manager shares the *draft Restoration Plan* with the Project Sponsor, Zone Ecologist, and Zone Superintendent for their review.
- The Project Manager provides the feedback from the final review to the Consultant.
- The Consultant addresses the feedback from the final review and finalizes the *Restoration Plan*.
- The Project Manager sends the finalized *Restoration Plan* to the Regulatory Consultant, if applicable, to update regulatory applications and plans (e.g., eco Plan, and BIA).

**Key Considerations**

- The *Restoration Plan* consists of a series of drawings that provides all the information necessary to complete restoration implementation.
  - The *Restoration Plan* will also identify guides and standards (e.g., Seed Mixes guidelines and Soil Handling Recommendations) that must be followed during construction.
- The final review should not include any major changes to the *Restoration Plan*.

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<td>Project Sponsor; Zone Ecologist; Zone Superintendent; Project Inspector; Parks Community Strategist; Regulatory Consultant</td>
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Objective

Obtain a Contractor to implement the Restoration Plan.

Key Tasks

- The Project Manager completes a *Scope Statement*.
- The Project Manager, in consultation with Finance, determines budget coding and obtains a Reference id for work.
- The Project Manager notifies the Supply Management department of their intention to procure a Contractor using a PS-12 Procurement Strategy Request Form sent to supplynewrequest@calgary.ca.
- The Project Manager, in consultation with the Project Inspector, will prepare the procurement package (e.g., RFQ and RFP). Within the procurement documents, the Project Manager will:
  - Decide on procurement method;
  - Write background, scope of work, project objectives, project team and stakeholders, deliverables, timelines and estimated budget;
  - Determine the evaluation criteria and evaluation criteria weighting; and
  - Identify additional information that is relevant to the scope of work and should be included as an appendix (e.g., templates).
- The Project Manager circulates the procurement package to Law, if applicable.
- The Project Manager re-assesses the Project schedule and informs project Stakeholders about any changes to Project timelines compared to the schedule developed in Step 2.1.

Key Considerations

- The design Consultant, if applicable, may prepare many aspects of the procurement package.
- Check whether there are standing offers held by The City that fit the requirements of the Project.
- It may be desirable to package several small and medium sized projects into one procurement package for efficiency and cost savings.
- The estimated total contract value largely determines the procurement method.
- It may be useful to include a template maintenance log that the Contractor can use, as part of the procurement package. This helps increase understanding of expectations and ensures key aspects of the project are maintained and inspected regularly.
- Circulating the procurement package to Law can add significant time to the Project schedule.

Deliverable(s)

- Procurement Package

Reference Document(s)

- City of Calgary Guidelines for the Preparation of Tender Documents for Construction Projects
- City of Calgary Project Management Practices
- City of Calgary Contracting Strategies Guidance
- Similar projects can be used as project examples
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Project Award

Objective
Award the Project to a Contractor.

Key Tasks

• Once a Contractor is selected, the Project Manager requests the following forms to be completed by the Contractor:
  » Contractor Environmental Responsibility Package form;
  » Conditions of Contract;
  » Due Diligence Form; and
  » Required procurement package documents (e.g., workers compensation board [wcb], insurance, and business license).

• The Project Manager submits a Requisition in PeopleSoft form to Finance and a requisition number to the Buyer so that a Purchase Order can be issued.

• Once the Purchase Order is issued, the Project Manager sends the following forms to the Contractor:
  » X705-Notice to Proceed; and
  » X711-Notice of Acknowledgement of Prime Contractor Status.

• The Project Manager requests an X712-Project Emergency Contacts form from the Contractor.

• The Project Manager issues the Notice to Proceed form to the Contractor.

Key Considerations

• Work cannot begin until a Purchase Order is issued.

• If unexpected changes in scope occur during implementation of the project, there are several forms to be used, depending on the nature of the change.
  » X701 – change order – cash allowance or contingency allowance
  » X702 – change order – purchase order adjustment
  » X703 – change directive
  » X704 – change orders supplemental detail sheet

• Once this Step is complete, the Contractor will assume the role of Prime for the site.

