



Growing a Green Infrastructure Workforce

Green Infrastructure O&M Webcast Series

October 27, 2022

Housekeeping

- This presentation is being recorded and will be made available via <https://www.epa.gov/green-infrastructure/green-infrastructure-webcast-series>
- All participants are muted to minimize background noise.
- Technical issues or questions?
 - Contact us via the Q&A Box.





Green Infrastructure Operations and Maintenance Webcast Series



2022 Green Infrastructure Webcasts



Operations and Maintenance Webcast Series:

- April 2022: Long-term considerations
- June 2022: Asset Management
- ***Today! Green Infrastructure Workforce***
- December 2022: Green Infrastructure in MS4 Permits
- All webinars are recorded and available online: <https://www.epa.gov/green-infrastructure/green-infrastructure-webcast-series>

Regional Reflections of Green Infrastructure Examples

- Hosted 6 regional webinars in partnership with American Associations for the Advancement(AAAS) of Science's EPI Center
- All webinars are recorded and available online: <https://www.epa.gov/green-infrastructure/green-infrastructure-federal-collaborative>



Stay in touch: GreenStream List Serve

join-greenstream@lists.epa.gov

Today's Speakers:

Daniel Apt, Founder and President of Olaunu;

- National Green Infrastructure Certification Program

Emily Burton, MS4 Program Specialist at Fairfax County;

- Operation Stream Shield

Gabe Catenacci, Regulatory Assistance Specialist at Colorado Dept. Public Health and Environment;

- Groundwork Denver's Green Infrastructure Training (GRIT) Program





National Green Infrastructure Certification Program

Daniel Apt, Olanu – NGICP Certification Committee Chair
Charles Wilson, EnviroCert Certification Administrator

National Green Infrastructure Certification Program (NGICP)

Summary:

- ▶ Sets national certification standards for construction, inspection and maintenance workers
- ▶ Designed to meet international best practice standards
- ▶ Aims to advance the establishment of sustainable communities by promoting green infrastructure (GI)
- ▶ Supports the development of proficient green workforce
- ▶ Establishes a career path for skilled GI workers

National Green Infrastructure Certification Program (NGICP)

Structure:

- ▶ Initiated by DC Water and Water Environment Federation
- ▶ Includes 14 founding partners from across the country
- ▶ Led by the Board of Directors and includes a Strategic Advisory Council, Certification Committee, and Technical Advisory Group
- ▶ Body of Knowledge defined by experts
- ▶ Technical material and test questions based on the Body of Knowledge
- ▶ Testing provides confirmation that level of understanding meets a basic threshold

National Green Infrastructure Certification Program (NGICP)

Training Material:

- ▶ In-class training
 - ▶ Lecture - PowerPoint slides
 - ▶ Interactivity - individual/small group exercises
 - ▶ Quizzes, identification of key components of GI practices/systems, etc.
- ▶ In-field training
 - ▶ Site visits to GI practices and sites
 - ▶ Mock inspections
 - ▶ Identification of key components of GI practices/systems

National Green Infrastructure Certification Program (NGICP)

Information Covered:

- ▶ Background Information
 - ▶ Introduction to stormwater management and green infrastructure
 - ▶ Materials and vegetation used in GI practices and systems
 - ▶ Safety, site management, and managing for long-term performance
- ▶ Green Infrastructure Practices
 - ▶ Bioretention
 - ▶ Permeable/porous pavement
 - ▶ Rainwater harvesting
 - ▶ Green/blue roofs
 - ▶ Dry wells
 - ▶ Constructed stormwater wetlands

National Green Infrastructure Certification Program (NGICP)

Information Covered for GI Practices:

- ▶ Background information
 - ▶ What the GI practice is and how it functions
 - ▶ The components and materials used for the GI practice
- ▶ Construction
 - ▶ Sequence of construction
 - ▶ Typical/common problems – good/bad examples
- ▶ Inspection and Maintenance
 - ▶ What to look for – typical/common problems including good/bad examples
 - ▶ Types of corrective action to take

