



**Credit Valley
Conservation**
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S&A

TECHNICAL GUIDE

Linking (Sub)Watershed Management Plans
to Asset Management Plans and
Infrastructure Master Planning

*Latornell – Session 6B
30 Years of
Conservation
November 4, 2025*

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Presentation Overview

- 1. Purpose and Background to development of Technical Guide***
- 2. What are benefits/risks to municipalities?***
- 3. Linkage to Provincial Initiatives***
- 4. Technical Considerations***
- 5. Conclusions/Next Steps***

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1. Purpose & Background

Background

- Municipalities prepare **Master Plans** for planning and designing municipal infrastructure
- Municipalities maintain infrastructure through **Asset Management Plans (AMP)**
- Municipalities administer stormwater works through **MECP's CLI ECA**
- Conservation Authorities, Municipalities and Developers prepare **(Sub)Watershed Plans** to guide protection and enhancement of environmental systems and public safety, while also considering growth needs

1. Purpose & Background

Problem

- **Risk to the public and environment** – if the outputs from a (Sub)Watershed Plan are not fully integrated and considered in Master Planning and Asset Management Plans and CLI ECA

Opportunity

- Potential for **economic and environmental benefits and synergies** if Master Plans and AMPs and the CLI-ECA process consider (Sub)Watershed Plan guidance

1. Purpose & Background

Administrative/Legislative Justification:

- Provincial Planning Statement (PPS) – released August 20, 2024, came into effect October 20, 2024 – states:
 - *Large and fast -growing municipalities must **undertake watershed planning for municipal services** (smaller municipalities are encouraged)*
 - *Planning authorities must collaborate with CAs to identify hazardous lands/sites and manage development*

1. Purpose & Background

Application Gap:

- In the past limited to no (Sub)Watershed input to Master Plans and Asset Management Plans
- Region of Peel/member municipalities recognized this gap and directed CVC and TRCA to develop technical guidance

Objective of Technical Guide:

Municipalities/CAs to work together to prepare and integrate (Sub)Watershed Technical Guidance into:

- *Master Planning*
- *Asset Management Plans*
- *Consolidated Linear Infrastructure Environmental Compliance Approvals (CLI ECA)*

Presentation Outline

1. *Purpose and Background to development of Technical Guide*
2. ***What are benefits/risks to municipalities?***
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2. What are benefits/risks to municipalities?

- 1. Administrative** – PPS, MP, AMP, CLI-ECA
- 2. Economic** – Strategic cost savings in infrastructure
- 3. Liability** – Mitigate future impacts
- 4. Process Integration/Cross Linkages** – Systems based
- 5. Supports Decision Making** – Holistic View, form/function

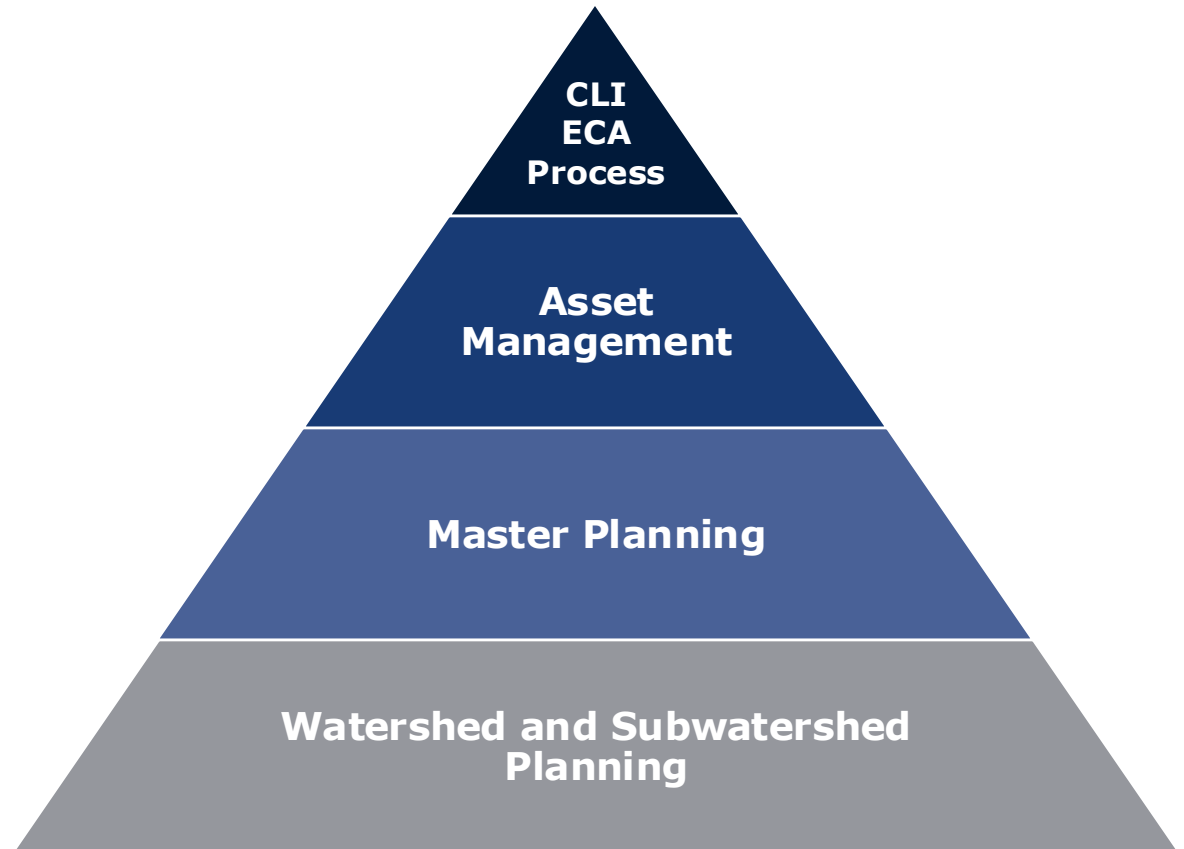
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3. Linkage to Provincial Initiatives

