



PROJECT MANAGEMENT CENTER FOR EXCELLENCE

A.J. CLARK SCHOOL OF ENGINEERING
Civil & Environmental Engineering Department



ACHIEVING REGULATORY COMPLIANCE THROUGH IMPLEMENTATION OF A PUBLIC PRIVATE PARTNERSHIP (PPP/P3)

David H. Washington, PMP

2018 Project Management Symposium



PRINCE GEORGE'S COUNTY | CORVIAS SOLUTIONS





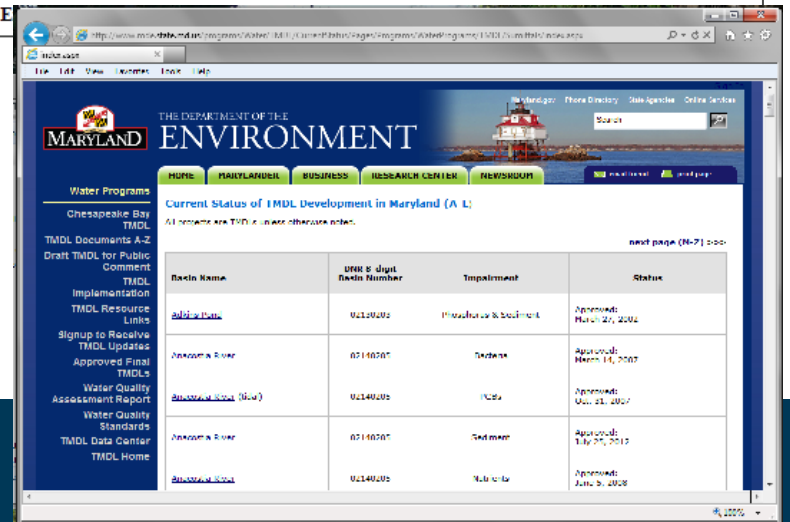
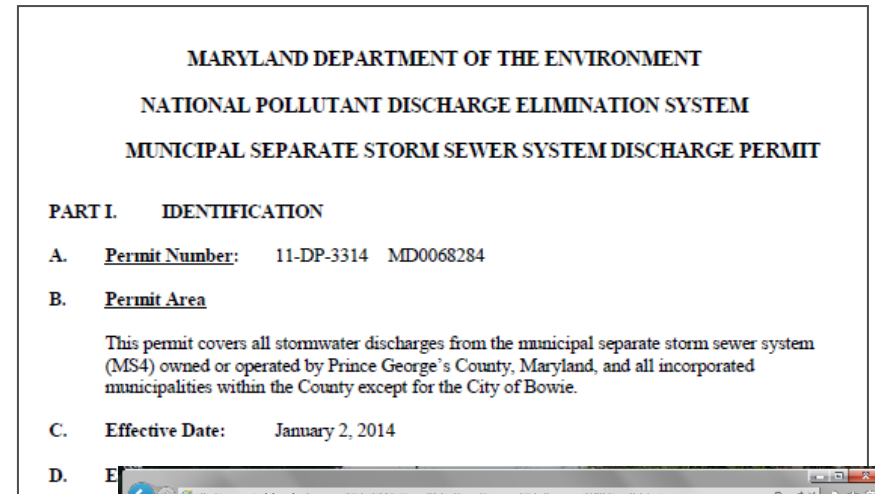
State and Federal Regulatory Drivers



