



The Envision® Rating System for Sustainable Infrastructure Upgrades To v3

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Goal: Sustainable and Resilient Communities

Sustainable development is...

“...development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

- *Brundtland Commission Report 1987*



Envision Guidance for Sustainable Infrastructure

What?

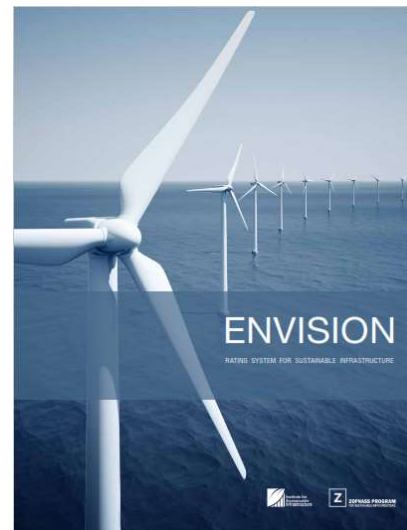
- ✓ All civil infrastructure
- ✓ All project phases
- ✓ Public and private projects

Why?

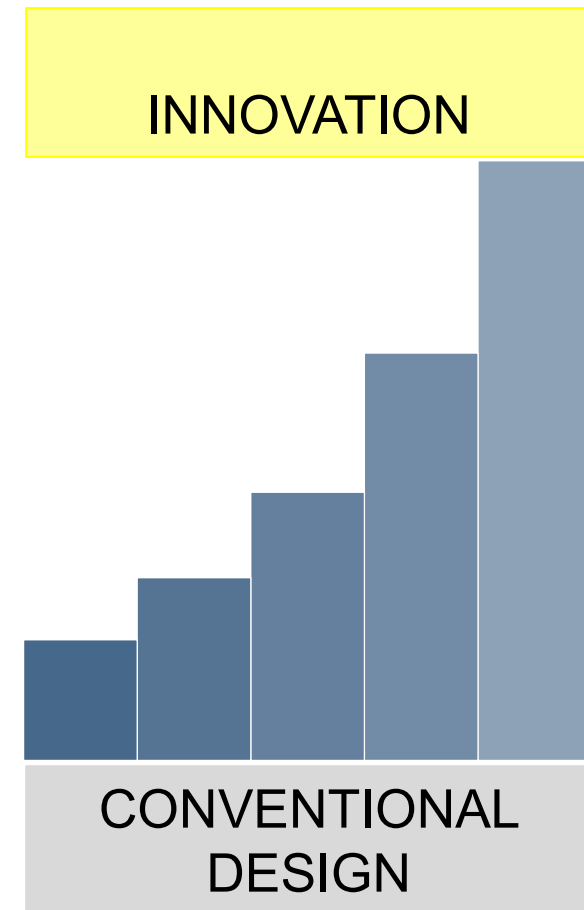
- Apply best practices
- Incorporate triple bottom line
- Be consistent, transparent, and accountable

How?

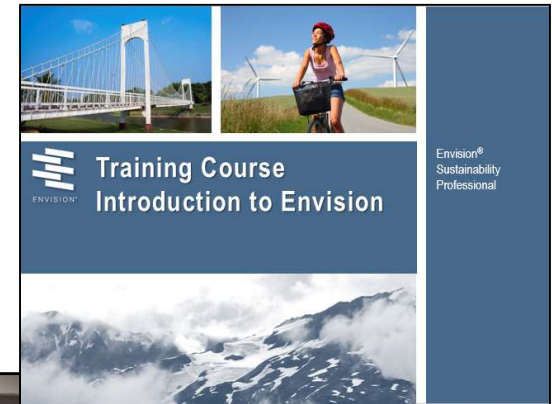
1. Pre-assessment checklist
2. Guidance manual
3. Online scoresheet



Envision: 60 Credits in 5 Categories

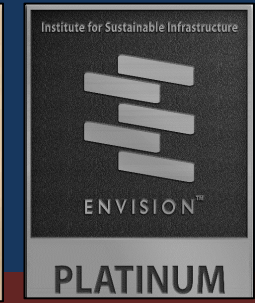
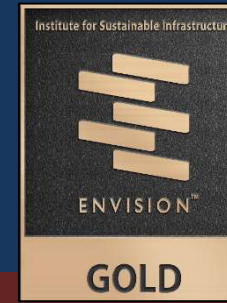
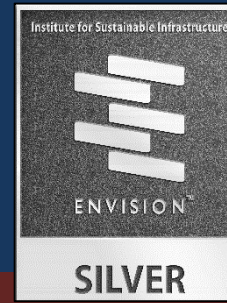


Envision Sustainability Professional (ENV SP)