National Green Infrastructure Certification Program (NGICP)

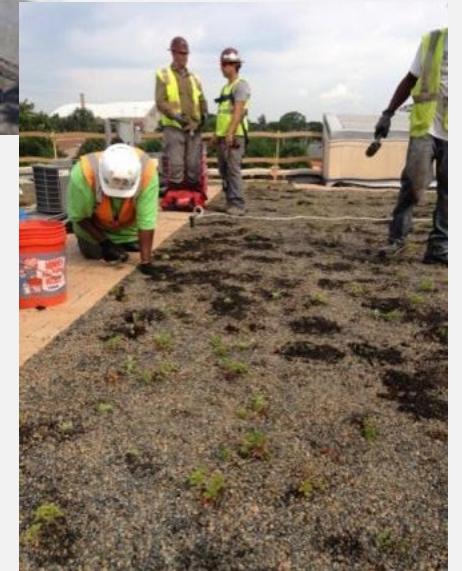
Test Information and Preparation:

- ▶ Test:
 - ▶ Based on the exam blueprint available on the NGICP website
 - ▶ http://ngicp.org/wp-content/uploads/2016/11/NGICP-Exam-Blueprint-Summary_Nov-2016.pdf
 - ▶ A multiple choice computer-based test
 - ▶ Between 130-140 questions over 3 hours out of which only 100 questions are graded
 - ▶ Offered at Prometric testing locations
- ▶ Test preparation provided by:
 - ▶ Quizzes and “mock” tests throughout the course
 - ▶ Conclusion module provides opportunity for additional questions on material covered as well as testing information

Stormwater Management Green Infrastructure: Jobs

Jobs Associated with GI:

- ▶ Entry level
 - ▶ GI inspection staff
 - ▶ GI maintenance staff
 - ▶ Construction staff on GI project sites
- ▶ Mid-Level
 - ▶ Foreman of GI inspection and maintenance crew
 - ▶ Construction manager for GI project sites
- ▶ Top-Level
 - ▶ Manager of a GI inspection and maintenance program
 - ▶ GI researcher
 - ▶ GI designer



Additional questions contact:

dapt@olaunu.com

(949) 533-9785

or

cwilson@envirocert.org

(828) 442-0899

or

Melissa McKinney, NGICP Director

mmckinney@envirocert.org

(279) 234-6608



Questions?



FAIRFAX COUNTY OPERATION STREAM SHIELD

Enhancing Communities While Building Lives

Department of Public Works and Environmental Services
Working for You!



A Fairfax County, VA, publication
October 27, 2022

Agenda

- Developing OSS
- Engaging Partners
- Roles and Responsibilities
- Workforce Development
- Metrics
- Lessons Learned