Two Regulatory Drivers

Under the Clean Water Act

1. Municipal Separate Storm Sewer System (MS4) Permit
2. Total Maximum Daily Loads (TMDLs) = Pollution Diet



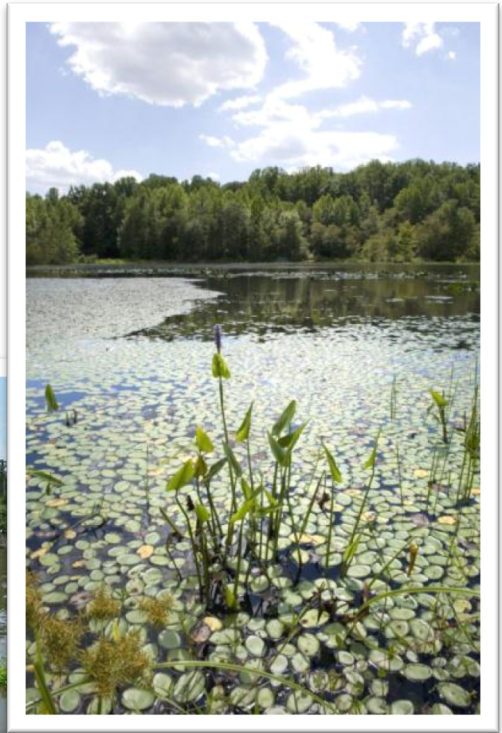
Regulatory Requirements

- Maryland Department of the Environment (MDE) is the state's regulatory agency for TMDLs
- Maryland is required under the Clean Water Act to list impaired waters and to take action to restore them
- Impaired waters are identified every two years
- Two-part process is used for restoration
 - Establish and submit a TMDL to EPA
 - Once TMDL is approved, develop a restoration plan



Overall Pollution Reduction Goals

- Restore and protect water quality
- Improve quality of life, recreational opportunities, wildlife habitat; improve biological condition of waterbodies throughout the County
- Meet regulatory requirements