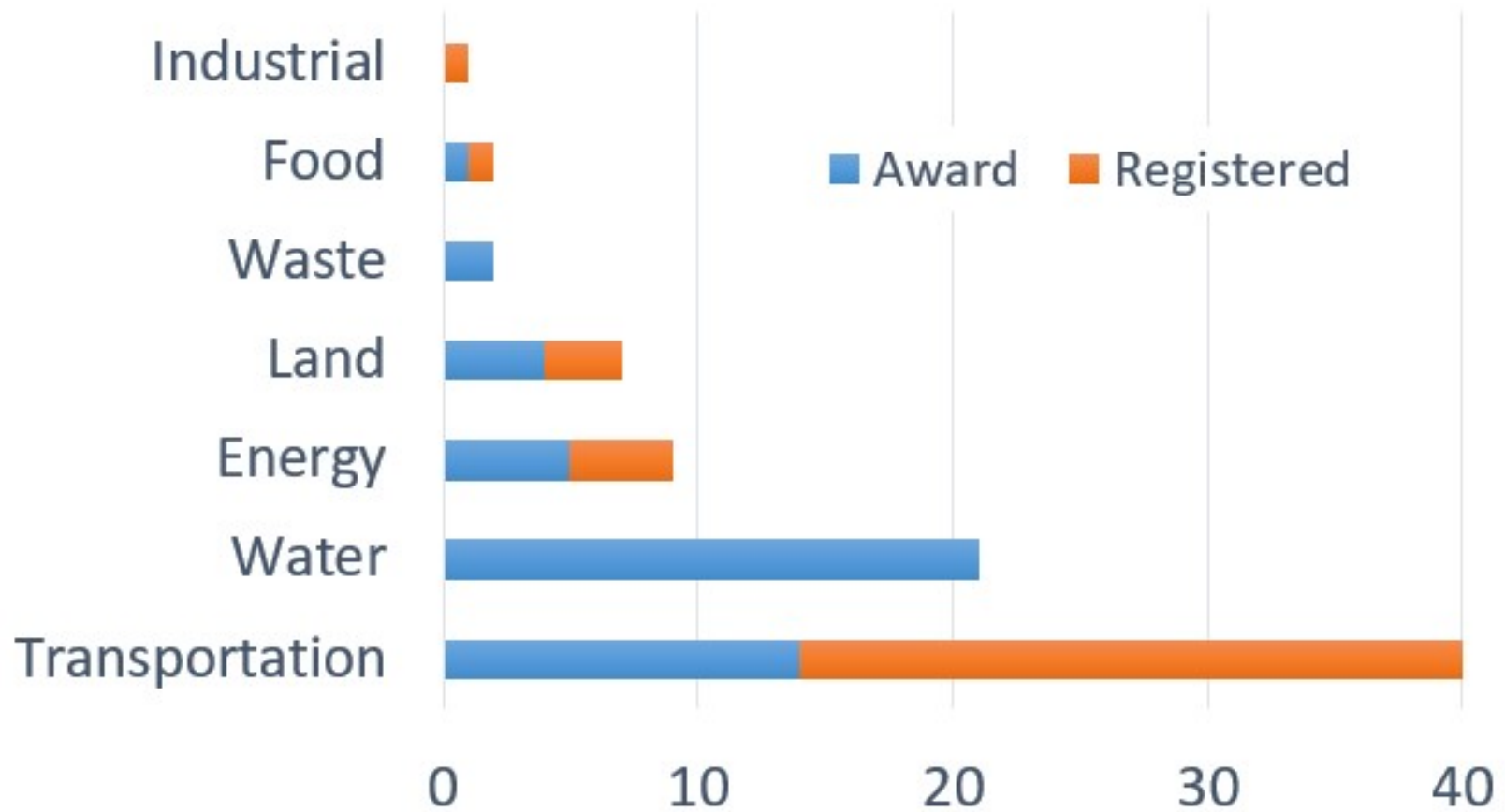


Online exam

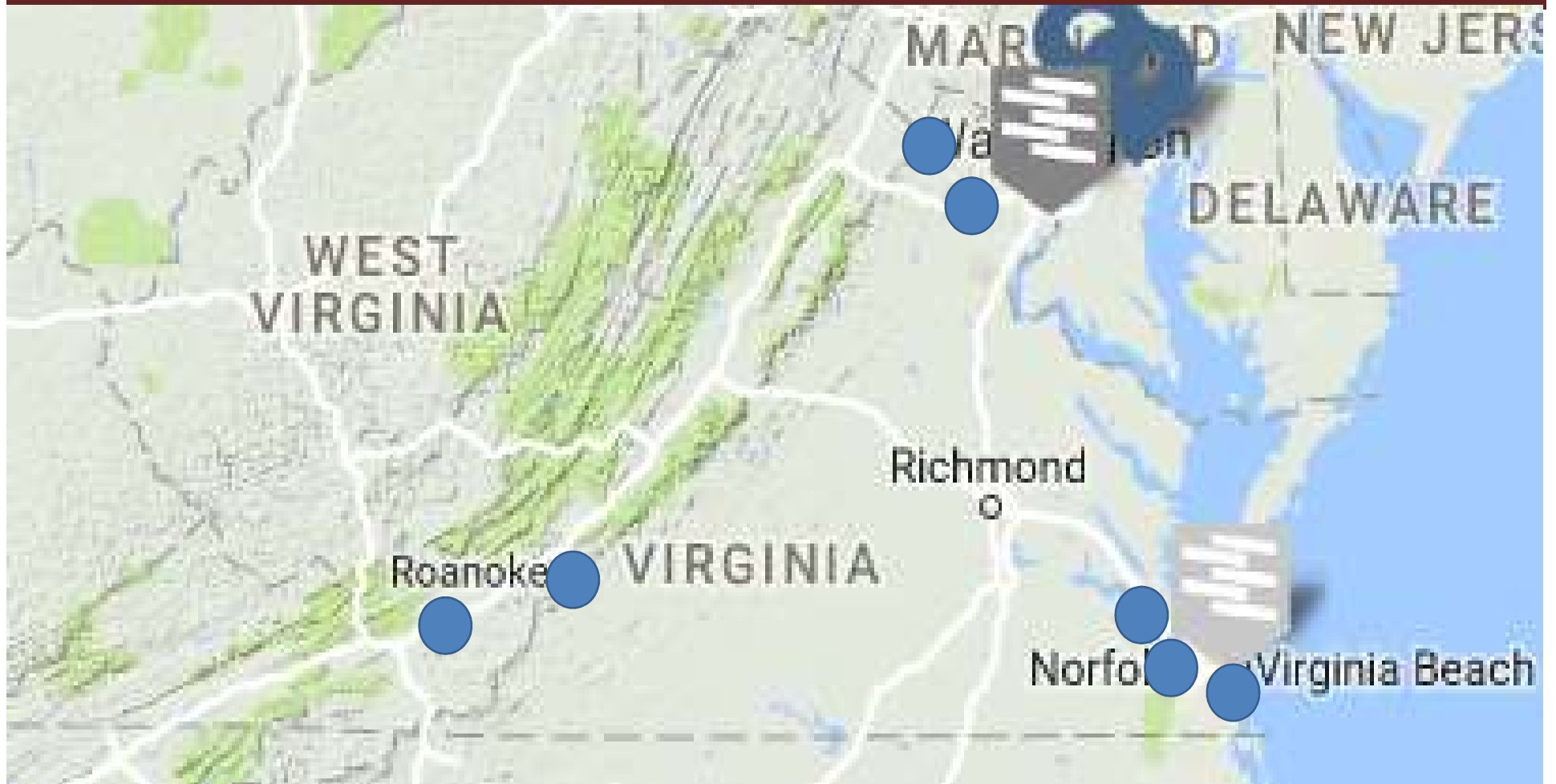
Project Awards



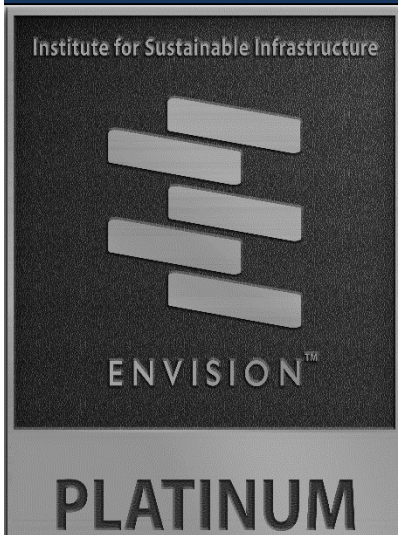