RACI

| Responsible | Project Manager |
| Accountable | Project Sponsor |
| Consulted   | Supply Management; Finance |
| Informed    | Contractor |

Deliverable(s)

• Project Award Forms

Reference Document(s)

• City of Calgary Guidelines for the Preparation of Tender Documents for Construction Projects
• City of Calgary Project Management Practices
• City of Calgary Contracting Strategies Guidance
Kickoff Meeting

Objective
Kickoff meetings are fundamental for ensuring project alignment across the Project Team. They make sure the Project Team is on the same page with regards to how the Project will be completed.

Key Tasks
• The Project Manager may invite the following people to a kickoff meeting:
  » Project Sponsor;
  » Contractor;
  » Project Inspector;
  » Water Erosion and Sediment Control (esc) Inspector (if applicable);
  » Urban Forestry (if applicable);
  » Environment and Safety Management;
  » Zone Ecologist; and
  » Others, if necessary (e.g., regulators and stakeholders).

• The Project Manager leads the kickoff meeting and ensures the following items are addressed:
  » Introduce the team;
  » Establish project tone and expectations;
  » Discuss the Restoration Plan and design implementation;
  » Establish lines of communication;
  » Reinforce the schedule;
  » Addresses contract housekeeping (e.g. invoicing, scope changes, etc.);
  » Discuss site sensitivities; and
  » Address questions.

Key Considerations
• A kick-off meeting agenda template is provided in Appendix F.

• Have the kick-off meeting ideally within one week of Project start.

• Weather allowing, have the kickoff meeting on-site.

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Deliverable(s)
• Meeting Minutes and Sign-in Sheet
• Photos from Site Walkthrough

Reference Document(s)
• Contract
• Procurement Package
• Restoration Plan
Pre-Construction

Objective
Prepare for completing the Project successfully and without negative impacts on the environment or public.

Key Tasks
- The Contractor completes an \(\text{eco}\) Plan following the most recent \(\text{eco}\) Plan Framework and City of Calgary best management practices.
  - All City capital projects require an \(\text{eco}\) Plan.
- The Contractor may be required to complete a Tree Protection Plan and \(\text{esc}\) Plan.
- Prior to the start of construction:
  - Environment and Safety Management must determine that the \(\text{eco}\) Plan meets submittal requirements;
  - Water \(\text{esc}\) Inspector must approve the \(\text{esc}\) Plan; and
  - Urban Forestry must approve the Tree Protection Plan.
- The Contractor completes pre-disturbance surveys of the site (e.g., breeding bird surveys) prior to mobilizing to site.
- The Project Manager completes photo-monitoring of the site, as described in the Restoration Plan.
- The Contractor implements pre-construction mitigation measures, as detailed in the \(\text{eco}\) Plan and regulatory approvals (e.g., \(\text{esc}\) measures and delineation of sensitive/no-go areas).

Key Considerations
- The \(\text{eco}\) Plan may be completed prior to the kick-off meeting.
- A draft \(\text{eco}\) Plan may be completed during design, but a finalized \(\text{eco}\) Plan is required for construction.
- \(\text{eco}\) Plans, \(\text{esc}\) Plans, and Tree Protection Plans are living documents and should be updated as site conditions change or the Project evolves.
- The \(\text{eco}\) Plan acts as repository for regulatory requirements, \(\text{esc}\) Plans, and \(\text{tpp}\)s. While triggers for these documents are external to \(\text{eco}\) Plan requirements, they are included within the \(\text{eco}\) Plan for ease of management and reference.

Deliverable(s)
- \(\text{eco}\) Plan
- Tree Protection Plan
- Erosion and Sediment Control Plan
- Photomonitoring Log

Reference Document(s)
- City of Calgary \(\text{eco}\) Plan Framework
- City of Calgary Tree Protection Plan: A Step-by-Step Guide
- City of Calgary Erosion and Sediment Control Guidelines
- City of Calgary Contractor Environmental Responsibilities Package
Key Considerations, continued

• Below is a step-by-step guide for developing an eco Plan:

  » A draft eco Plan may or may not have been produced during the design stage.
  » If a draft was created during design, have the design team work with contractor to finalize the eco Plan.
  » If a draft was not created during design, the Contractor must produce an eco Plan or hire a consultant to prepare one.
  » An Erosion and Sediment Control Plan and a Tree Protection Plan may be required as part of the eco Plan.
  » It is the responsibility of the Contractor to submit these two documents to the Water ESC Inspector and Urban Forestry, respectively.
  » The Contractor will submit the finalized eco Plan to the Project Manager, who will submit it to Environment and Safety Management (ESM) for review using the ecoplan@calgary.ca email address.
  » ESM has two weeks to review the eco Plan.
  » ESM will determine whether the eco Plan meets submittal requirements, does not meet submittal requirements, or meets minimal submittal requirements but needs updates/clarification.