Mandates for Prince George's County

- Retrofit 15,000 impervious acres by 2025

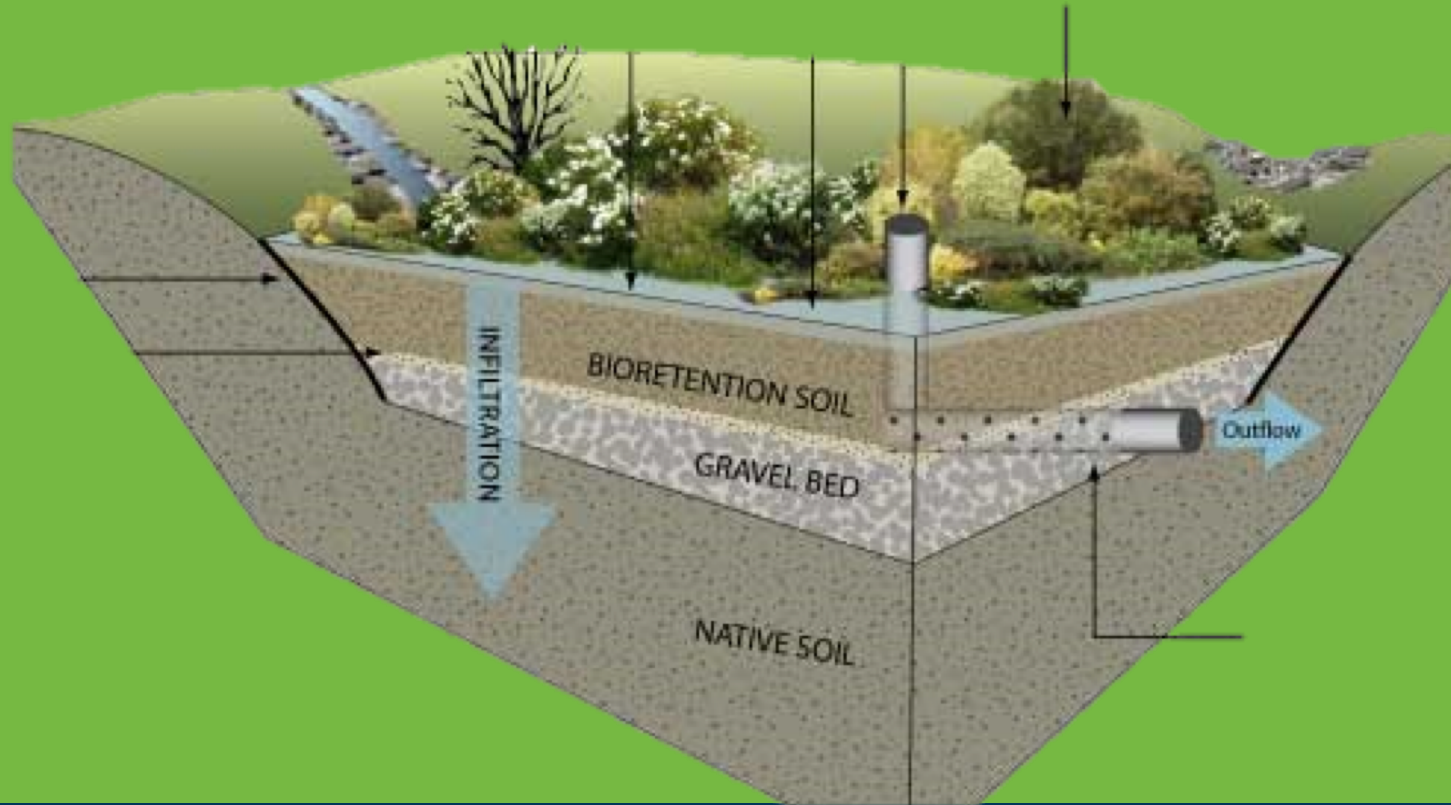
The Prince George's County Model

- Clean and healthy neighborhoods equals clean and healthy waters
- Revitalize older communities
- Lead with innovation
- Grow local economy
- Partner as much as possible

New Clean Water Act Mandates



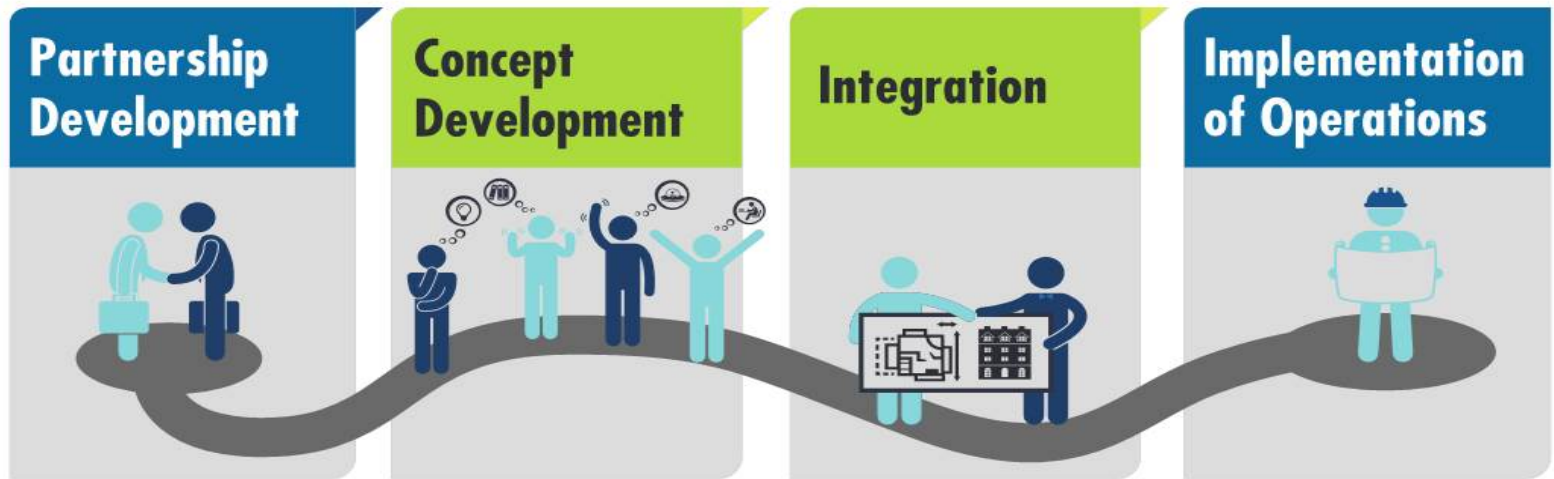
Clean Water through Retrofits





P3-Aligning Interest and Defining Goals

- Partners invest in defining goals and aligning interests
- Partners integrate through shared goals and aligned interests





Public Partner

- Oversight & Review of Program Activities
- Performance Assessments & Benchmarking
- Revenue / Funding
- Project Prioritization