Project Types



Envision in Virginia

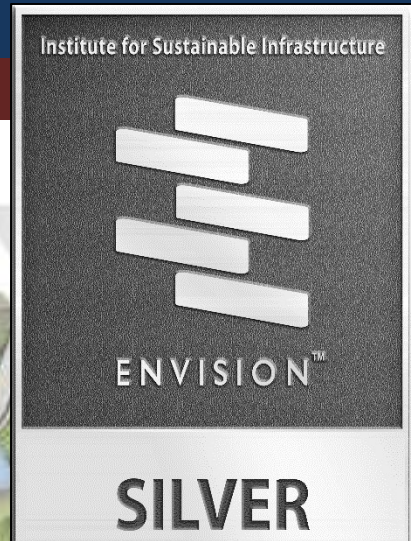
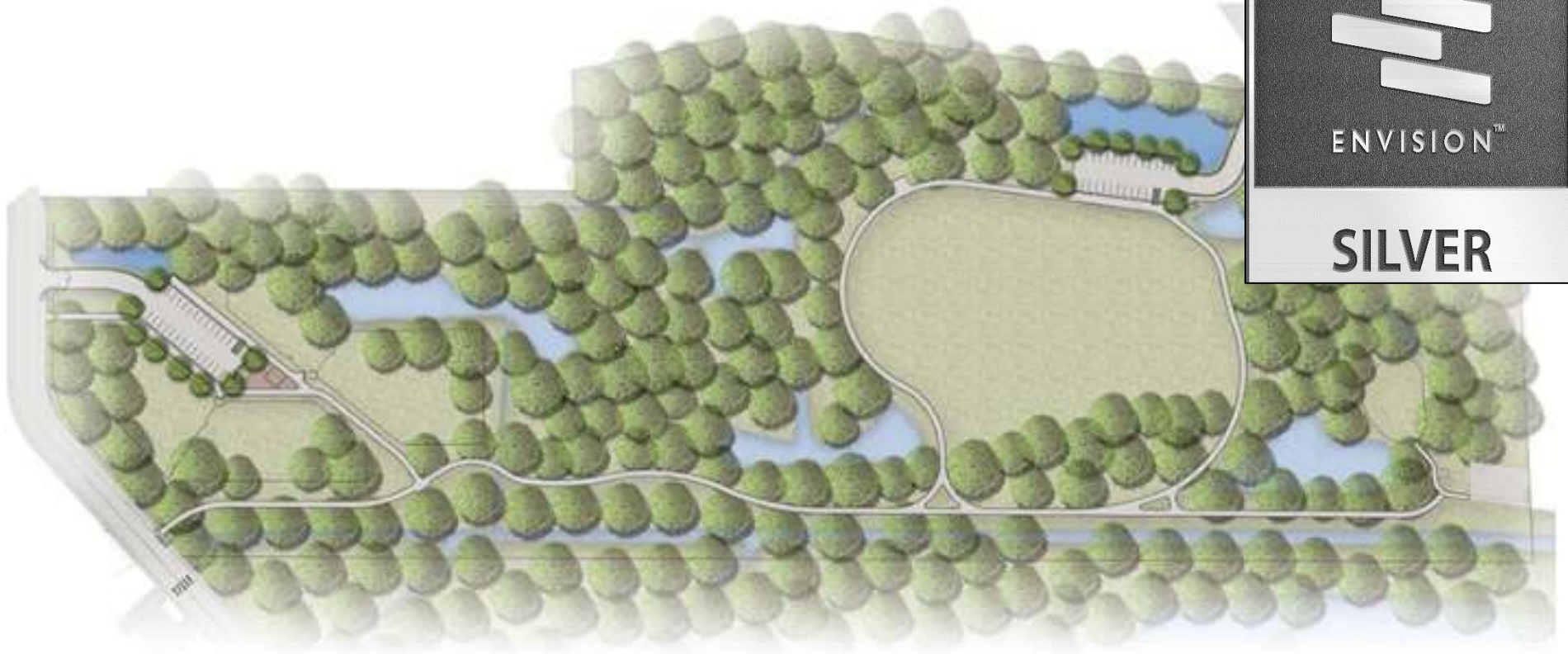