Bottom-up process:

- (Sub)Watershed Planning
- Master Planning
- Asset Management
- CLI – ECA Process



(Sub)Watershed Planning

- MECP/MNRF prepared two documents which remain in draft:
 - **Subwatershed Planning Guide** (DRAFT January 2022)
 - **Watershed Planning in Ontario** - Guidance for land-use planning authorities (DRAFT February 2018)
- These provide the framework for watershed-based assessments considered in provincial policy including:
 - PPS and local Municipal Official Plans, among others

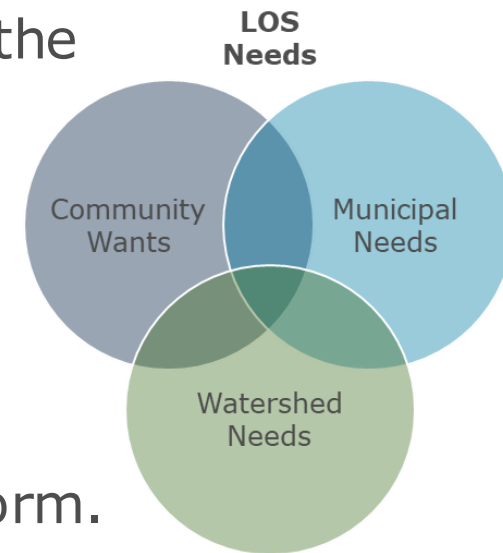
- Requirement through the ***Environmental Assessment Act***
 - MEA Class EA Process (2023)
- Builds upon "**triple bottom line**" principles
 - Socio-economic
 - Natural environment
 - Technical functionality
- Watershed/Subwatershed Plans address and support consideration of natural and water-based processes in infrastructure planning

- **O. Reg. 588/17 Table 3 (July 1,2021)**
Community levels of service (qualitative descriptions):

“description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system”

- **O. Reg. 588/17 Table 3 (July 1,2021)**
Technical levels of service (technical metrics):

- “1. Percentage of properties in municipality resilient to a 100-year storm.
2. Percentage of the municipal stormwater management system resilient to a five-year storm.”



Approvals Process

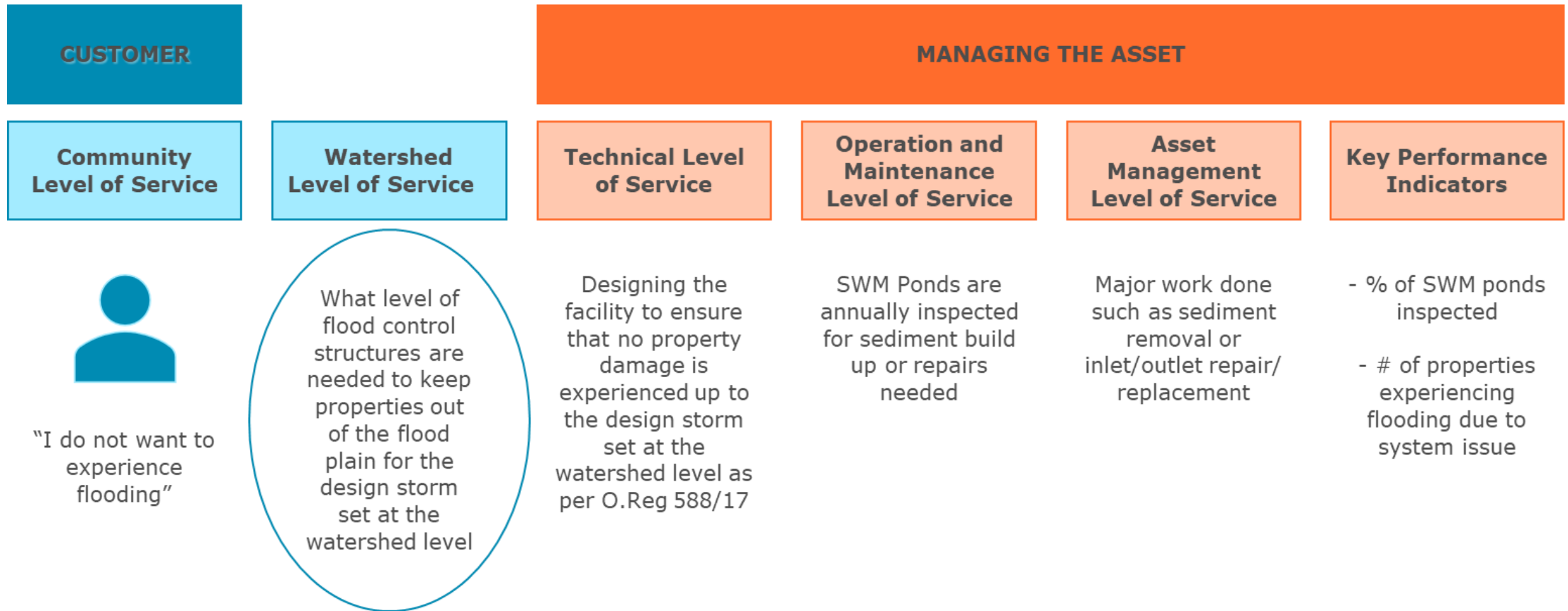
- Premised on **holistic watershed approach** to planning, design and management of linear infrastructure (storm systems)
- Guided by **criteria** established through contemporary **(Sub)Watershed** studies related to flooding, erosion and water quality/balance
- Places responsibility on municipalities to **administer, manage and monitor** their drainage systems more broadly to determine the efficacy of SWM works and identify areas which may or may not be performing to required standards