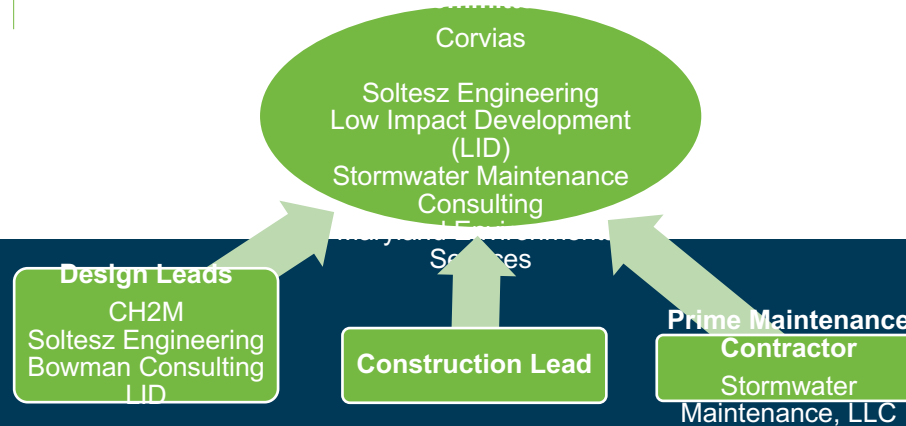
Private Partner

- Program Manager (1 to 3 yr. / Annual / Projects)
- Construction and Long-Term Asset Management
- Local Economic Development and Community Outreach
- Identification of Alternative Financing
- Ensuring Proper Implementation and Management of Assets
- 100% Guaranteed Budget Book Scope

**3rd Party
Completion
Certifier**

Maryland
Environmental
Services

Corvias



The Clean Water Partnership – Prince George's County, Maryland

- **Scope:** Initial Phase Retrofit Up to 2,000 impervious acres; Create programs to support and maintain inclusion for small and local business; and 30 year maintenance program.
- **Schedule:** 36 Months
- **Cost:** \$100M
- Design, Build, Operate, and Maintain whole-system solution that will deliver better, more efficient services through every phase
- Commitment to utilization of local, small, and minority-owned businesses performing 30-40% of work

Key Partners: Private Sector

“Better, Greener, Faster”

Launching Public Private Partnership (P3) Model for Efficiency to Build our Clean Water Infrastructure and Industry Cluster

- Enhance strengths and mitigate weaknesses
- Maximize efficiencies in procurement, permitting, design, construction, maintenance, and operations
- Business development requirements
 - Expand capacity of local businesses
 - Attract and develop new businesses to County

PROGRAM SCOPE PHASE 1

MARCH 2016

–

MARCH 2018

Plan, design and build, stormwater
retrofit projects across Prince
George's County

30 YEARS

of functional maintenance
of all devices installed

Projects will consist of

LOW- IMPACT

development types
of devices

Commitment to utilization
of local, small,
and minority-owned
businesses performing

30-40%

of work

RETROFIT 2,000 IMPERVIOUS ACRES

Community and social
economic development
through alternative
compliance with faith based
and 501c3 organizations,
mentor protégé program, and
the schools program

Program Overview



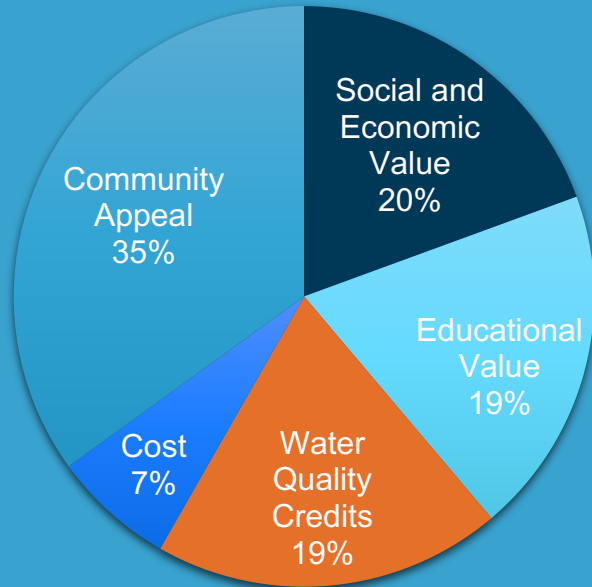
CWP PROGRAM MANAGEMENT PROCESS GROUPS:



Responsible Party	Corvias HDR	Corvias HDR Design Team, Assigned GC; Program Support Team	Corvias Design Team, Assigned GC	Corvias HDR Aegis MES	Corvias HDR MES
Activities	Complete Budget Books with selected projects for execution and obtain required approvals for Corvias; Right-of-entry; and County approval. Goal: Authorize the Budget Book	Develop an integrated Project Management Plan to achieve project objectives. Goal: Plan the execution of the work authorized in Budget Book	Execute and perform approved projects identified in Budget Book	Track and monitor performance of Design and Construction	Finalize all work for formal acceptance and certification by MES
Key Output/Deliverable	Budget Book Stakeholder Register	Detailed Scope and Requirements (Construction Documents) Schedule Cost (Bid) Community Outreach Plan Contractor Outreach Plan Risk Management Plan Procurement Plan Stakeholder Identification	Project Deliverables Team Performance Assessments Communications & Community Outreach Team Communications & status reports Bids; Selected Suppliers and Agreements	Schedule Forecasts & Updates Cost Forecasts & Updates Acres Forecast Work Performance Information Inspections Verification and Acceptance	Final Inspections Certification Close-out Procurement/Contracts Close-out Budget Book

