THE BUILDING OF RESILIENT PHILIPPINE CITIES

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Resiliency is the ability to plan
and prepare for, absorb, recover from,
and more successfully adapt
to **adverse events**.

City resilience is the
capacity of cities to function,
so that the people living and working there,
particularly the poor and the vulnerable,
survive and thrive no matter
what stresses or shocks
they encounter.

WHY IS CITY RESILIENCY IMPORTANT?

- **Disasters** are becoming more frequent and destructive
- Natural hazards kill, injure and affect thousands of people every year
- Disasters **destroy** homes, livelihoods and businesses, **displace** people, and **disrupt** economic activities
- It is necessary to reverse the current reactive approach to disasters – responding to them only after they occur, and merely repairing or rebuilding what had been damaged before the disaster.

ATTRIBUTES OF A RESILIENT CITY

(Rockefeller Foundation: 100 Resilient Cities Challenge)

1. Minimal Human Vulnerability
- extent to which everyone's basic needs are met.

2. Diverse Livelihood & Employment
- access to finance, ability to accrue savings, skills training, business support and social welfare.

3. Adequate Safeguards to Human Life & Health
- integrated health facilities and services, and responsive emergency services.

ATTRIBUTES OF A RESILIENT CITY

(Rockefeller Foundation: 100 Resilient Cities Challenge)

4. Collective Identity & Mutual Support
- active community engagement, strong social networks and social integration.

5. Social Stability and Security
- law enforcement, crime prevention, justice, and emergency management.

6. Availability of financial resources and contingency funds
- sound financial management, diverse revenue streams, the ability to attract business investments, adequate investments, and emergency funds.

ATTRIBUTES OF A RESILIENT CITY

(Rockefeller Foundation: 100 Resilient Cities Challenge)

7. Reduced Physical Exposure & Vulnerability

- environmental stewardship; appropriate infrastructure; effective land use planning; and enforcement of planning regulations.

8. Continuity of Critical Services

- diverse provision and active management; maintenance of ecosystems and infrastructure; and contingency planning.

9. Reliable Communication and Mobility

- diverse and affordable multimodal transport systems and information and communication technology networks; and contingency planning.

ATTRIBUTES OF A RESILIENT CITY

(Rockefeller Foundation: 100 Resilient Cities Challenge)

10. Effective Leadership and Management

- involving government, business and civil society, and indicated by trusted individuals; multi-stakeholder consultations; and evidence-based decision-making.

11. Empowered Stakeholders

- education for all, and access to up-to-date information and knowledge to enable people and organizations to take appropriate action.

12. Integrated Development Planning

- presence of a city vision; an integrated development strategy; and plans that are regularly reviewed and updated by cross-departmental working teams.

How do we apply these to Philippine cities?


By adopting a
development path
that is disaster-resilient,
risk-sensitive, ecosystem-based,
and correlated with poverty eradication.

What must we consider?

1. External shocks, poverty, and livelihood insecurity

- Many poor households live in rural areas and are dependent on agriculture, fisheries, forests and livestock for their livelihood.

- These livelihoods are among the most affected by extreme weather events, thus making those dependent on them even more vulnerable to disasters and impacts of climate change.

What must we consider?

2. Natural resources and the environment

- The Philippines is rich in natural resources, but deforestation, **degradation** of watersheds, depletion of reefs and coastal ecosystems are reducing nature's defense capacity against hazards.

- This aggravates the impact of disasters such as floods, landslides, storm surges, typhoons and drought which, in turn, contribute to ecosystem degradation and loss, including soil erosion, salinization of soils, and biodiversity loss.

What must we consider?

2. Natural resources and the environment

- **Environmental degradation** is reducing the availability of goods and services to local communities, and shrinks economic opportunities and livelihood options.
- **Healthy and diverse ecosystems** are more resilient to hazards.

What must we consider?

3. Climate change, disaster risks and food security

- Climate change is **expected to result in more frequent and intensive** climate-related hazards. It will reduce the predictability and change the spatial distribution of temperature extremes, floods and droughts, and storms.
- It will **increase the risk and vulnerability** of particular social groups and economic sectors as existing vulnerabilities are compounded by climate change-related processes, such as sea level rise, ecosystem stress and degradation of natural resources.

