



# Partington Creek

## Integrated Watershed Management Planning in Action in British Columbia, Canada

**Coquitlam**

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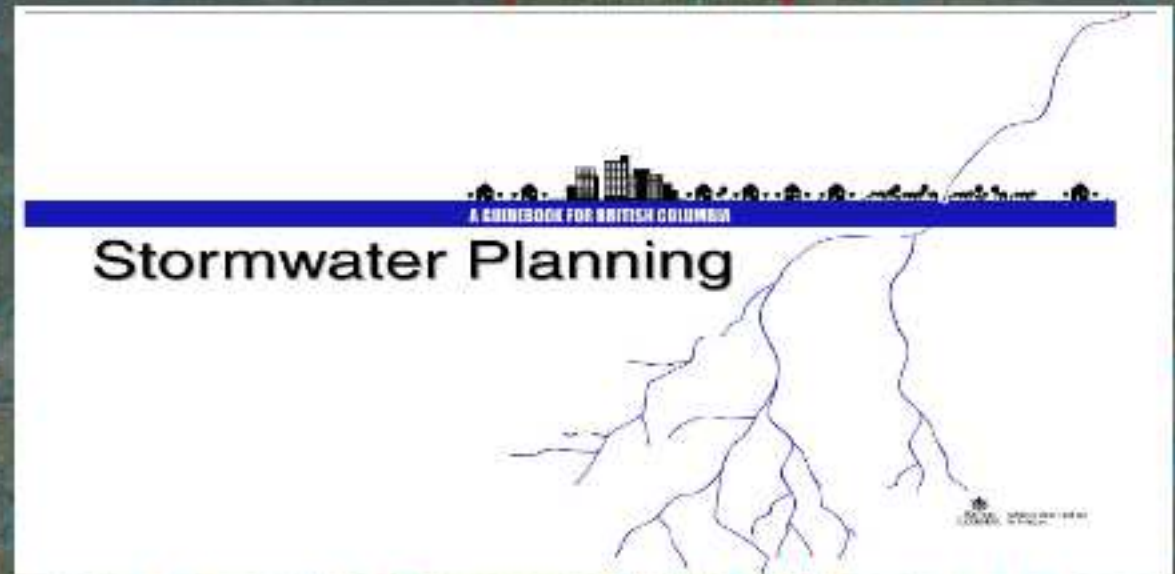


# Watershed/Rainwater Management





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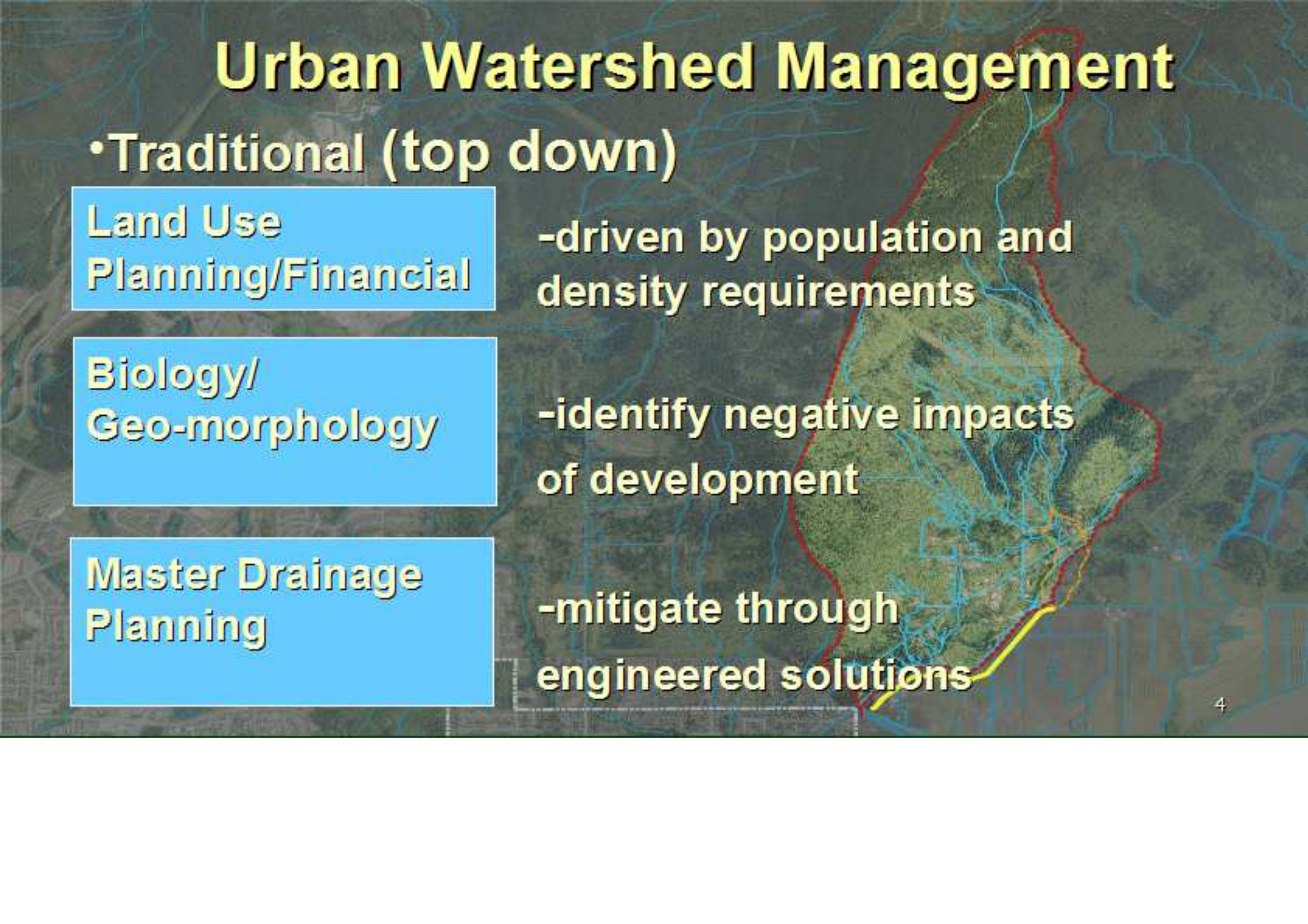