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Levels of Service - *(Sub)Watershed to Asset*

Interrelationship of Level of Service Categories

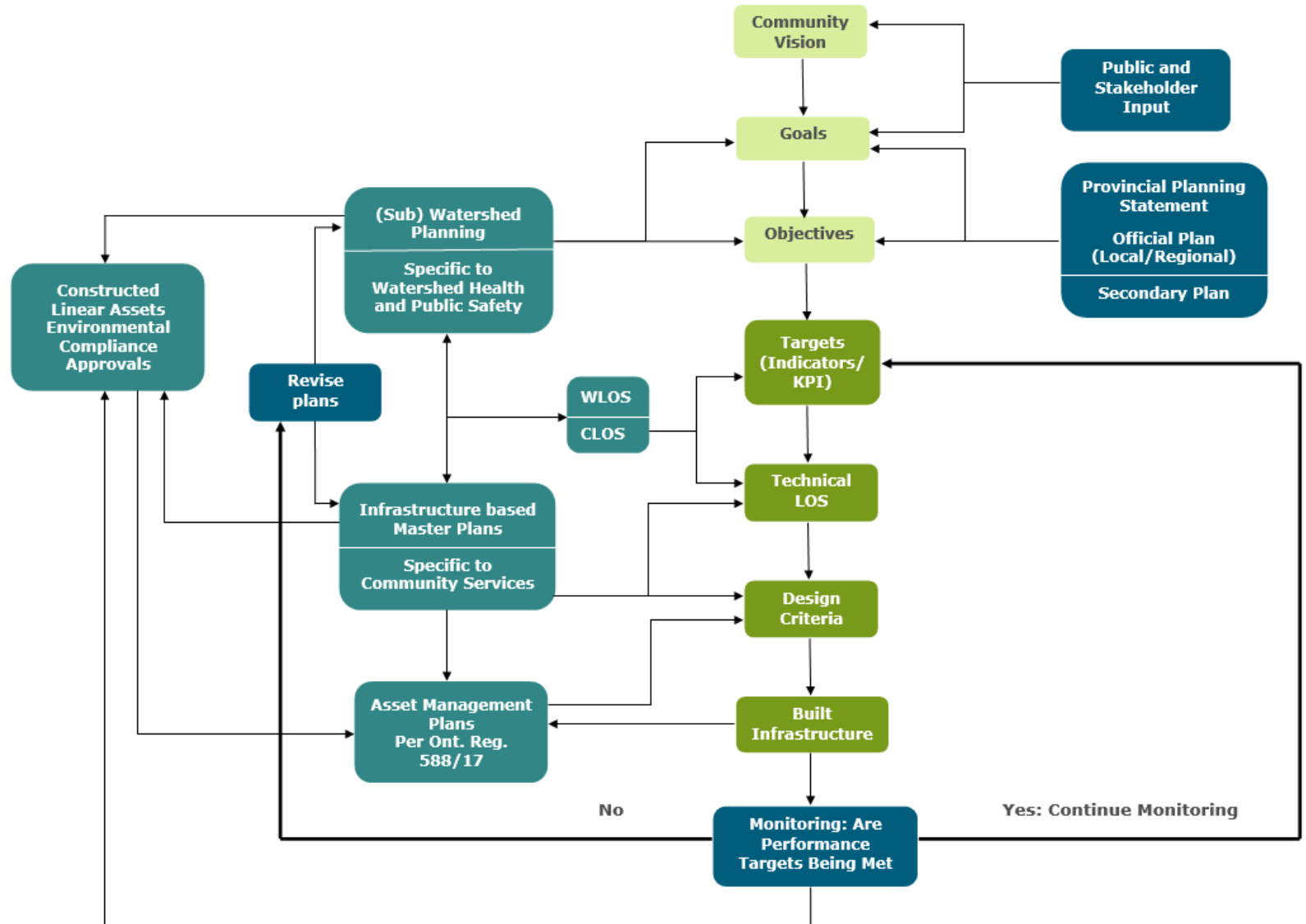


Process Overview – *Vision to Asset*

Community Vision leads to:

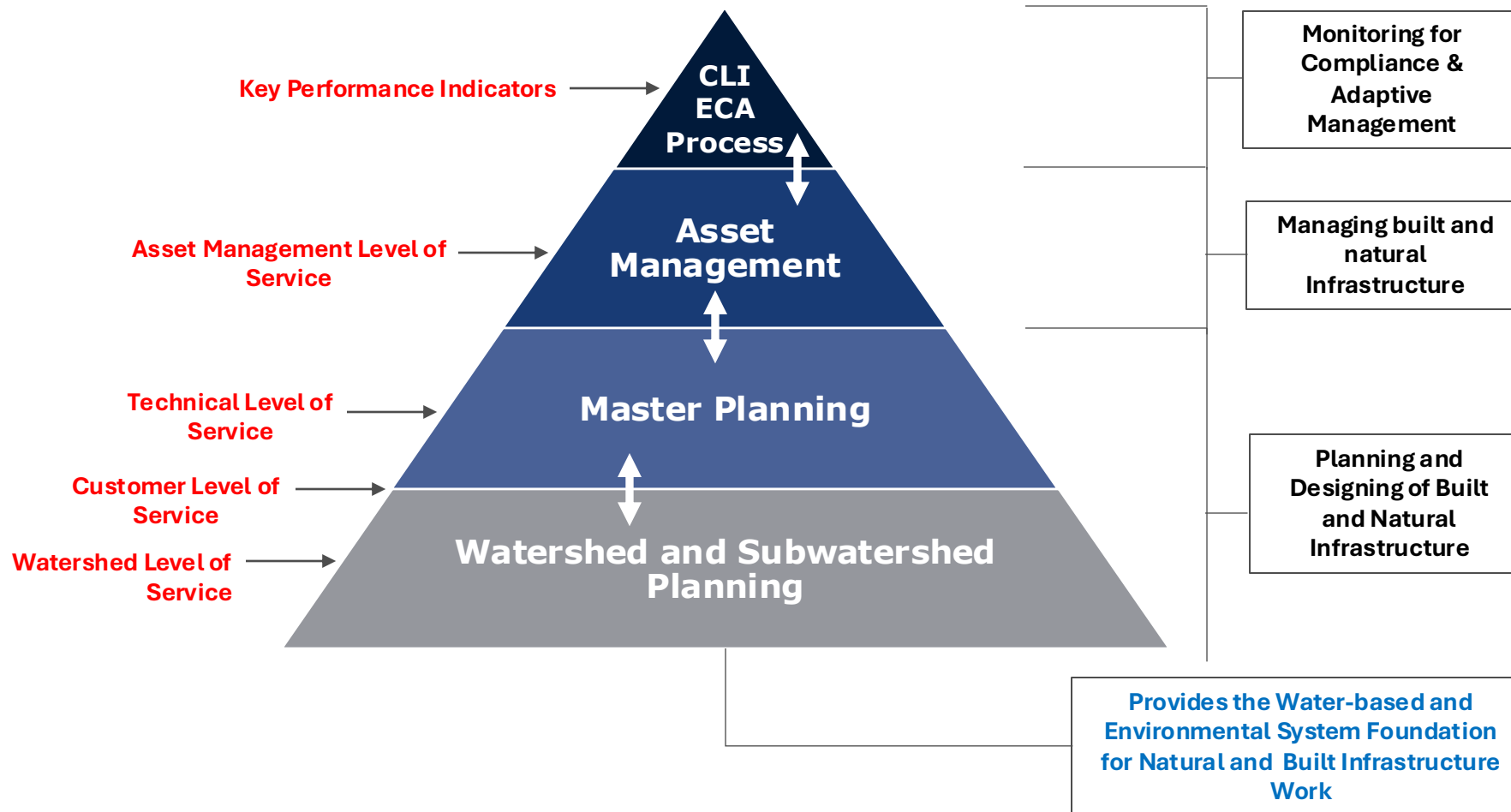
Official Plan which guides ecological and water-based requirements through Subwatershed planning which then underpins:

- Master planning
- Asset Management
- CLI ECA

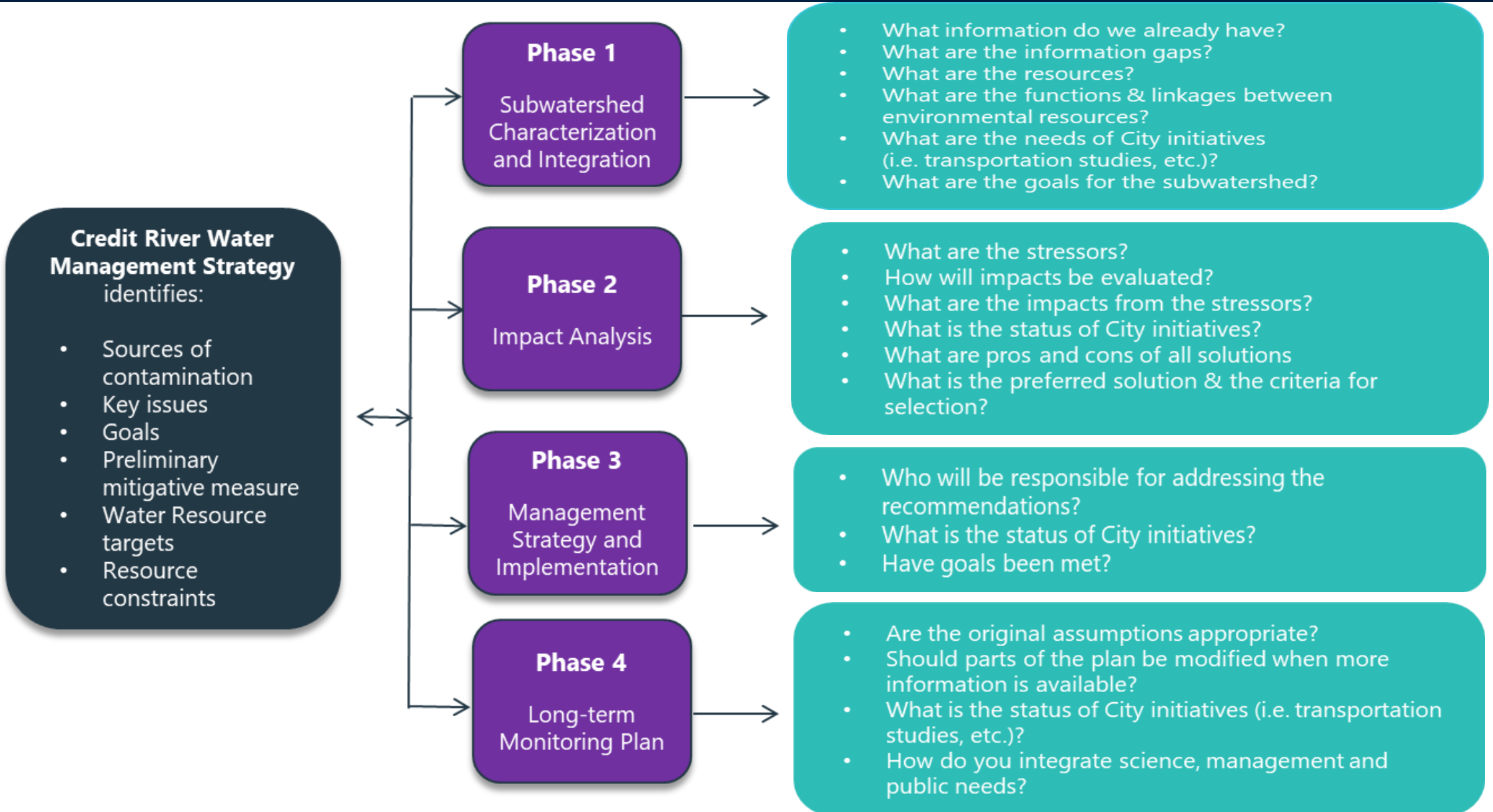


(Sub)Watershed Planning support to:

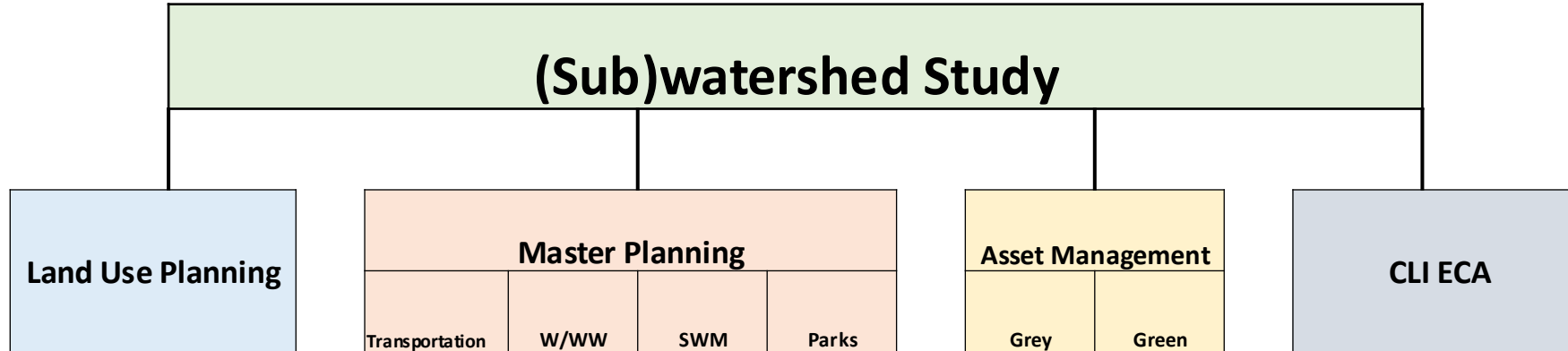
Infrastructure Planning, Asset Mgt and Compliance Process