Nutrient Management Facility Earns Platinum



2016

Marshview Park Phase 1 Earns Silver



2017

Alexandria

Recent Request for Qualifications stated:

*“...the Contractor team shall **incorporate** the Institute for Sustainable Infrastructure’s **Envision Rating system** into the design approach.”*

Envision Credit Tracking and
Responsibility Matrix

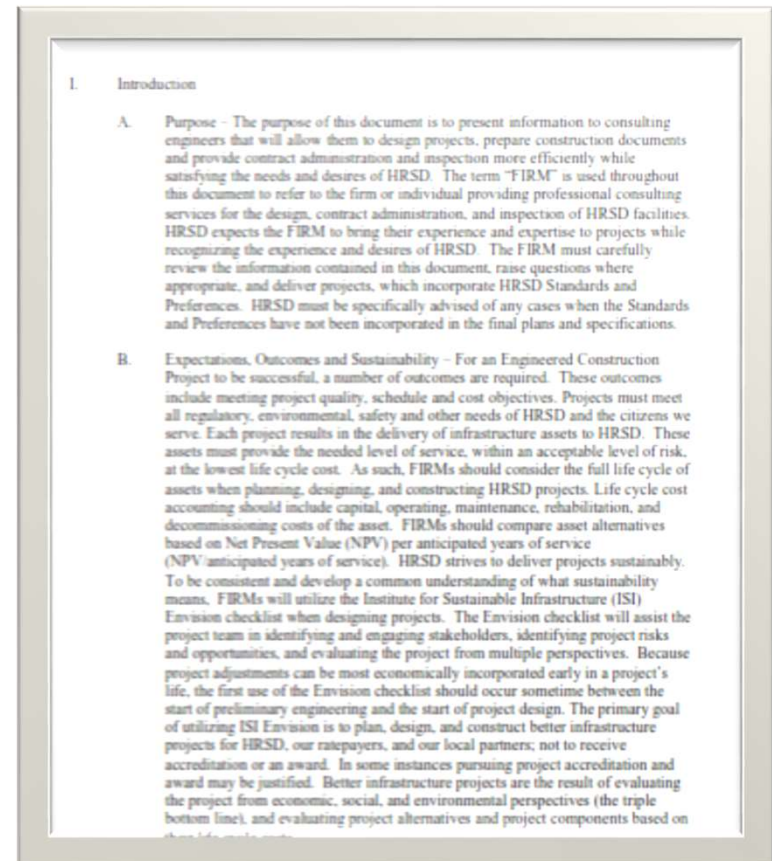
Submit at schematic,
30%, 60%, 90%, 100%, and
Bid Document Submissions

Hampton Roads Sanitation District

Standards and Preferences for Engineered Construction Projects, August 2015

Page 1

“...FIRMs will utilize the Institute for Sustainable Infrastructure (ISI) Envision checklist when designing projects.”



Roanoke Stormwater Department

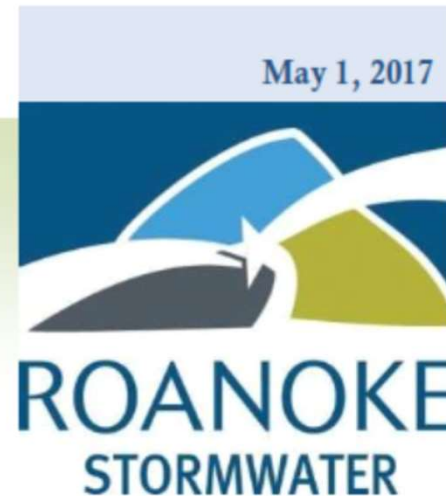
Stormwater Division | City of Roanoke
Prepared by Danielle B. Bishop, PE

Envision Rating Report

What is Envision?