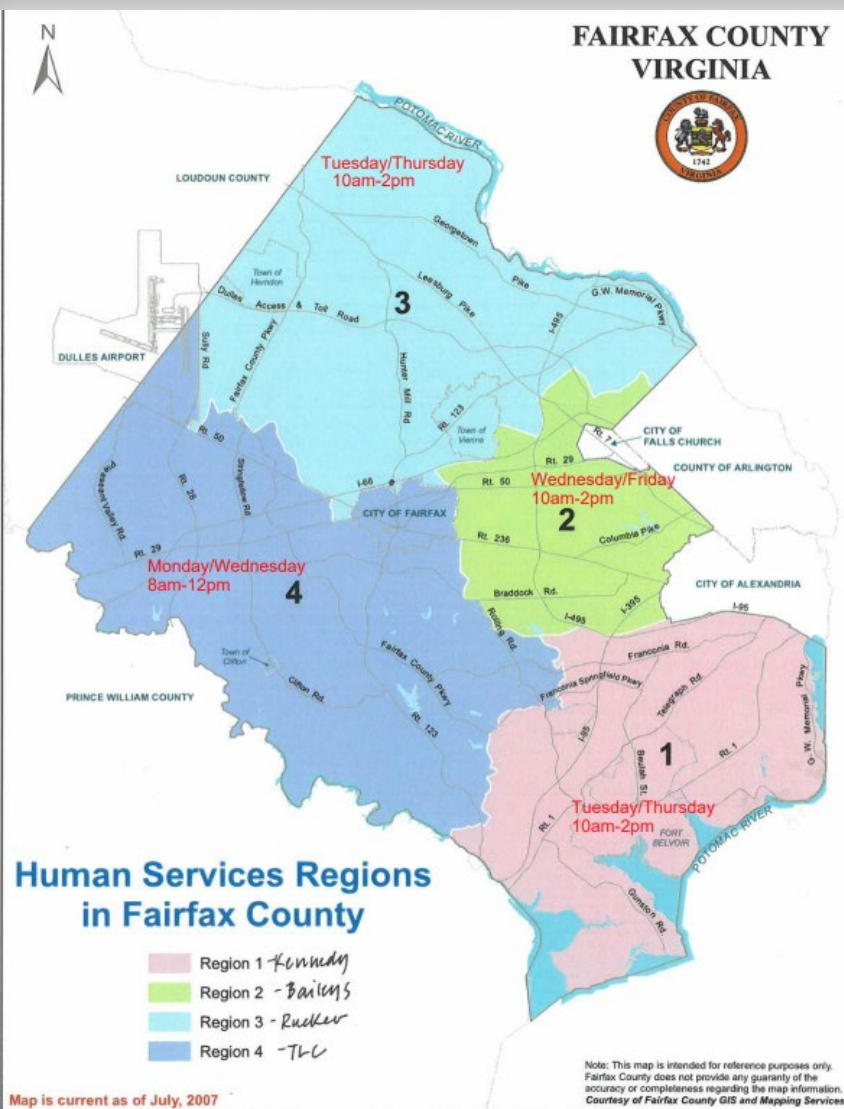


Developing OSS

Provide part-time, temporary employment experience and compensation to clients of the County's homeless shelters



Developing OSS



Elenore Kennedy Shelter
& Bailey's Community
Shelter



Embry Rucker Community Shelter



Engaging Partners

Partnerships are
CRITICAL!



Roles & Responsibilities

Fairfax County

- Identify litter hotspots and project sites
- Gain permission to access property
- Provide schedules and maps to non-profits one week in advance
- Provide some trash bags and safety vests
- Remove collected trash and debris for proper disposal

Non-Profits

- Vet clients
- Provide supervision, worker's comp, transportation to work sites and a hot meal
- Administer and manage monetary transactions
- Track work completed each day and submit to County project manager



Workforce Development

Solid Waste transfer station

- Maintenance Worker
- Seasonal Laborer



Noman Cole Wastewater Treatment Facility

- Operator 1



Park Authority

- Seasonal Laborer



Metrics from FY22



20 tons of
trash
removed



Removed
Invasives
from 77 sites



Provided
1633 hours
of temporary
employment
to 3813
individuals



“...all residents deserve an equitable opportunity to succeed – regardless of their race, color, sex, nationality, sexual orientation, religion, disability, income, or where they live.”



Lessons Learned

- Littering and illegal dumping remain very difficult to enforce
- Removal of collected and bagged trash
- Steep learning curve for everyone
- Need a mobile application
- Access to sites
 - FCPS, private property, encampments



For additional information, please contact

Emily Burton

703-324-5637

Emily.Burton2@fairfaxcounty.gov

www.fairfaxcounty.gov/publicworks





GROUNDWORK

Denver

2022 Green Infrastructure Training Program

Presented by: Gabe Catenacci

Groundwork Denver

Mission: Groundwork Denver partners with youth and community to build a healthy, equitable, and sustainable environment.