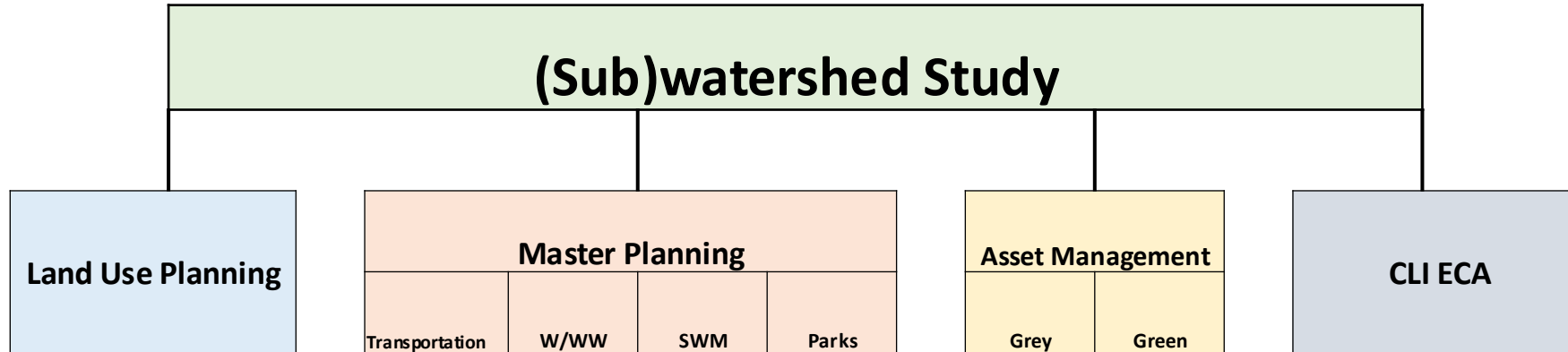


(Sub) Watershed Planning Process



Technical Guidance for Developing Comprehensive (Sub)Watershed Plans



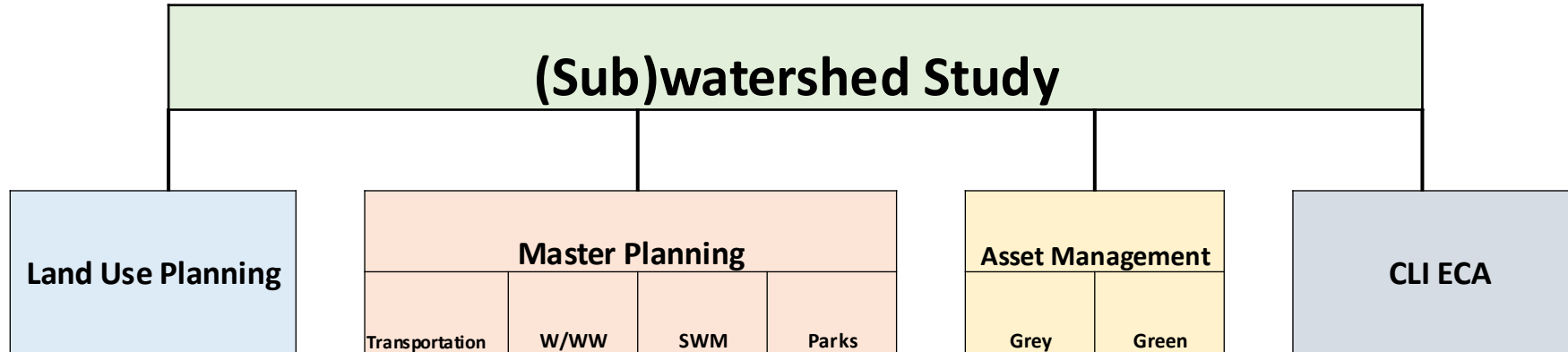


Secondary Plans:

*Water Resource
and Natural
Heritage Systems*

*Water Mgt
- Surface water
- Groundwater*

Technical Guidance for Developing Comprehensive (Sub)Watershed Plans



Secondary Plans:

Flood Risks

*Water Resource
and Natural
Heritage Systems*

Erosion Risks

Sensitive Features

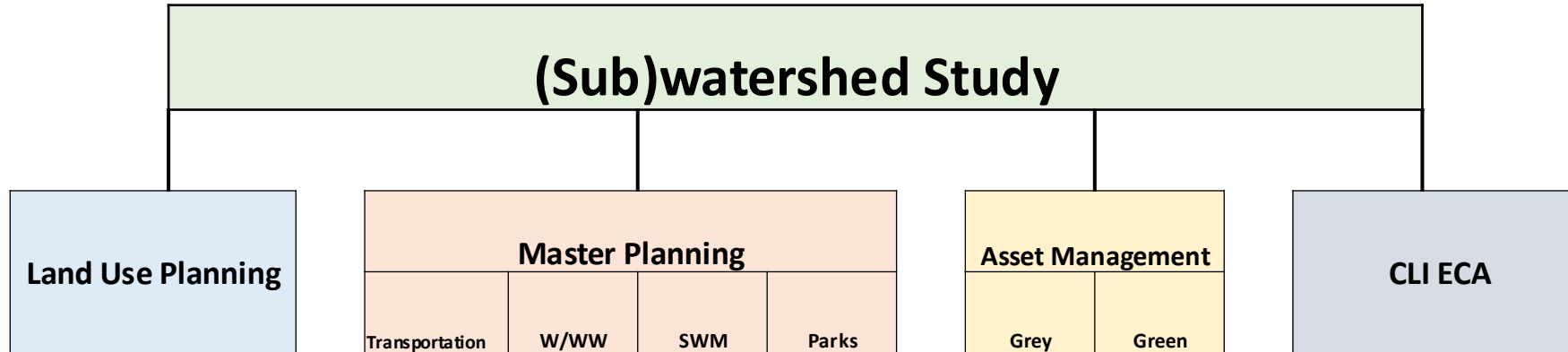
Water Mgt:

Environmental water needs

- Surface water

- Groundwater

Technical Guidance for Developing Comprehensive (Sub)Watershed Plans



Secondary Plans:

*Water Resource
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Water Mgt:

- *Surface water*
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Flood Risks

Erosion Risks

Sensitive Features

Environmental water needs

Flood Risks

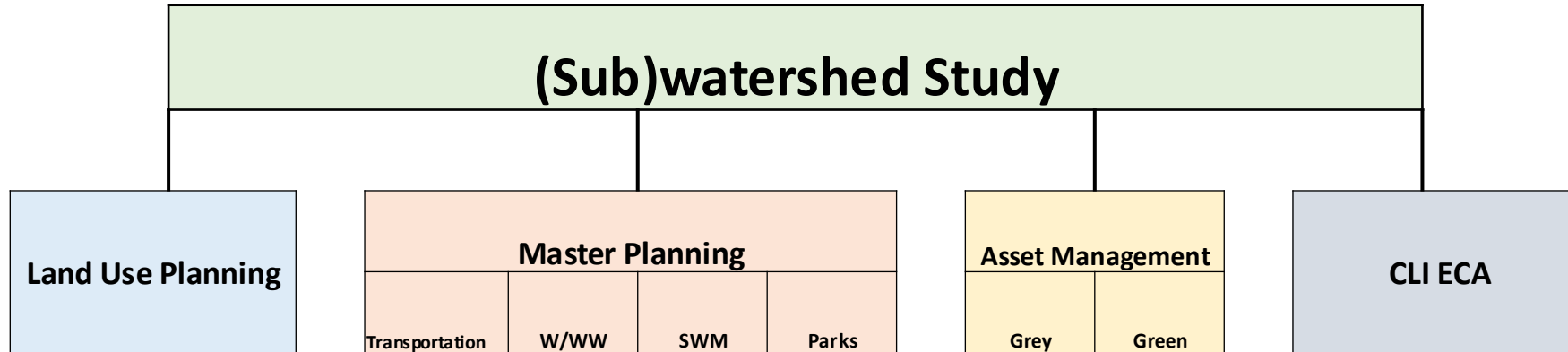
Erosion Risks

Sensitive Features

*Environmental
water needs*

High GW zones

Technical Guidance for Developing Comprehensive (Sub)Watershed Plans



Secondary Plans:

Flood Risks

Flood Risks

SWM Criteria

*Water Resource
and Natural
Heritage Systems*

Erosion Risks

Erosion Risks

Monitoring Data

Sensitive Features

Sensitive Features

Water Mgt:

Environmental water needs

*Environmental
water needs*

- *Surface water*
- *Groundwater*

High GW zones

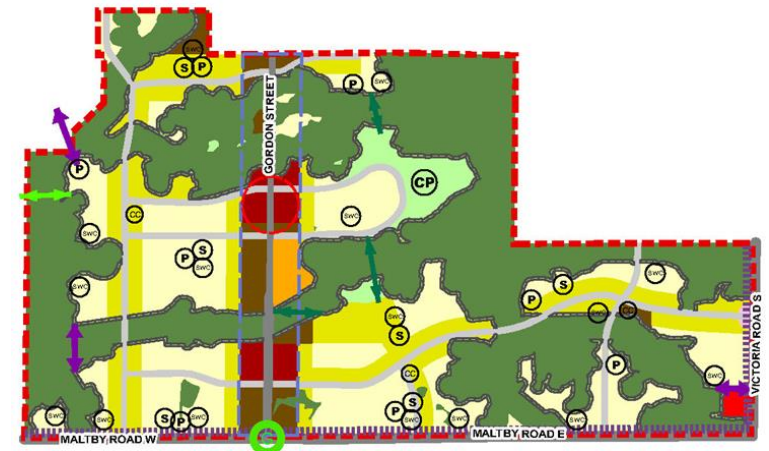
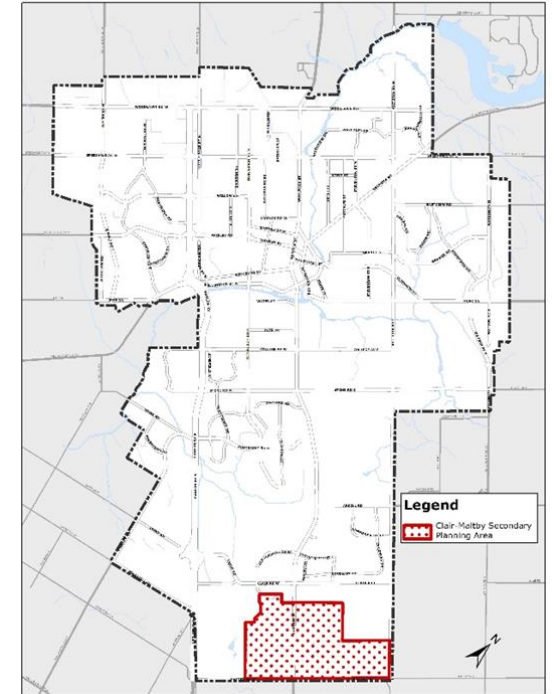
Subwatershed Assessment informed:

Parks, Community Land Use Planning and Infrastructure

Clair Maltby – Halls Pond, City of Guelph

CONTEXT: Last remaining large urban parcel (+150 ha) planned for South Guelph near the largest PSW in the study area

PROBLEM: Despite application of contemporary water management practices detailed modelling conducted as part of Subwatershed Study predicted unacceptable cumulative increases to water levels in the PSW (Halls Pond)