What must we consider?

3. Climate change, disaster risks and food security

- The increase in vulnerability will be **significant in poorer regions of the country**, particularly those that are dependent largely on subsistence agriculture. These regions are likely to be affected by food and water shortages.

PRIORITY ACTIONS

1. **Correlate and prioritize** the eradication of poverty and hunger with the building of resiliency of Philippine cities.

2. **Adopt a risk-sensitive, ecosystem-based land use strategy** to ensure the effective management of land, water systems, forests, wetlands, soils and other resources for redressing the environmental causes of vulnerability and risks.

3. **Protect livelihoods from shocks,** and make the country's food production system more resilient and capable of absorbing the impact of, and recovering from, disruptive events in order to secure sustainable development gains.

PRIORITY ACTIONS

4 **Invest more** in disaster prevention, risk reduction and/or mitigation (which is 1/6th cheaper than reconstructing what is damaged)

5 **Mainstream DRRM and CCA** in regional and provincial plans, CLUPs and CDPs, with particular focus on:

- More productive and resilient livelihoods
- Sustainable food production practices and technologies
- Effective management of natural resources
- Protection of the built environment

PRIORITY ACTIONS

6 **Invest in planning tools** (eg, GIS-based disaster risk mapping, using a scenario-based approach to produce probabilistic disaster risk maps) to help integrate disaster risk reduction and management (DRRM) and climate change adaptation (CCA) in land use plans.

7 **Formulate a comprehensive long-term local economic development plan** In parallel with the incorporation of CCA and DRRM in CLUPs and CDPs, incorporating the principles and practice of resilient and sustainable agriculture and fisheries/aquaculture.

CONCLUSION

Building the resilience of
Philippine cities can be achieved
by **adopting a development path** that is
disaster-resilient, risk-sensitive, ecosystem-based
and correlated with poverty eradication.

Thank you for your attention.