Envision is a rating system and planning guide created by the Institute for Sustainable Infrastructure. The program recognizes that protection of our environment is essential because our resources are finite. It is not enough to have well designed and constructed infrastructure it must be sustainable as well. Envision was created especially for infrastructure projects with the goal of incorporating sustainability into such projects. The rating system promotes sustainability in five key categories: Quality of Life, Leadership,

May 1, 2017



Benchmarking Projects	Envision Score
Belle/King Street	8%
Salem Turnpike	4%
Ohio Street	4%

Fairfax County



Town of Blacksburg



How Can Envision Help You?

*Translate Goals into Actions
on Infrastructure Projects*

*Document Achievements on Projects
Toward Community Goals*

Envision as a Design Tool

Inherent to Project:

- Noise and Odor Control
- Stakeholder Involvement
- Infrastructure Renewal
- Capacity Enhancement
- Flexible Operations
- Resiliency

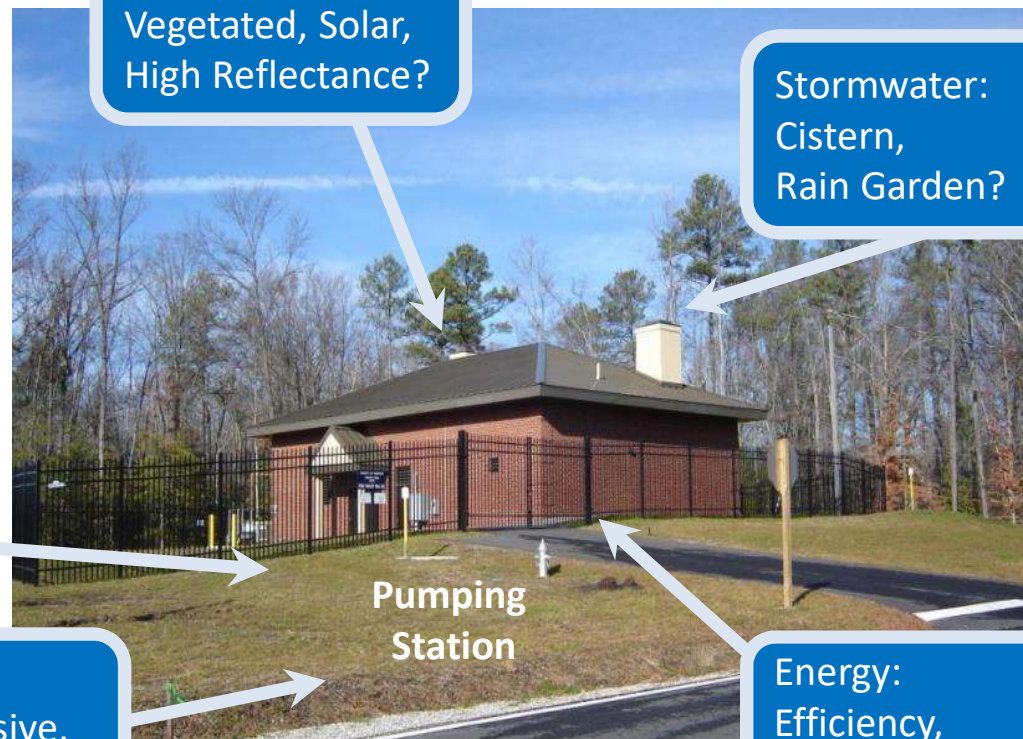
Roof:
Vegetated, Solar,
High Reflectance?

Stormwater:
Cistern,
Rain Garden?

Materials:
Regional, Recycled,
Reclaimed?

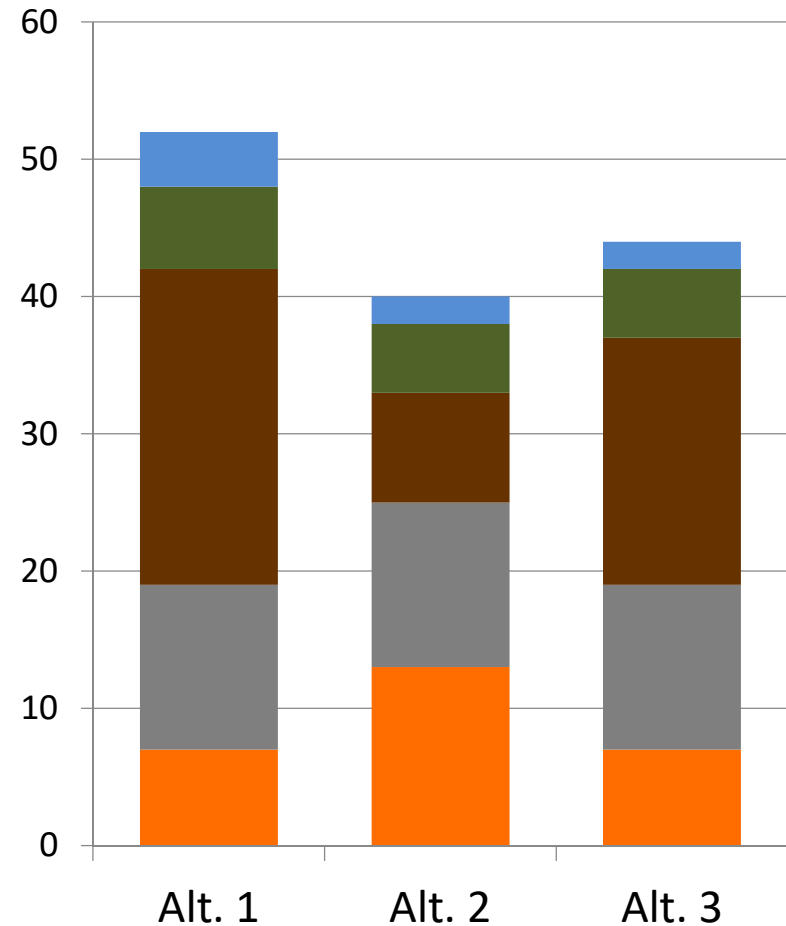
Vegetation:
Local, Non-invasive,
Natural Pesticides?