Clair Maltby – Halls Pond, City of Guelph

- **25 to 26 cm increase in water level in Halls Pond (over 15 years)**
- Greater open water wetland area
- Loss of transitional habitat
- Environmental degradation

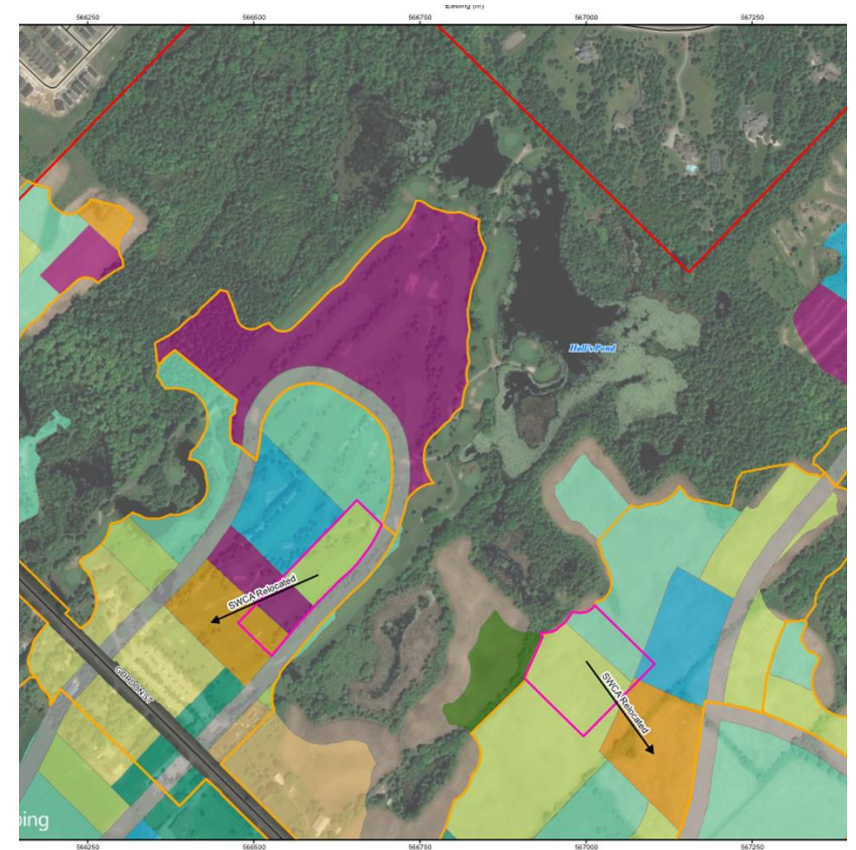


LAND USE REFINEMENTS:

- a) Relocate SWMFs
- b) Shift location of Community and local parks and other porous land uses
- c) Alter geometry of local buffers to Halls Pond

SWM ADJUSTMENTS:

- a) Refine LID BMP capture rates
- b) Alter drainage areas to SWMF



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5. Conclusions/Next Steps

Conclusions:

- (Sub)Watershed data are **foundational** and **critical** to support the planning, design, operations, maintenance and administration of infrastructure (Built and Natural)
- Technical Guide aligns with PPS 2024 and **provides a pathway** for municipalities and CAs to fulfill their responsibilities in meeting legislation and policy
- Technical Guide formalizes processes and integrates concepts of **levels-of-service** into (Sub)Watershed Planning so that it optimizes performance

5. Conclusions/Next Steps

Next Steps

- CVC working with Conservation Ontario, MECP and others to identify opportunities for collaboration and integration of this work into provincial/CA initiatives
- Workshops with municipalities/Conservation Authorities
- Work on implementing Technical Guide in (Sub)Watershed Plan recommendations with municipalities

Our Partners in Conservation



6. Discussion

Developing Comprehensive (Sub)Watershed Plans: Relationship of (Sub)Watershed Study Components to Master Planning and Asset Management Planning and CLI ECA

(Sub)Watershed Study Component	Description of Study Component	Relationship to Stormwater and Parks Master Planning	Relationship to Asset Management Planning	Consolidated Linear Infrastructure Environmental Compliance Approvals
1. Characteristics and Issue Identification	PSW hydroperiods, drainage and flora	Area resources (PSW and aquifers) guides planning for area SWM system		
2. Setting Goals, Objectives, and Targets	No net impact to water levels	Consider local feature goals in broader context of City-wide SWM	Community goal for sustainable infrastructure investment	Adopt subwatershed targets into community framework
3. Impact Assessment and Establishing Potential Management Scenarios	Initial land uses (including parks and SWMF) resulted in unacceptable impact Suite of LU and SWM alternatives assessed			
4. Selecting Preferred Strategy	Shift location of parks and SWMF	Criteria for SWM design	Quantum of mgt works requires appropriate levels of investment	City assumes legal responsibility for SWM system
5. Preparing the Management Plan and Implementation Plan	Require integrated GW/SW modelling at implementation stage by landowners		Operations and Maintenance of SWM system required to ensure long-term sustainability of PSW	
6. Developing an Integrated Monitoring and Adaptive Management Plan	Commitment to long-term monitoring of area features including PSW water levels			Incorporate local Clair Maltby monitoring into overall City-wide program