Relative Value

Example



Projects are selected on a “best value” basis that includes:

- Cost
- Acre Credit
- Stakeholder Access
- Constructability
- Maintainability
- Location
- Community Benefit

Project Selection & Evaluation

PERFORMANCE METRICS & TRANSPARENCY



PUBLIC SCHOOLS

22

ACRES

ESTIMATED 18 PROJECTS



MUNICIPAL SITES

703

ACRES

ESTIMATED 242 PROJECTS



PONDS

1,425

ACRES

ESTIMATED 51 PROJECTS



PRIVATE PROPERTY

65

ACRES

ESTIMATED 109 PROJECTS



OUTFALLS

85

ACRES

ESTIMATED 85 PROJECTS

COMMUNITY IMPACT



\$425K

INVESTMENT IN
STUDENT INTERNSHIPS



MORE THAN
**250+ OUTREACH
EVENTS**

IN THE BUSINESS COMMUNITY



**SMALL
CHURCHES**

CONNECTING WITH CONGREGATIONS AS
PART OF OUR CWP PARTNERSHIP WITH
FAITH-BASED AND 501(c)
NON-PROFIT GROUPS

PRINCE GEORGE'S COUNTY | CORVIAS SOLUTIONS



CLEAN WATER PARTNERSHIP P-3 PROGRAM

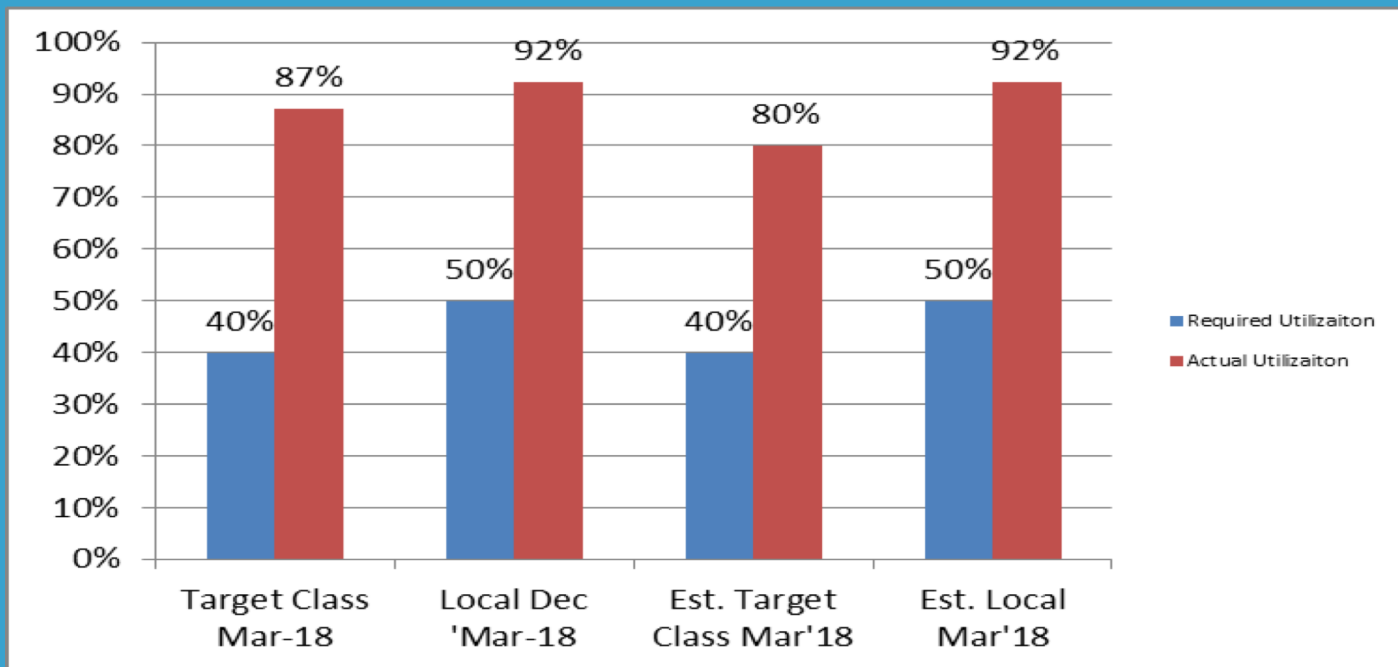
ACRE DELIVERY STATUS					ACRES BY PROGRAM				
Phase	Project Count	% of Total	Total Impervious Acres	% of Total	Sub-Program	Project Count	% of Total	Total Impervious Acres	% of Total
Planning & Concept					Production	19	20.21%	21.48	1.17%
Design					Production Pond	30	31.91%	647.35	35.12%
Construction in	21	22%	600.16	33%	Outfalls	2	2.13%	2.12	0.12%
Completed	73	78%	1,242.89	67%	ACP	15	15.96%	5.52	0.30%
TOTALS	94	100%	1,843.05	100%	Ponds	6	6.38%	1,133.52	61.50%
					Schools	22	23.40%	33.06	1.79%
					Stream Restoration	0	0.00%	-	0.00%
					TOTALS	94	100%	1,843.05	100%