Program Areas:

- Air
- Energy
- Food
- Water
- Youth



Green Infrastructure Training Program (GRIT)



- Solution to a lack of diversity in the environmental field
- Hands-on and classroom based training for BIPOC youth

Program Layout

- 2 cohorts per year
 - 6 - 8 participants per cohort
- 8 - 10 weeks of classroom and field training
- Population: young adults aged 18-24
- Compensation:
 - Certifications
 - Hourly wage



Project Partners



- WORKNOW
- True Safety
- The Park People
- Colorado Stormwater Center
- Watershed Management Group
- ICAST



TRUE SAFETY ICAST



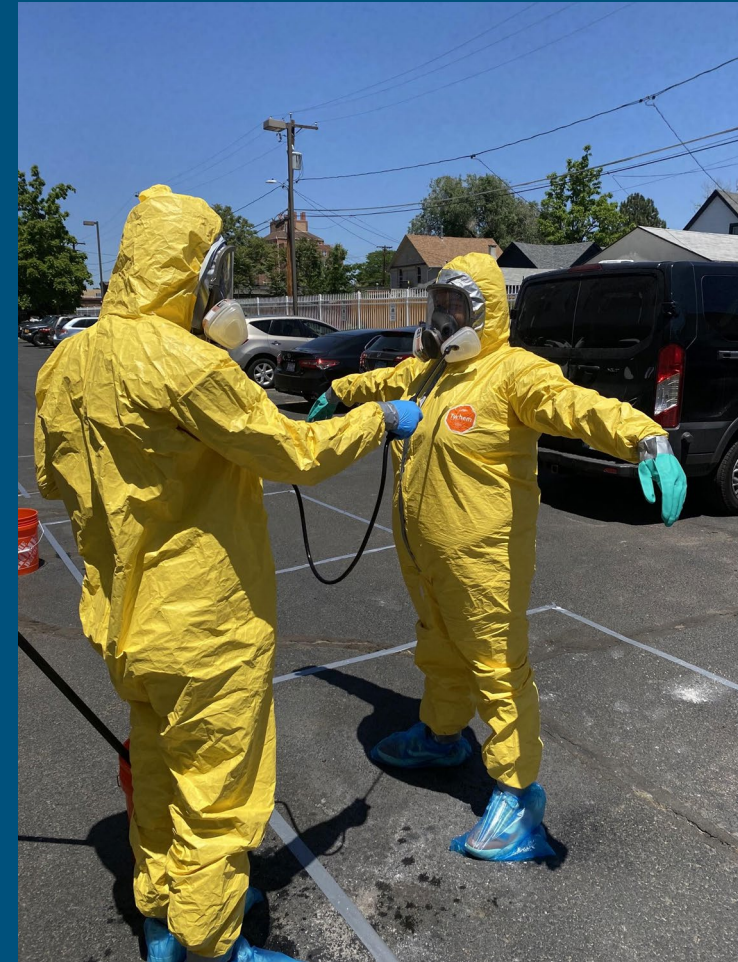
The Park People



OSHA 10 & HAZWOPER 40 - Hour



- OSHA 10
 - Occupational safety
 - Avoid, prevent, and address hazards
- HAZWOPER Training:
 - Proper PPE
 - Enclosed space permitting
 - Hazard classifications
 - pH testing
 - Decontamination procedures



The Park People



- What participants learned:
 - How to take care trees
 - Proper planting procedures
 - Why trees are important
 - How to identify different trees
 - Career opportunities in this field



The Park People

- Residential tree planting
- TCIA Intro to Arboriculture Safety



Colorado Stormwater Center

- Course curriculum:
 - Stormwater runoff introduction
 - Stormwater control measures for urban environments
 - Rain garden planning, installation, and maintenance processes