Mid-1990s

Early-2000s



# Urban Watershed Management



## •Traditional (top down)

Land Use  
Planning/Financial

-driven by population and  
density requirements

Biology/  
Geo-morphology

-identify negative impacts  
of development

Master Drainage  
Planning

-mitigate through  
engineered solutions



# Urban Watershed Management

Land Use  
Planning

Financial

Community  
Consultation

Integrated Plan

Biology

Engineering

-multidisciplinary  
team

-Find win-win  
solutions

-Community  
Buy-in

- avoid rather  
than mitigate



# Watershed Location



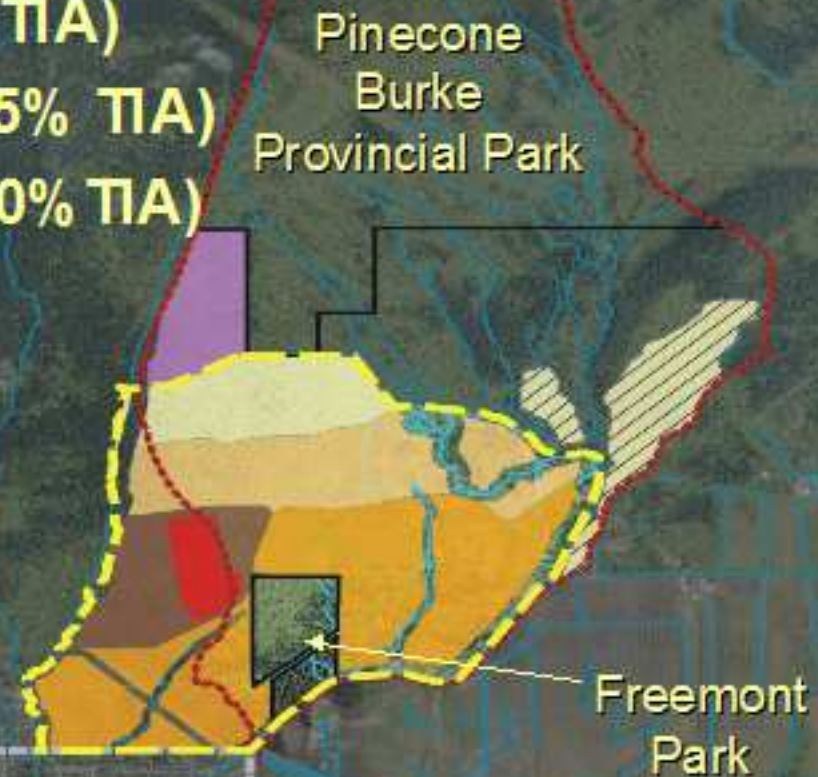


# Key Issues – Future Development

## PARTINGTON CREEK VILLAGE NEIGHBOURHOOD PLAN

-  Village Centre (90% TIA)
-  High Density Residential (90% TIA)
-  Medium Density Residential (85% TIA)
-  Low Density Residential SF (50% TIA)