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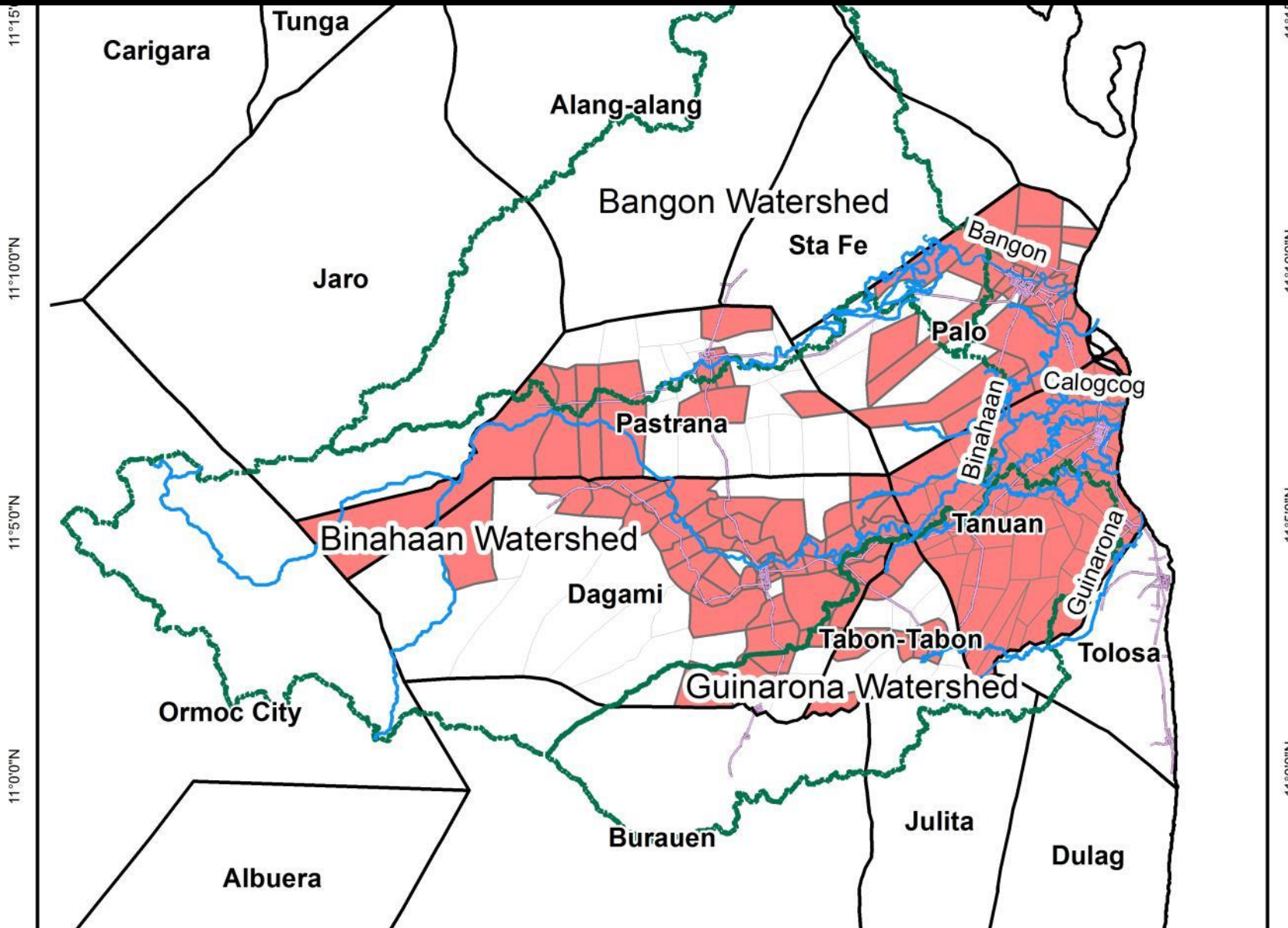
Case Study: THE BINAHAAN WATERSHED PLAN