• Updates to the eco Plan are recirculated to the Project team and associated approval group within one week of the changes occurring.

• For projects smaller than 0.4ha, the Project Manager may request a letter for ‘good housekeeping’ from the Water ESC Inspector.

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Construction

Objective
During construction, restoration design is implemented by the Contractor following the *Restoration Plan and Drawings*.

Key Tasks
- The Contractor implements the design from the *Restoration Plan and Drawings*.
- The Contractor completes progress reporting following the reporting schedule detailed in the Project contract.
- The Contractor leads a monthly project meeting while the site is active.
- The Project Manager and Project Inspector complete site inspections to ensure the Contractor follows the materials, timing, and quality prescriptions from the restoration design.

Key Considerations
- The Contractor may consult with the Project Manager over the course of the project to seek clarification or to address issues with the implementation of the design.
- The Project contract will contain information for Project implementation, safety, and environmental management that the Contractor must follow.
- The specifications in the *Restoration Plan* and contract will be followed and items not addressed will default to the *Development Guidelines and Standard Specifications: Landscape Design* guidelines for construction methods.
- All municipal, provincial, and federal approvals and regulations must be followed during construction.
- Unless otherwise specified in the contract, the Contractor is responsible for site fencing, signage, pathway and lane closures, and obtaining the necessary permits to complete the work.
- The Contractor requires Project Manager approval for any product or plant material substitutions.

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Deliverable(s)
- Progress Reports

Reference Document(s)
- City of Calgary Development Guidelines and Standard Specifications: Landscape Construction
- Restoration Plan and Drawings
- Contract
- Procurement Package
- Municipal, Provincial, and Federal Approvals (if applicable)
- City of Calgary Standard General Conditions

Engagement & Communications
- See page 49, Section 3.2.2(iii) of *Community Involvement Guide* for more information on engagement & communications activities.
Construction Inspections

Objective

Construction inspections occur over the course of project construction. Construction inspections are important for addressing any deficiencies before project completion and maintaining project schedule.

Key Tasks

- The Project Manager and Project Inspector complete site inspections at the following four critical construction (pre-Construction Completion Certificate [ccc]) stages:
  » Site layout and signage,
  » Grading and topsoil,
  » Seeding and planting, and
  » Substantial completion.
  » Additional inspections may be required for larger or more complex projects.
- When completing inspections, the Project Manager uses the Construction Inspection Checklist to inform the Contractor of any deficiencies within seven days of completing the inspection.
  » The Project Manager may also inform the Contractor of deficiencies while on-site.
- The Project Manager completes photo-monitoring during each inspection.

Key Considerations

- Urban Forestry, the Water Inspector, the Plan Inspector, and provincial and federal regulators may also perform construction inspections.
- Contractors should have their own inspection schedule, with some inspections being required every seven days (e.g., esc inspections). The Contractor’s inspection reports should be kept on site and available to the Project Manager upon request.
- The Contractor must provide the Project Manager with sufficient advance notice that the work is ready for inspection and The City must schedule the inspection within a reasonable time period.

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Deliverable(s)
- Construction Inspection Checklist
- Site Inspection Photos
- Standard General Conditions (current version)
- Photomonitoring Logs

Reference Document(s)
- City of Calgary Development Guidelines and Standard Specifications: Landscape Construction (Section 2.6 - Inspections)
- Construction Inspection Checklist
Construction Completion

Objective
Obtain a Construction Completion Certificate for the Project.

Key Tasks

• Once the Project is constructed, the Contractor submits a Certificate of Substantial Performance letter to the Project Manager indicating that the Project is ready for Substantial Completion.

• The Project Manager invites the Project Inspector, Zone Ecologist, and Zone Superintendent to complete a Construction Inspection Checklist.