-  Suburban (15% TIA)
- Existing Greenfield Site
- Future Home for Approx. 12,000 People and Businesses
- \$1.5 Billion Capital Investment





# Significant Environmental Values

- Healthy Watershed
- Diverse Benthic Community
- Diverse & Abundant Fish Community
- Excellent Chum Salmon Spawning
- Diverse Wildlife
- Many Species at Risk





# Existing Sedimentation & Flooding

## Sedimentation in Main Stem



## Flooding Across Roadway into Agricultural Lands



> 2 year creek flow overtopping road





# Land Use Planning - Avoid

## PARTINGTON CREEK VILLAGE NEIGHBOURHOOD PLAN

- Maintain Population Target
- Diverse land-use
- Taller buildings, smaller footprints
- Strategically locate land uses

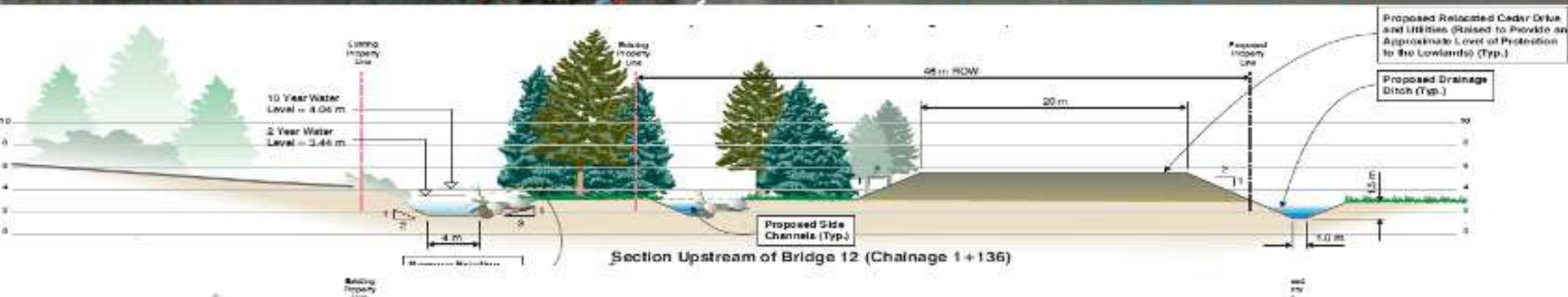




# Protect

## 1. Create Floodplain & Habitat

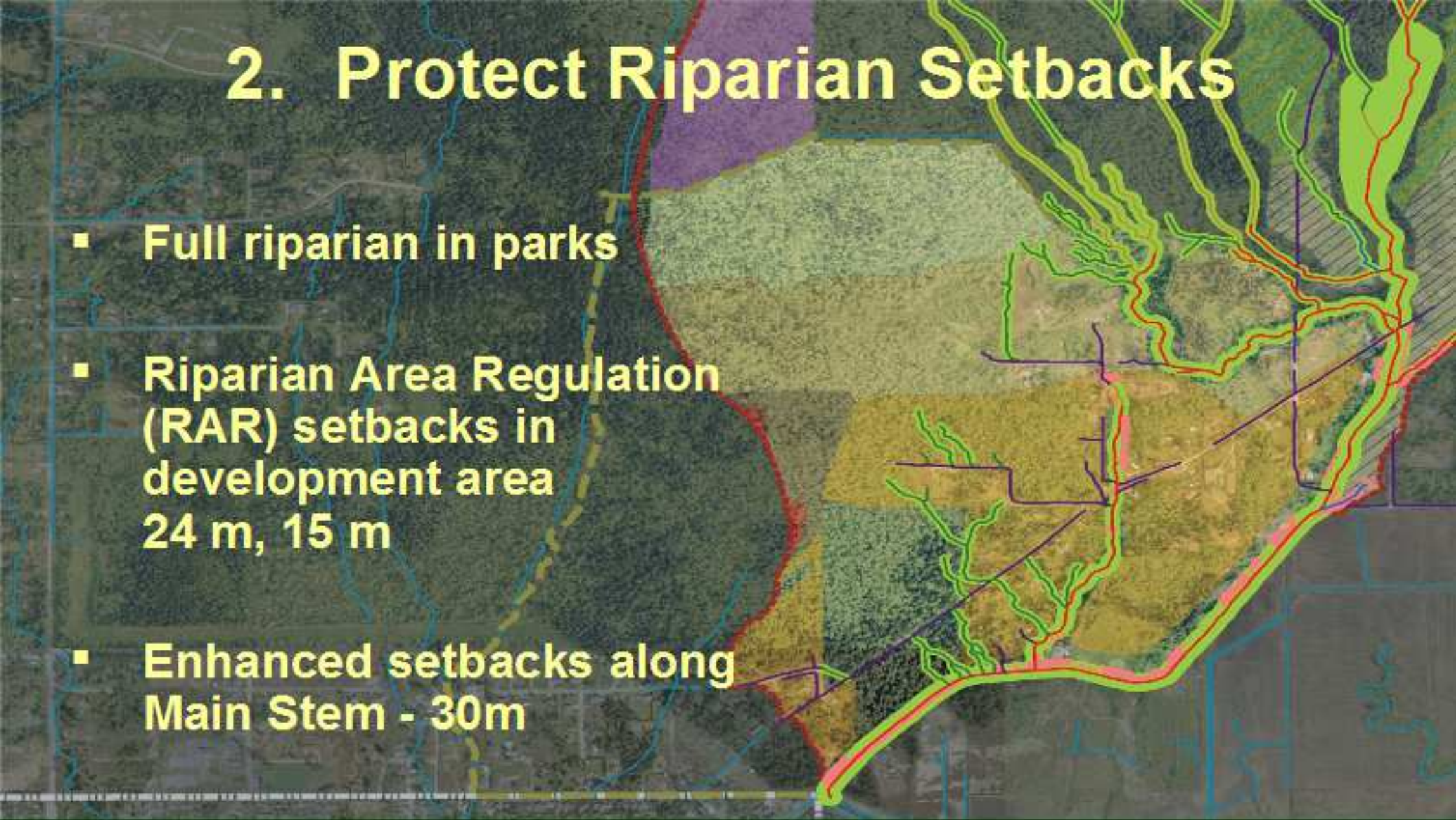
- Relocate Cedar Drive
- Widen Channel
- Create Floodplain
- Create In-stream Complexing and off-channel habitats





## 2. Protect Riparian Setbacks

- Full riparian in parks
- Riparian Area Regulation (RAR) setbacks in development area 24 m, 15 m
- Enhanced setbacks along Main Stem - 30m





### 3. Restoration/Enhancement for Fish

- Create in-stream complexing, floodplains, side channels along relocated Cedar Drive