Case Study: THE BINAHAAN WATERSHED PLAN

Map of Proposed Project Types

Candiis Creek

Eco-River Park

BINAHAAN WATERSHED PLAN

Candiis Creek

Eco-River Park

BINAHAAN WATERSHED PLAN

Candiis Creek

Eco-River Park

BINAHAAN WATERSHED PLAN

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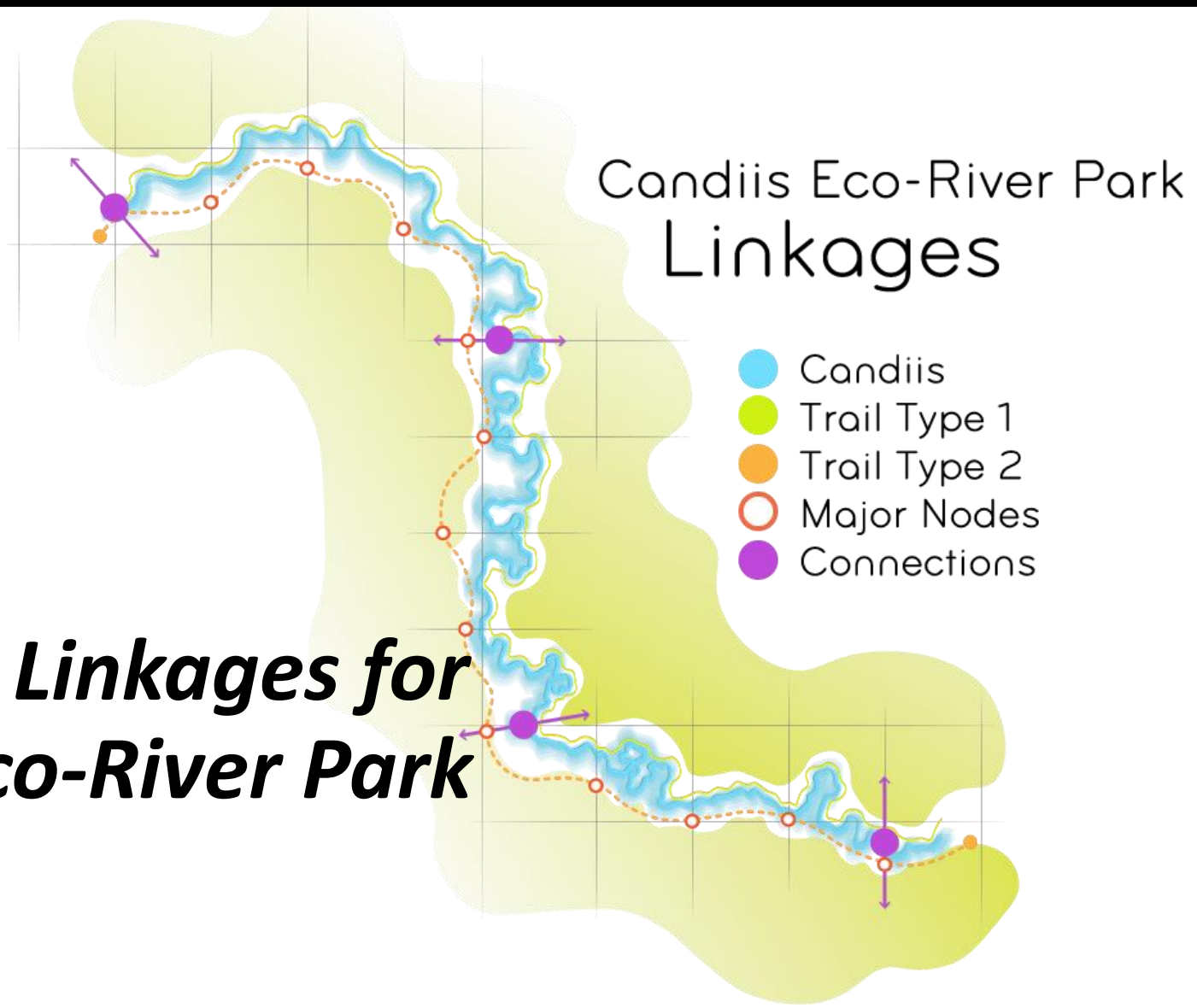
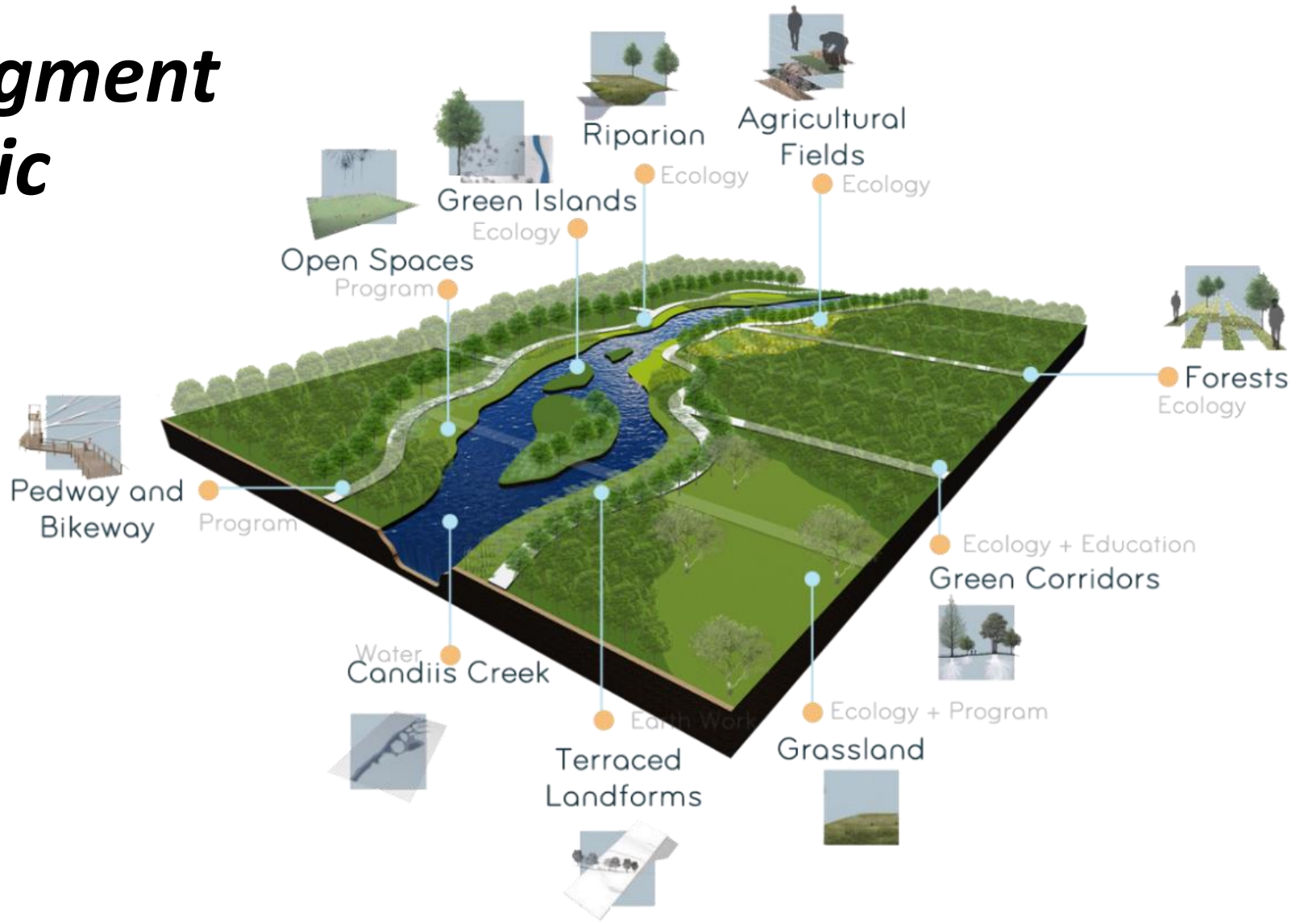