• If deficiencies are not identified during the inspection, the Project Manager and Project Inspector issue a Substantial Completion Form (x707) to the Contractor.
  » The CCC certifies that performance of all work has been completed in accordance with the contract and any deficiencies have been corrected.

• If deficiencies are identified, the Project Manager and Project Inspector notify the Contractor. The Contractor must address the deficiencies within 30 days (or as otherwise specified) and notify the Project Manager before a follow-up CCC inspection can be completed.

• The Project Manager issues a Substantial Completion Form (x707) once CCC is issued.

• Once CCC is issued, the Project Manager notifies the Parks Asset Repository and Information System (PARIS), using the PARIS.GIS@calgary.ca email, that the Project has changed status (see PARIS notification template in Appendix G).

• The Project Manager updates the Project status within the Restoration App.

Key Considerations

• The CCC inspection must occur during the growing season.

• A performance holdback, which is separate from the standard 10% builder’s lien, can be used to ensure performance measures are met. The performance holdback is an amount held-back until Final Acceptance Certificate (FAC). If the Project Manager wishes to include a performance holdback in the contract, they must clearly detail the performance measures and warranty period requirements within the procurement package (Step 2.6).

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Warranty Period Maintenance

Objective
After CCC, the Contractor is responsible for maintaining the site for a continuous period (as defined in the contract).

Key Tasks
- The Contractor maintains the entire site, including ensuring the success of all seeded areas, planted material, and installed hard features.
- The Contractor completes regular maintenance inspections (usually monthly) and reporting throughout the warranty period, as specified in the contract.
- The Contractor documents site maintenance in Maintenance Logs and submits them to the Project manager on a monthly basis, or as specified in the contract.
- The Contractor is responsible for replacing or repairing defects or failures that arise during the warranty period.
- The Project Manager and Project Inspector, with the Contractor invited, complete inspections during the warranty period (see Step 3.7).

Key Considerations
- The warranty period protects The City against defects or failures in products or systems and gives The City recourse in the event of defects or failures.
- Warranty periods will normally be between two to three years for restoration projects.
- Maintenance requirements are prescribed in the Restoration Plan and Drawing. Depending on the site, this may include: watering, irrigation, pruning, weed control, inspecting/repairing site protection measures (e.g., fencing, wiring), replacing signage, esc controls, litter removal, etc.
- Contractor maintenance reporting is usually completed monthly.
- Warranty or monitoring periods outlined in provincial or federal approvals may stipulate a different monitoring period (up to 5 years) and should be considered when setting warranty periods.

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Deliverable(s)
- Maintenance Logs

Reference Document(s)
- Construction Maintenance Specifications (Construction Maintenance Drawing)
- City of Calgary Development Guidelines and Standard Specifications: Landscape Construction (Section 2.8 – Maintenance Period)
- City of Calgary Standard General Conditions S.G.C. 16.1
- Contract Documents
Warranty Period Inspections

**Objective**

Warranty period inspections are important for addressing any deficiencies in products or systems prior to the site being returned to The City.

**Key Tasks**

- The Project Manager completes warranty inspections with the Project Inspector during the spring and fall of each year.

- The Project Manager uses the Construction Inspection Checklist to inform the Contractor of any deficiencies within seven days of completing the inspection.

- For more complex projects, it may be beneficial to also include monthly maintenance walks on-site with the Contractor in order to identify and address issues quickly, as they arise.

**Key Considerations**

- The Contractor must address deficiencies identified during inspections before FAC can be issued.

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**Deliverable(s)**

- Construction Inspection Checklist

**Reference Document(s)**

- City of Calgary Development Guidelines and Standard Specifications: Landscape Construction (Section 2.6 – Inspections; Section 2.8 – Maintenance Period)
- Construction Inspection Checklist
FAC Inspection

Objective

FAC inspection and certification is completed to facilitate the handoff of the site from the Contractor back to The City.

Key Tasks

- The Contractor must apply for FAC inspection during the warranty period, as stipulated in the contract; this will normally be 23 months after CCC but may vary by project.

- The Project Manager invites the Project Inspector, Zone Ecologist, and Zone Superintendent to complete a FAC inspection and Construction Inspection Checklist.

  » If another business unit is funding the project, the partner business unit contact should be invited as well.