Energy:
Efficiency,
Renewable?



Envision as a Planning Tool

- Identify the “right” projects
- Define project scope
- Evaluate conceptual alternatives
- Prioritize a list of projects



Envision as a Construction and O&M Tool

- Envision looks at the entire project life cycle
- Credits to be executed in construction
 - Documented performance
- Credits related to long-term O&M procedures and setting aside resources



Envision as a Communication Tool

Envision™ Sustainable Infrastructure Rating System



Purpose of Envision™
To foster a dramatic and necessary improvement in the performance and resiliency of our physical infrastructure across the full dimensions of sustainability, Envision™ provides the framework and incentives needed to initiate this systemic change. As a planning and design guidance tool, Envision™ is meant to provide industry-wide sustainability metrics for all infrastructure types—an approach similar to its virtual facility counterpart, LEED.

Envision™ Background
Envision™ was created by a strategic alliance of the Zofnass Program for Sustainable Infrastructure at the Harvard University Graduate School of Design and the Institute for Sustainable Infrastructure (ISI). ISI is a not-for-profit education and research organization, dedicated to developing and maintaining a civil infrastructure rating system, and was formed by the American Council of Engineering Companies, the American Public Works Association and the American Society of Civil Engineers.



Overview

- Designed as a project assessment tool and to offer guidance for sustainable infrastructure design
- Can be used as a decision-making checklist or to document processes, decisions and design to apply for a third-party verified Envision™ award
- Objective framework of criteria and performance achievement that helps identify ways in which sustainable approaches can be used to plan, design, construct and operate infrastructure projects

Where Does Envision™ Apply?

- Covers roads, bridges, pipelines, railways, airports, dams, levees, landfills, water treatment systems and other civil infrastructure
- Does not include buildings or facilities, except process-focused, industrial-type facilities
- Primarily focused on the U.S. and Canada, Envision™ benefits and criteria could be adapted to other locations
- Used by infrastructure owners, design teams, community groups, environmental organizations, contractors, regulators and policy makers

Structure
Credit Categories & Subcategories
The Envision™ rating system has 90 sustainability criteria—called credits—divided into five categories, each with two to three subcategories:

- 1 | **Quality of Life** - Purpose, Wellbeing, Community
- 2 | **Leadership** - Collaboration, Management, Planning
- 3 | **Resource Allocation** - Materials, Energy, Water
- 4 | **Natural World** - Siting, Land & Water, Biodiversity
- 5 | **Climate and Risk** - Emissions, Resilience

Credit Levels of Achievement

- 1 | **Improved** - Performance that is above conventional
- 2 | **Enhanced** - Sustainable performance that adheres to Envision™ principles
- 3 | **Superior** - Sustainable performance that is noteworthy
- 4 | **Conserving** - Performance that has achieved essentially zero impact
- 5 | **Restorative** - Performance that restores natural or social systems

Innovation Points
Possible points awarded in each category for both exceptional performance and application of methods that push innovation in sustainable infrastructure.

Project Award Levels
To qualify for an award, projects must achieve a minimum percentage of the total applicable Envision™ points. Projects can be recognized at four award levels.

Recognition Level	Total Applicable Points (%)
Bronze Award	20
Silver Award	30
Gold Award	40
Platinum Award	50

First-Ever Envision™ Project Award




The 141,000-square-foot William Jack Hernandez Sport Fish Hatchery is the heart of Alaska's sport fish stocking program and the largest indoor sport fish hatchery in North America.

- Includes more than 100 fish-rearing tanks
- Rases Chinook and Coho salmon, rainbow trout, Arctic char, and Arctic grayling
- Produces more than six million fish per year
- Stocks 200 different locations
- State-of-the-art water recirculation technologies use approximately five percent of the water and energy required in a conventional hatchery

HDR was the prime consultant for this state-of-the-art facility.
For more information, visit www.hdrinc.com.