Proposed Linkages for Candiis Eco-River Park

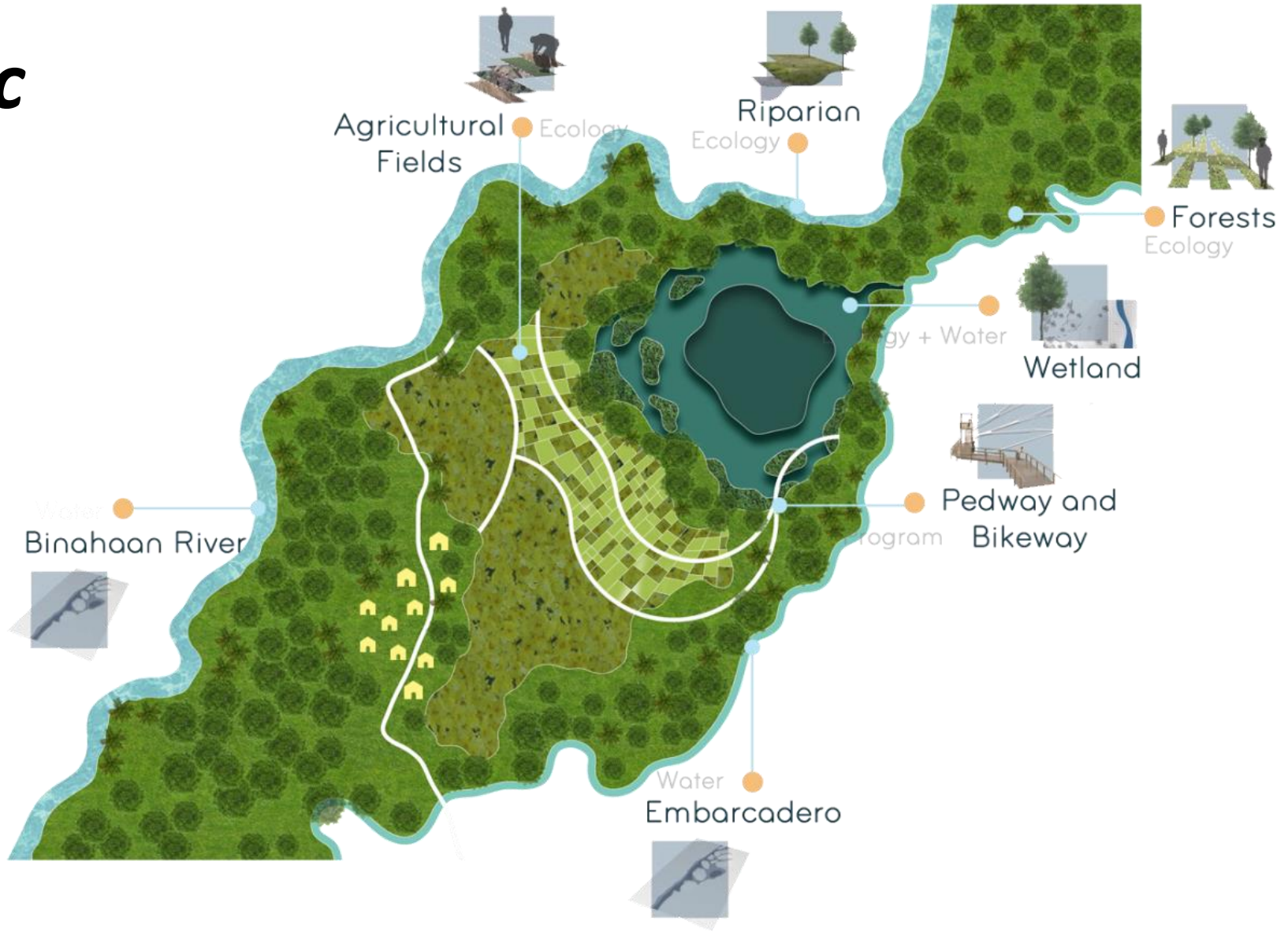
Case Study: THE BINAHAAN WATERSHED PLAN

Creek Segment Schematic Diagram

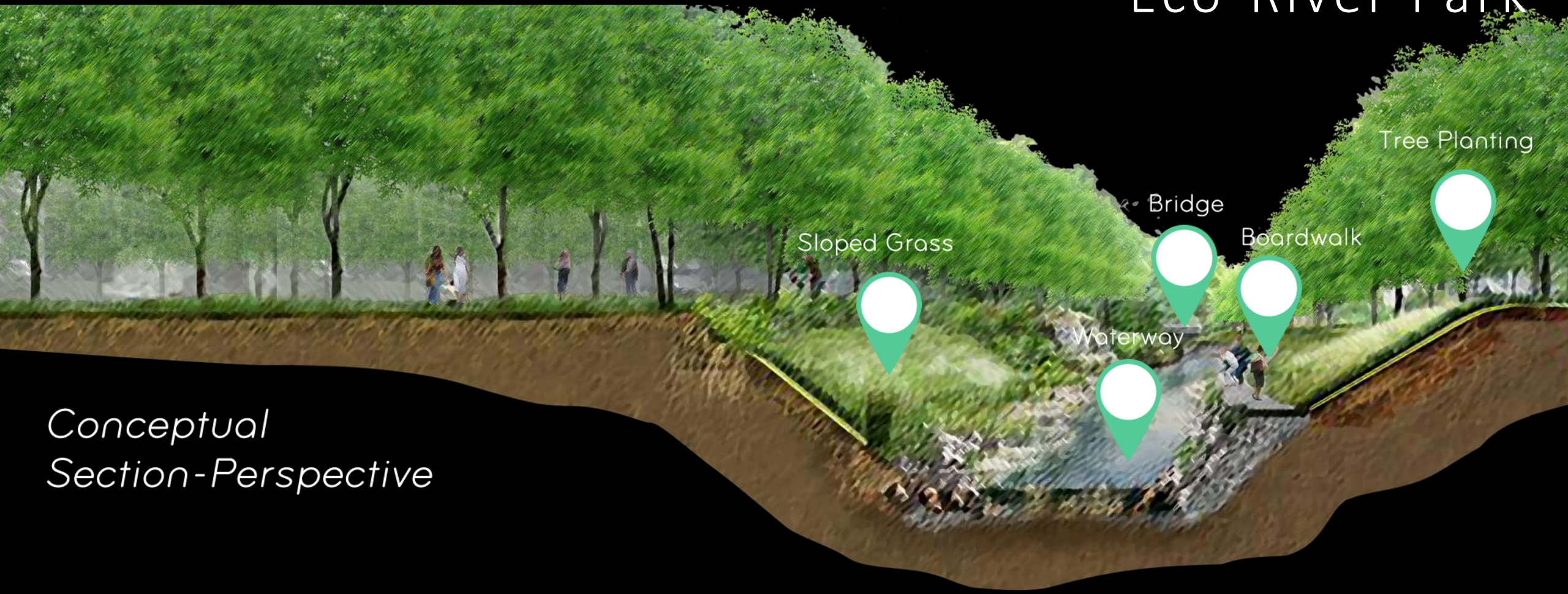


Case Study: THE BINAHAAN WATERSHED PLAN