- If deficiencies are not identified during the inspection, the Project Manager and Project Inspector issue a FAC to the Contractor.

- If deficiencies are identified, the Project Manager informs the Contractor through the Construction Inspection Checklist within seven days of the inspection being completed. The Contractor has a one-month rectification period to address deficiencies.

- Once FAC has been issued (using an x709 form), the Contractor has 30 days to provide as-built drawings for the Project.

- An x711 form is used to update the end date of Prime Contractor status and facilitate the handover of the site back to The City.

- The Project Manager notifies PARIS, using the PARIS_GIS@calgary.ca email, that Project status has changed to “Active”. The notification will include as-built drawings. A template for the notification is in Appendix G.

- The Project Manager notifies Tangible Capital Assets (tca) using the Parks_TCA@calgary.ca email, that the Project is complete. A template for the notification is in Appendix H.

- The Project Manager updates the Restoration App with the status of the Project to “Complete.”

Deliverable(s)

- Construction Inspection Checklist
- FAC
- As-built Drawings
- PARIS Notification
- Parks TCA Notification

Reference Document(s)

- Development Guidelines and Standard Specifications: Landscape Construction
- Section 2.9 – Final Acceptance Certificate
- Section 2.10 – CCC and FAC Appeal Process
- Construction Inspection Checklist
- Restoration App User Training Manual
Key Considerations

- If deficiencies are identified during the FAC inspection, the Contractor has one-month to rectify the deficiency or the Contractor will need to re-apply for FAC.

- The rectification period may be adjusted with approval from the Project Manager to accommodate optimal timing windows or material scarcity.

- The Contractor may appeal the FAC decision if they do not agree with The City’s decision, based on the conditions of the ccc and contract documents.

RACI

<table>
<thead>
<tr>
<th>Responsible</th>
<th>Project Manager; Project Inspector</th>
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<tr>
<td>Accountable</td>
<td>Project Sponsor</td>
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<tr>
<td>Consulted</td>
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<td>Contractor; PARIS; Tangible Capital Assets; Restoration App</td>
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Project Handover

Objective
Once FAC has been issued and the site has been returned to The City, the site should be handed over to Operations for monitoring and maintenance.

Key Tasks
• To facilitate Project handover, the Project Manager completes the following tasks:
  » Informs the Zone Ecologist and Zone Superintendent that the Project is complete and FAC has been issued.
  » Modifies the Maintenance and Monitoring Plan, if necessary, to reflect the as-built drawings and any site changes that may have occurred during construction and the warranty period.
  » Provides the Zone Ecologist and Zone Superintendent with the Maintenance and Monitoring Plan (as part of the Restoration Plan and Drawings).
  » Performs a site walkthrough with the Zone Ecologist and the maintenance staff that will maintain the site.

Key Considerations
• It is important that any Operations staff involved in the maintenance and monitoring of the site are present for the walkthrough and are familiar with the Maintenance and Monitoring Plan.

• Once the Project has been handed over to Operations, the Project Manager switches to the role of a Subject Matter Expert. During the first year or two of operating the site, Operations and the Subject Matter Expert should work together to ensure an appropriate maintenance plan puts the site on a successful site trajectory.

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Deliverable(s)
• Not Applicable

Reference Document(s)
• As-Built Drawings
• Maintenance and Monitoring Plan
Monitoring and Maintenance

Stage 4

4.2a Maintenance Not Required

4.2b Assess Maintenance Requirements

4.3 Program Monitoring

4.4 GIS Data Updates

Project Monitoring

Stage 3 Implementation (Construction)
Project Monitoring

Objective

Monitor restoration sites to assess whether the site is on a trajectory that will achieve the restoration objectives.

Key Tasks

- The Zone Ecologist, in consultation with Maintenance Staff, monitors restoration sites.
  - Monitoring frequency and performance metrics to be assessed are prescribed in the Restoration Plan Operational Monitoring and Maintenance drawing.

- A Site Monitoring Form, which can be used for data collection, is provided in Appendix I.
  - The Zone Ecologist compiles monitoring information to complete a Monitoring Report. The Monitoring Report includes information on the following:
    - Weed infestations;
    - Plant health for each vegetation strata (e.g., groundcover, shrub, and tree layers);
    - Drainage and erosion;
    - Specific information for identified deficiencies; and
    - Maintenance recommendations for addressing deficiencies.