Colorado Stormwater Center

- Classroom and field workshops to explore:
 - Constructed wetlands
 - Porous pavement
 - Green roofs
 - Rain barrels
 - Rain gardens
- Stormwater Control Measure Inspection and Maintenance Certification



Rain Garden Installation: Before

Site 1



Site 2



Rain Garden Installation: During

Site 1



Site 2



Rain Garden Installation: After

Site 1



Site 2



Groundwork Denver Water Department

- Residential water conservation
- Water quality testing
 - pH
 - Water hardness
 - Alkalinity



Groundwork Denver Energy Department

- Residential energy audits
- Ways to improve energy efficiency and safety:
 - Weather striping
 - Blower door testing
 - Insulation inspections
 - Water heater and furnaces inspections

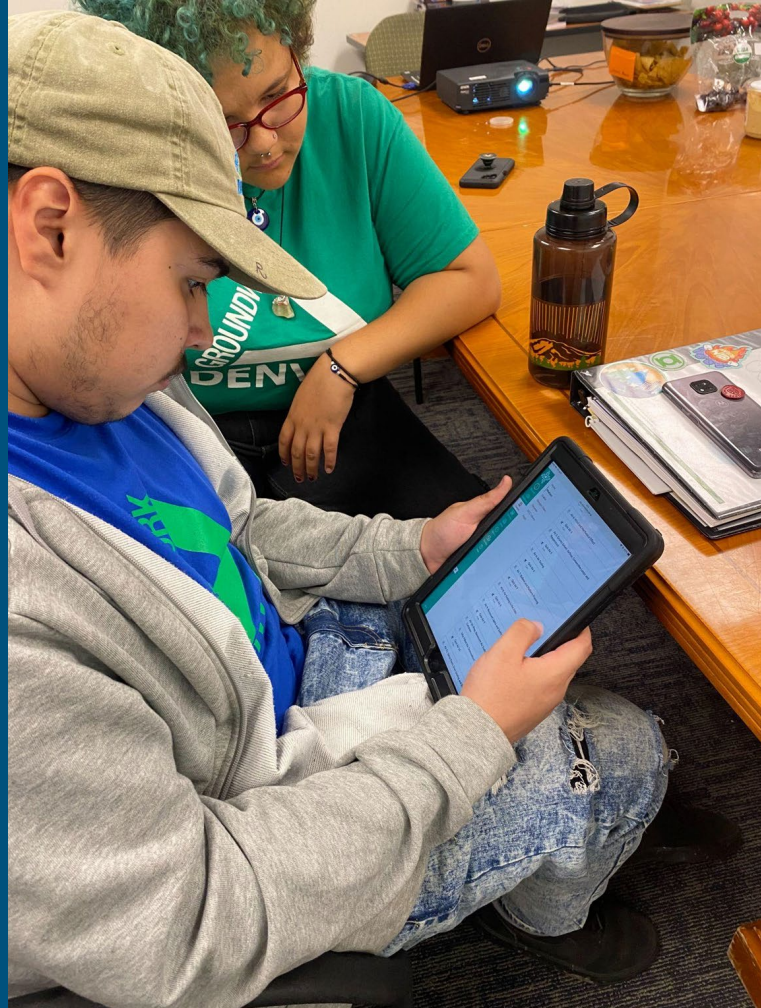


Watershed Management Group

- Classroom training:
 - Principles of watershed management
 - How to incorporate watershed management in the urban environment
- Field workshops:
 - Soil texturing and percolation tests



International Center for Appropriate and Sustainable Technology (ICAST)



- Santa Fe College:
 - Building Science Principles
 - Energy Efficiency
- Lessons learned:
 - Heat and insulation
 - Air sealing
 - Moisture control
 - Strategic energy efficiency practices

Soft Skill

-
- Resume/Cover letter building
 - Interview training
 - Networking workshops
 - Resources for job search



Graduation Event

- Presentation
- Networking Event
- Job Fair



Job Tracking



Thank You!