- Outreach language
- Transparent approach toward triple bottom line
- Award confirms achievement

Envision Alignment With Other Programs

FEMA NFIP Community Rating System

- 11 of 19 CRS activities are in Envision
- 15 of 55 Envision credits are in CRS

*The best CRS is **almost Bronze** in Envision!*

Effective Utility Management (EUM)

APWA Accreditation

VDEQ VEEP EMS

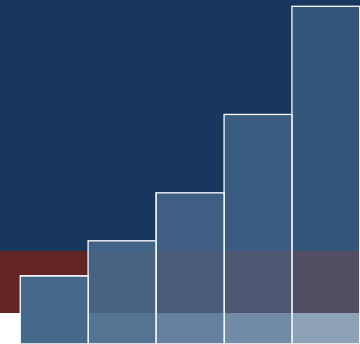
Envision v3: 64 Credits in 5 Categories



Changes to Credits:

- 7 Eliminated
- 6 Rewritten
- 14 New:
 - Construction
 - Resilience
 - Equity and social justice
 - Economic evaluation

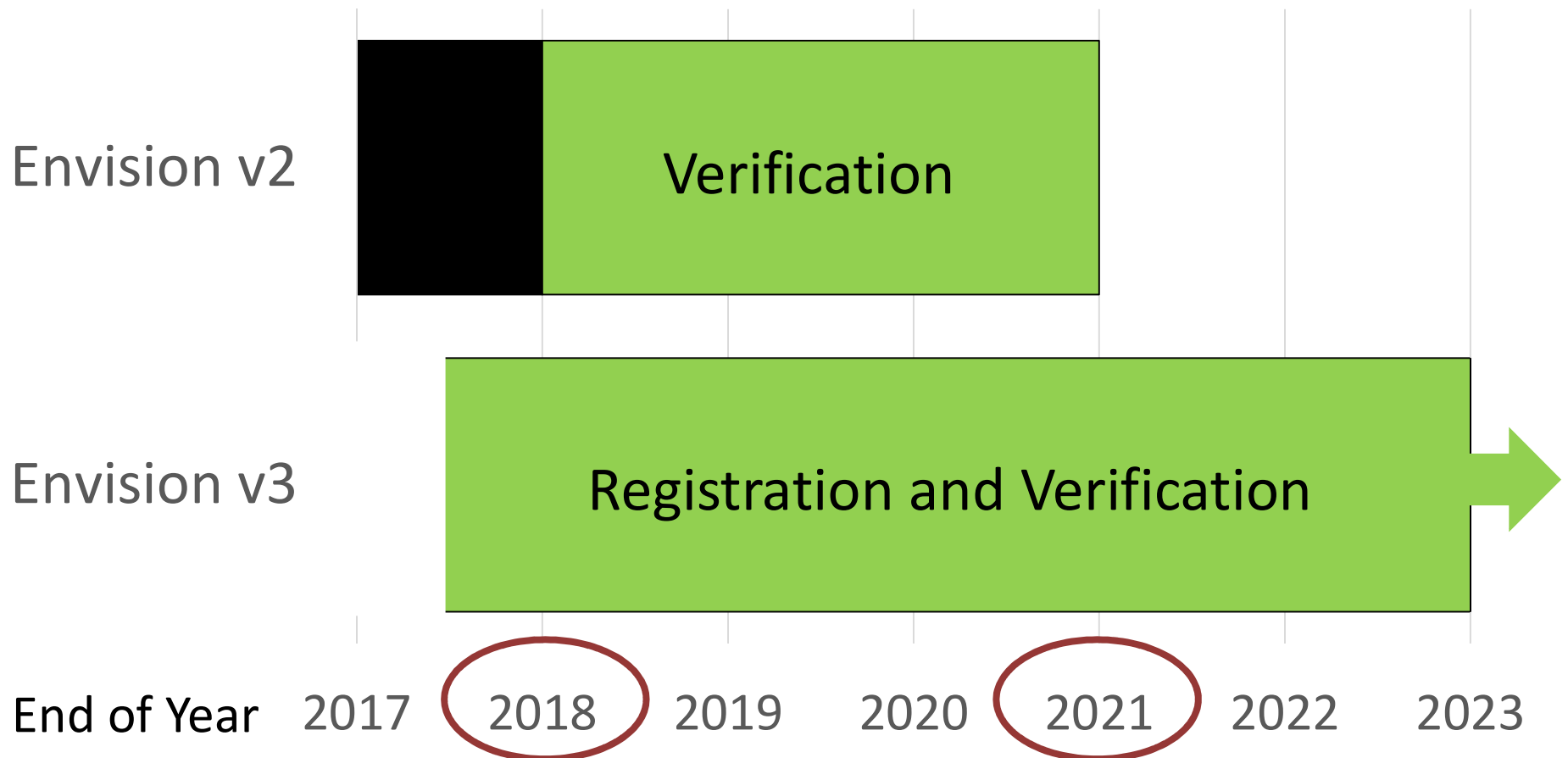
Manual Formatting



LEVELS OF ACHIEVEMENT

IMPROVED	ENHANCED	SUPERIOR	CONSERVING	RESTORATIVE
A + B + C	A + B + C + D	A + B + C + D + E	A + B + C + D + E + F	A + B + C + D + E + F + G
(3) Understanding Equity	(6) Mitigation	(12) Empowerment	(18) Equitable Access to Benefits	(24) Equitable Futures
<p>(A) Stakeholder engagement is conducted early and informed by the historic context of equity, social justice, and environmental justice. When projects impact, or potentially impact, indigenous communities, specific attention is given to developing a relationship of respect and mutual understanding that supports the autonomy, authority, and rights of these communities.</p>				
<p>(B) The project team assesses the social impacts the project will have on the host and affected communities. This includes mapping impacts and benefits across local communities.</p>				