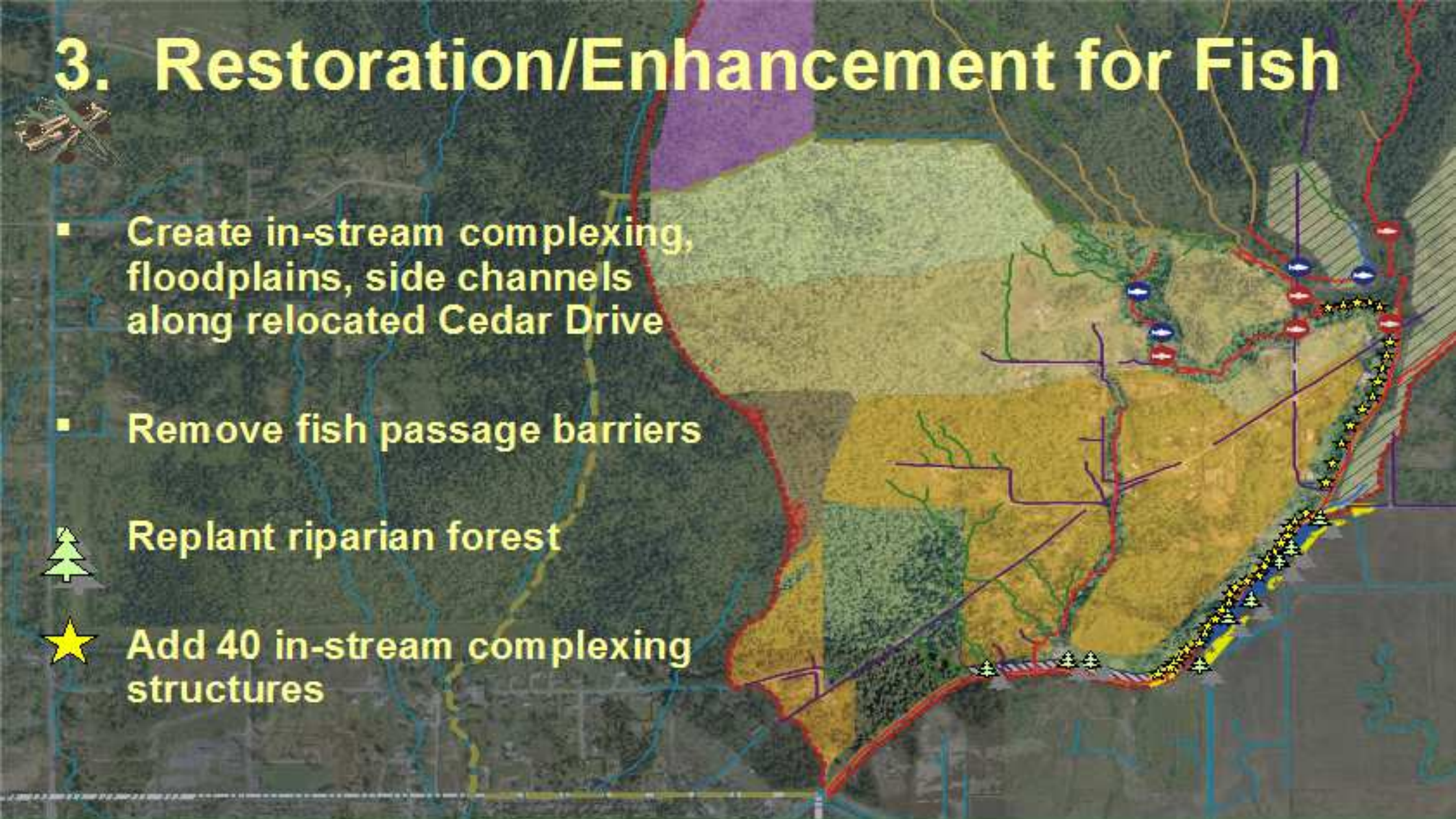
- Remove fish passage barriers



Replant riparian forest



Add 40 in-stream complexing structures





# 4. Sediment Management Plan



**Designated in-stream sediment removals**



**Sediment Basin**

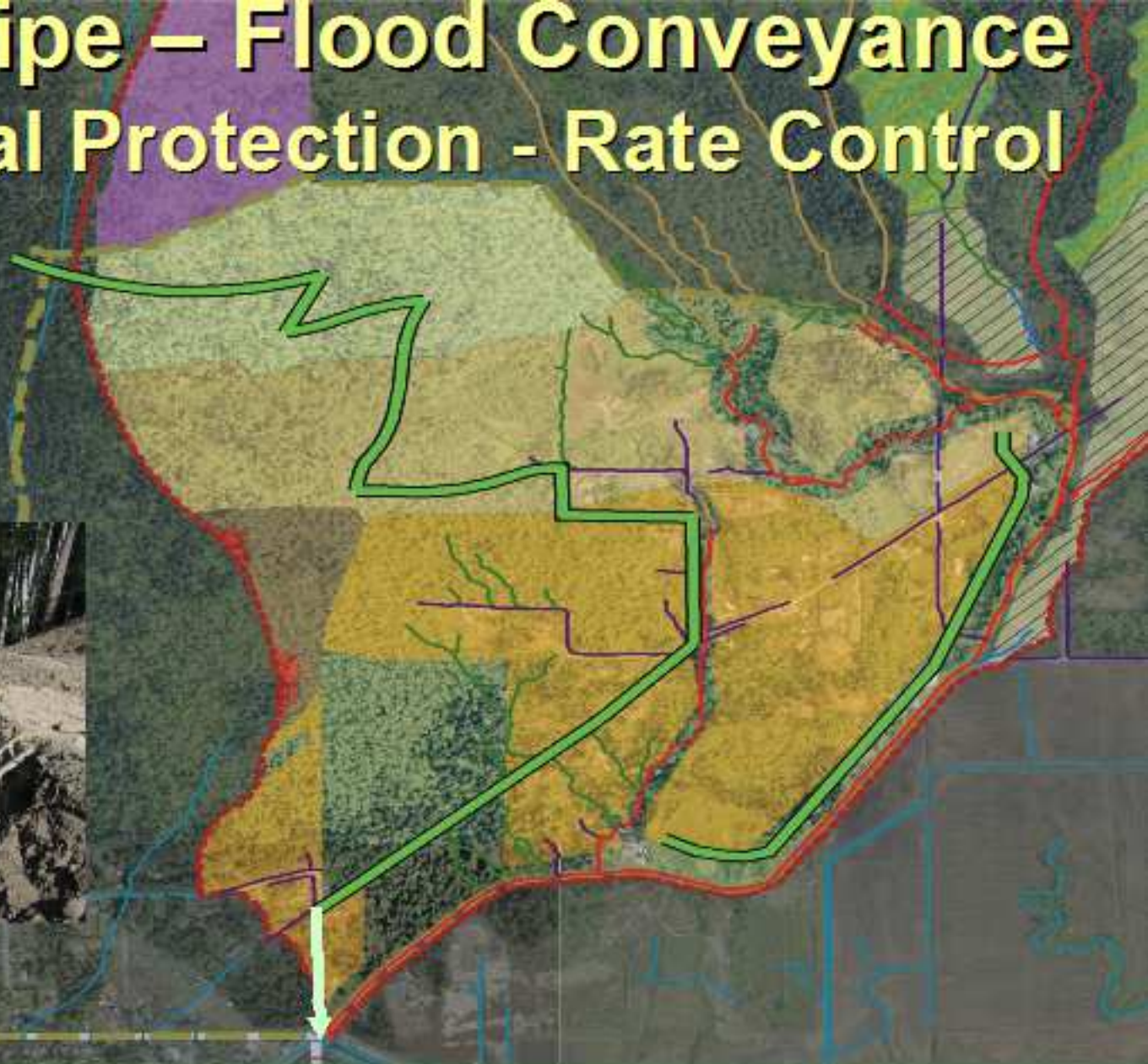
**Sand Trap**

**Proposed Sediment Removal**



- 5. Diversion Pipe – Flood Conveyance
- 6. Environmental Protection - Rate Control

**Diversion Pipe**





# 7. Baseflow Augmentation Facilities

## 8. Water Quality Facilities



### Proposed Facilities

- Water Quality Pond