Schematic Diagram



Candiis Creek
Eco-River Park

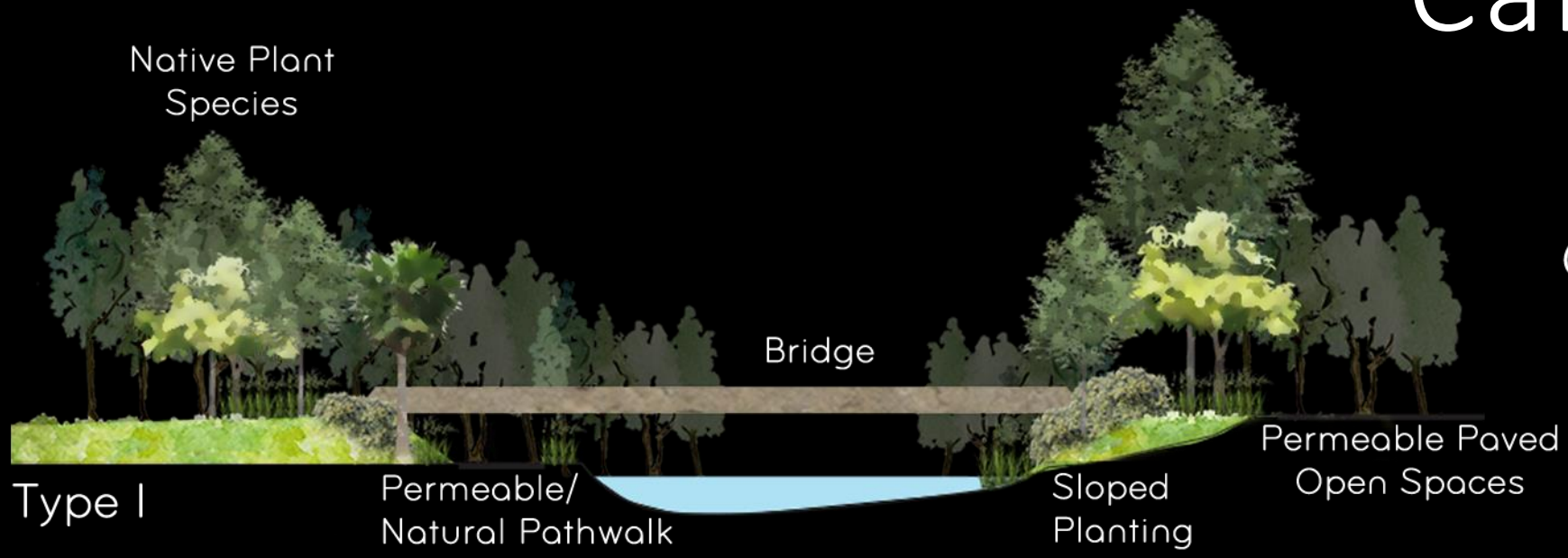


Conceptual
Section-Perspective

BINAHAAN WATERSHED PLAN

Candiis Creek
Eco-River Park

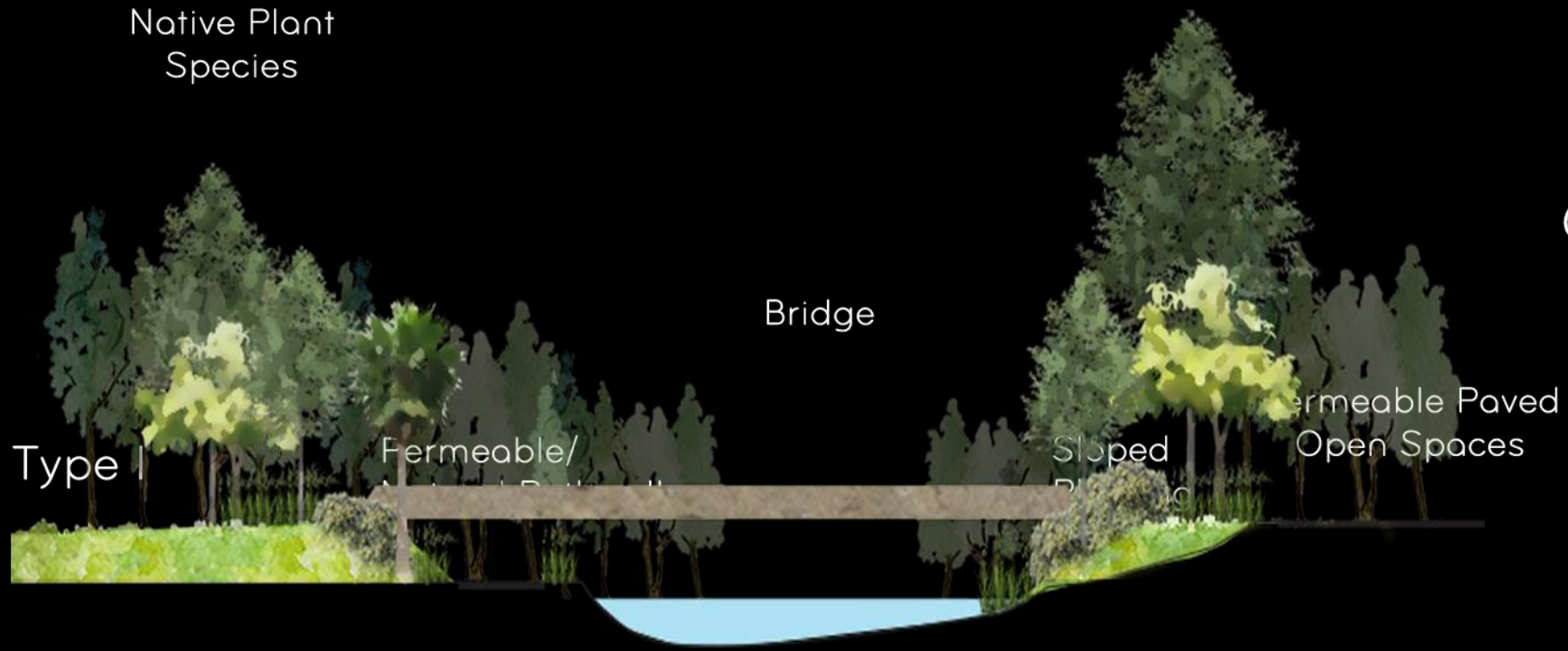
Conceptual Elevations



BINAHAAN WATERSHED PLAN

Candiis Creek
Eco-River Park

Conceptual Elevations



Candiis Creek
Eco-River Park

Riverbank Market Strips

Open Fields and Seating Areas

Water Recreation + Transportation

Conceptual Perspectives

BINAHAAN WATERSHED PLAN