Revised January 31, 2018

Phase I Results



Utilization Requirements & Actual Results



Phase I Local Economic Impact Summary

MPA Annual Requirement vs Actual				
	FY2015 3 mos	FY2016	FY2017	FY2018
TARGET CLASS UTILIZATION/PARTICIPATION				
Requirement Per MPA	30%	30%	35%	40%
Target Class Amount	\$ 148,000	\$ 5,462,000	\$ 21,870,016	\$ 40,297,903
Actual Utilization Percentage	44.32%	67.82%	86.05%	87.19%
Variance (under)/over	14.32%	37.82%	51.05%	47.19%
LOCAL UTILIZATION				
Local Requirement Per MPA	50%	50%	50%	50%
Actual Local Utilization	\$ 92,027	\$ 4,945,209	\$ 21,271,509	\$ 36,271,155
Actual Utilization Percentage	62%	91%	97%	90%
Variance (under)/over	12.18%	40.54%	47.26%	40.01%
COUNTY RESIDENT HOURS				
MPA Annual Requirement	15%	15%	30%	51%
Sustainable Utilization (Average)	15%	15%	34%	~35% to 46%
Peak Utilization (Construction Season)	15%	24%	52%	61%

Phase I Local, Small & MBE Participation

Before



After

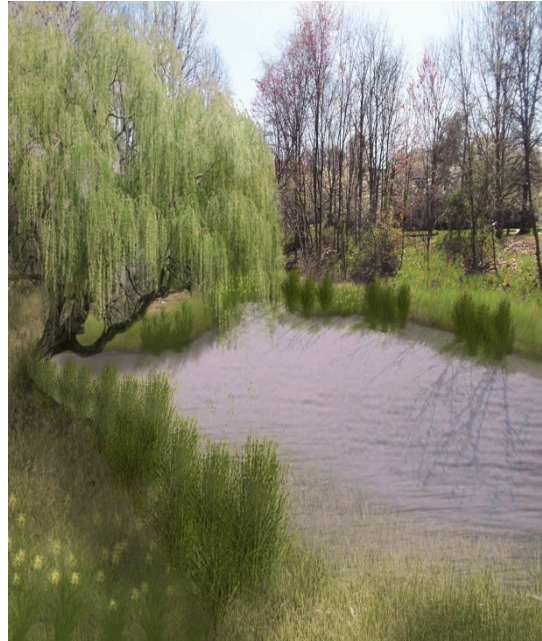


Montpelier Mansion

Before



At Completion



Greenbelt Lake:

Before and After

Install, upgrade, and maintain two forebays that treat a minimum of 10 percent of the lake volume with a drainage area of 507 acres with **337 impervious acres treated.**

Green Belt Lake



- A massive bed of natives plants that process stormwater and provide habitats and food for nearby wildlife;
- Plants that includes pollinators to feed butterflies and hummingbirds; and
- A walkway consisting of permeable pavers

**Completed Project:
Junior achievement**



CONNECT WITH THE CLEAN WATER PARTNERSHIP

cwp@corvias.com



@PGCCWP



@pgccleanwater



@PGCCWP



Look for our channel: The Clean Water Partnership