- The Zone Ecologist shares the Monitoring Reports with Subject Matter Experts (e.g., Urban Conservation Ecologists), other Zone Ecologists, the Program Manager, and the Program Sponsor.

- The Zone Ecologist updates the Invasive Plant App with weed infestation information.

Key Considerations

- Zone Ecologists are responsible for monitoring the restoration sites within their zone.

- Maintenance Staff may provide site information to the Zone Ecologists for inclusion in the Monitoring Report.

- Restoration related to regulatory requirements (e.g., fish habitat offsetting and wetland replacement) may include monitoring conditions and timelines that must be followed.

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Deliverable(s)

- Monitoring Report

Reference Document(s)

- Restoration Plan (Operational Monitoring and Maintenance Drawing)
Assess Maintenance Requirements

Objective
Determine if maintenance activities are required for a restoration site.

Key Tasks
- Using the results of the Monitoring Report, the Zone Ecologist determines whether maintenance is required to keep the site on a successful trajectory.
- The Zone Ecologist includes any sites that require maintenance in their annual workplan.
  » The annual work plan informs the Zone Superintendent and Maintenance Staff of any maintenance that is required.

Key Considerations
- Since personnel and budget resources are limited, maintenance allocation should try to achieve the best “bang for your buck.”
- Sites that are integral to connectivity corridors should be prioritized.
- Subject Matter Experts can be useful resources for developing innovative maintenance prescriptions and lessons learned from previous sites.

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Deliverable(s)
- PARIS Notification

Reference Document(s)
- Monitoring Report
- Restoration Plan
- Operational Monitoring and Maintenance Drawing
Perform Project Maintenance

Objective
Complete maintenance activities that will keep sites on a trajectory for successful restoration.

Key Tasks

- Maintenance Staff complete maintenance activities that are prescribed by the Zone Ecologist and included in the Monitoring Report.
- Maintenance Staff complete a Maintenance Log and submit it to the Zone Ecologist and Zone Superintendent.
- The Zone Ecologist enters maintenance activities completed into the activity tracking table of the Restoration App.

Key Considerations

- Subject Matter Experts may be a useful resource for troubleshooting issues that arise during maintenance.

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Deliverable(s)

- Maintenance Log

Reference Document(s)

- Monitoring Report
- Restoration Plan
- Operational Monitoring and Maintenance Drawing
- Restoration App User Training Manual
Program Monitoring

Objective

Maintain Program-level metrics on restoration efforts, compile and share lessons learned, and have the ability and information to adapt to changes.

Key Tasks

• Annually, the Program Manager compiles information from the Restoration App, PARIS, and monitoring reports to assess sites identified for restoration, restoration implementation activities, sites where implementation has been completed, and site restoration trajectory.

• In consultation with Project Managers and Zone Ecologists, the Program Manager compiles a list of lessons learned, including successes and failures that have been identified throughout restoration planning, implementation, monitoring, and maintenance.

• Based on an analysis of the site metrics and lessons learned, the Program Manager develops recommendations for changes to how the Habitat Restoration Program can be adapted to better achieve its goals and objectives.

• The Program Manager summarizes the results of Program-level monitoring in a Program Status Update Report.

• The Program Manager facilitates updating Geographic Information System (GIS) Databases with Program-level information.

Key Considerations

• Program Monitoring should be done in consideration for the goals and objectives of the Habitat Restoration Program. The analyses and recommendations should be completed to achieve the goals and objectives efficiently.

• The Program Manager may follow up with Contractors, Maintenance Staff, or other parties involved in the restoration process that were not initially consulted when compiling lessons learned.

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Deliverable(s)

• Program Status Update Report

Reference Document(s)

• City of Calgary Biodiversity Strategy
• Restoration App User Training Manual
• Monitoring Reports
• Maintenance Logs

Engagement & Communications

• See page 53, Section 3.2.2(iv) of Community Involvement Guide for more information on engagement & communications activities.
Summary of Appendices
AA. File Location & Description

Due to the number of file formats and the different contexts for their use, the Habitat Restoration Program Manual’s appendices are presented in their original format. The following table provides the title, folder location, version, and relevant notes for each of the nine appendices.

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