- Baseflow Augmentation Facility  
(Sustain Baseflow)
- Baseflow Release Facility  
(Mitigate Peaks/Volumes)



# Implementation

- 6 years of planning
- Stormwater Infrastructure and Ecological Enhancements \$30 million
- Costs covered through Development Cost Charges
- Development over next 20-years





# Thank-You

Key Partners

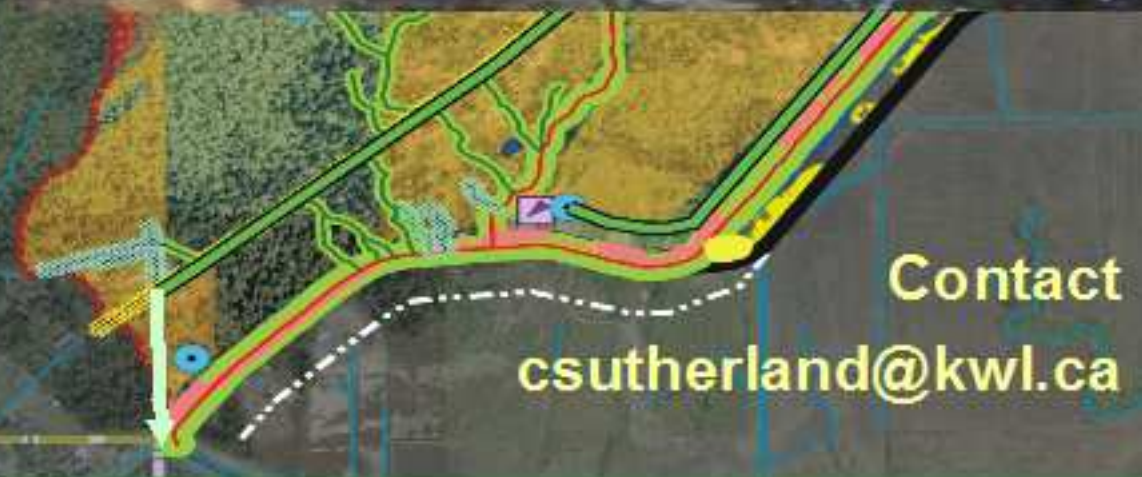
City of Coquitlam

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HB Lanarc - Planning

Raincoast Applied Ecology -  
Environment

Gartner Lee - Hydrogeology



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