<p>(C) Key members of the project team make institutional commitments to equity and social justice, including non-discrimination; diversity and inclusion; and pay equity. Large-scale projects make targeted and project-specific commitments.</p>				
	<p>(D) Based on the assessment of social impacts, the project addresses or mitigates social impacts. Mitigation strategies are informed by stakeholder consultation and participation.</p>			
		<p>(E) The social, economic, and environmental benefits and impacts of the project are shown to not disproportionately favor or disfavor any community.</p>		
			<p>(F) The project empowers communities to engage in the development process. Qualified professionals identify unconscious biases and barriers to inclusion. Programs target higher rates of engagement, and include transparent grievance mechanisms to facilitate resolutions.</p>	
				<p>(G) The project positively addresses or corrects an existing or historic injustice or imbalance.</p>

Version Transition



Project Award Program

Envision v2

Registration fee
+
Verification fee
=

Planning and
Design Award

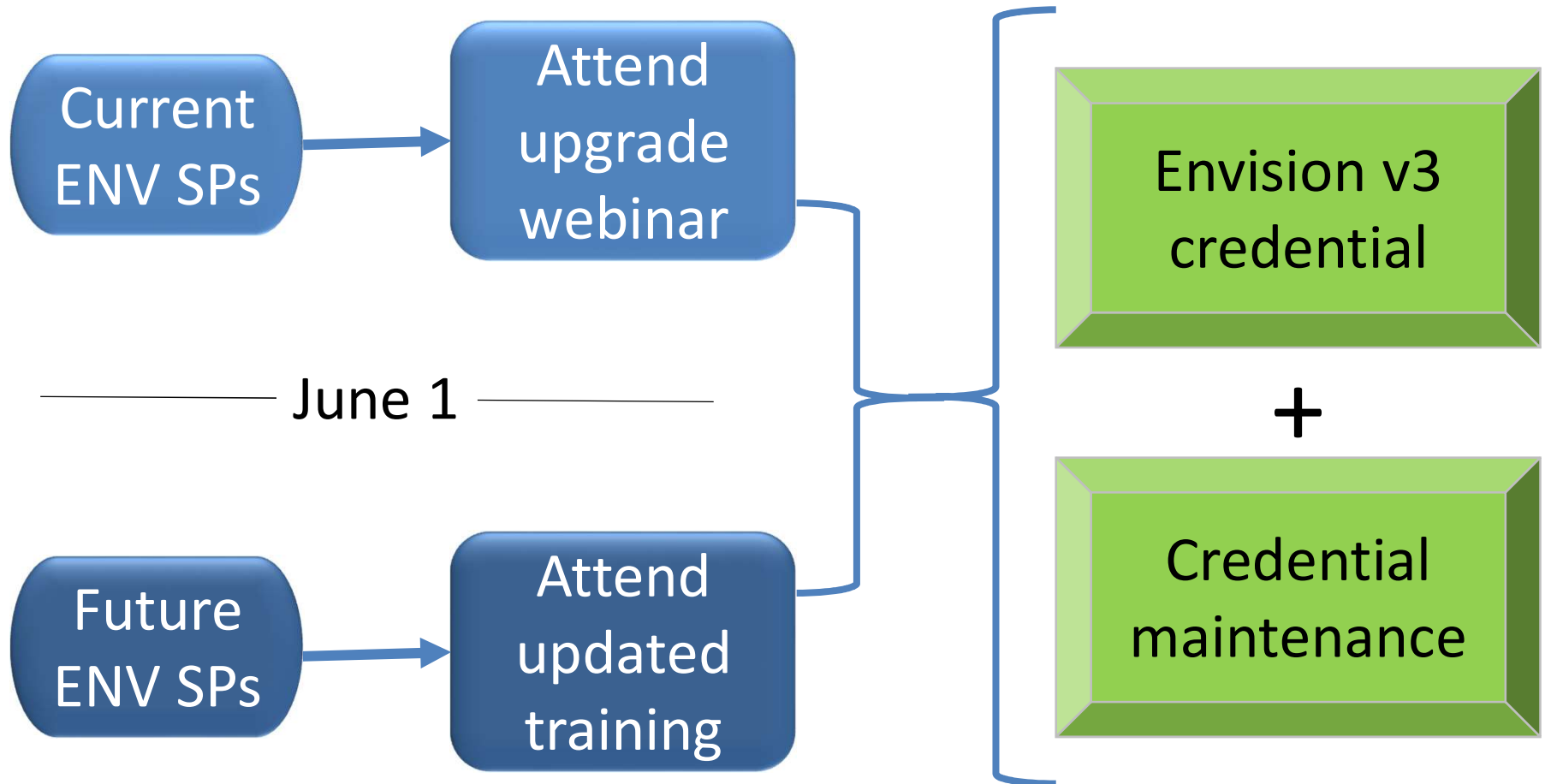
Envision v3

Registration fee
+
Verification fee
=

Optional
Planning and Design Award

Post-Construction
Award

ENV SP Credential



Goal: Sustainable and Resilient Communities

- Look for opportunities to make incremental improvements in performance on every project
- Use standardized tools and metrics instead of “black box” or proprietary methods
- Document sustainable practices and monitor performance
- Report results and share lessons learned



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