Managing Wet Weather with Green Infrastructure

Green Jobs Training

A Catalog of Training Opportunities for Green Infrastructure Technologies

www.epa.gov/greeninfrastructure
Communities across the nation are increasingly recognizing the potential for green infrastructure to address social and economic, as well as water quality concerns. Green infrastructure can reduce infrastructure costs, promote economic growth, and provide opportunities for outdoor reflection and recreation. As interest in green infrastructure becomes more widespread, the demand for related job skills continues to rise. These skills are required not only for the initial design and installation of green infrastructure practices, but for long-term operation and maintenance as well.

Research indicates that the potential economic benefits of widespread green infrastructure implementation are substantial. According to a study by American Rivers, NRDC, and other groups, 153 water-related green infrastructure projects worth $1.025 billion are ready to be implemented within 6 to 9 months in communities across the country. Additionally, an economic analysis conducted by the Alliance for Water Efficiency estimated that a direct investment of $10 billion in water efficiency programs has the potential to increase U.S. GDP by $13 to $15 billion and create 150,000 to 220,000 jobs.

Green infrastructure job training programs are essential to satisfy the growing demand for the specialized skills required. The U.S. EPA’s Green Infrastructure Wet Weather initiative compiled a list of green infrastructure-related certification and training programs; however, the demand for skilled designers and installers continues to outpace the supply in many regions of the country.

University curricula in fields such as engineering and landscape architecture will need to adapt to meet evolving design standards. Training and certification programs developed by commercial, public and private sectors will be necessary to ensure effective installation of a variety of practices. Training in operation and maintenance will also be required for municipal public works departments, private property owners, and others with O&M responsibilities.

The U.S. EPA and Green Infrastructure partners are working to identify needs, develop capacity for particular technological skills, and encourage and facilitate new training and certification programs related to the management of wet weather using green infrastructure.

This catalog is intended to provide a central gateway to a wide variety of training opportunities, including opportunities offered by colleges and universities, non-profits, trade organizations, state certification programs, training grants, and more. One page fact sheets provide an overview to each program and links to additional information. As we become aware of additional training opportunities, we will include them in future catalog editions. Note that inclusion in this catalog does not convey EPA endorsement of the quality or content of the program.
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Green Jobs Training Opportunities Catalog

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National Training & Certification Programs
American Rainwater Catchment Systems Association (ARCSA) Accreditation

Provided By: American Rainwater Catchment Systems Association

Training: Yes  Certification: Yes  Grant: No

Program Summary
The American Rainwater Catchment Systems Association (ARCSA) offers the ARCSA Accredited Professional (ARCSA AP) training process to 1) provide consultants, installers, and vendors of rainwater harvesting systems with a basic level of training, and 2) recognize individuals who have demonstrated a basic level of competency as qualified professionals.

To become accredited, you must:
- Be a member of ARCSA;
- Submit an application detailing experience and background in the subject;
- Pass a written exam;
- Participate in an ARCSA-approved Rainwater Harvesting Accreditation Course;
- Pay an accreditation fee application fee; and
- Submit a signed Accreditation Agreement Form.

Accredited Professionals will receive a certificate and be recognized on the ARCSA website. ARCSA's accreditation course is not required by any state or municipality for designers or installers of rainwater catchment systems.

To be recertified, accredited professionals must maintain their ARCSA membership, complete annual CEU requirements, and renew their accreditation status with a nominal processing fee every 2 years.

Watershed and Stormwater Training: Center for Watershed Protection

 Provided By: Center for Watershed Protection

 Training: Yes  Certification: No  Grant: No

Program Summary
The Center for Watershed Protection offers institutes, training workshops, presentations, and distance learning aimed at improving the technical expertise and results of local staff, consultants, watershed groups, and other watershed managers.

The Watershed Institute and Stormwater Institute are 3 to 5 day intensive training sessions aimed at providing participants the skills and tools to assess, design, and implement effective restoration programs in their home watersheds. Institutes consist of classroom time, design exercises, and field visits. Twelve Institutes have been organized between 2002 and 2007 in eight states.

Workshops can be tailored to meet the needs of a wide range of audiences and typically include: presentations on 4 to 5 topics, an interactive exercise developed for the audience, a discussion, a field trip, and local guest speakers.

The *Introduction to Urban Watersheds* distance class includes an overview of watershed hydrology, geomorphology, water quality, and biology, the impact of the land development process on these systems, and an introduction to watershed management methods.

Discounts are available for nonprofit organizations.

LEED Professional Accreditation

Provided By: Green Building Certification Institute

Training: Yes  Certification: Yes  Grant: No

Program Summary
The Green Building Certification Institute (GBCI) administers project certification for buildings under the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) Green Building Rating Systems and manages the LEED professional credentialing program. LEED is an internationally recognized green building certification system, providing third-party verification that a building or community was designed and built using strategies that promote a whole-building approach to sustainability. Many LEED-certified projects incorporate green infrastructure into their design to improve performance across several metrics, including energy savings, water efficiency, CO₂ emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

GBCI offers professional credentialing for the LEED Green Associate, the LEED Accredited Professional (AP), and the LEED Fellow. The LEED Green Associate credential is awarded to professionals who demonstrate green building expertise in non-technical fields of practice. The LEED Accredited Professional (LEED AP) credential is awarded to building industry professionals who have demonstrated a thorough understanding of green building, the LEED® Green Building Rating System™, and the knowledge and skills to facilitate the LEED certification process. The LEED Fellow credential is still in development. LEED offers candidate handbooks for each certification type with exam policies, guidelines, and tips.

All credentials awarded for passing any LEED examination by the GBCI must be maintained on a 2-year cycle through accumulation of continuing education hours.

Green Plumbing: GreenPlumbers® USA

Provided By: GreenPlumbers® USA

Training: Yes  Certification: Yes  Grant: No

Program Summary
The GreenPlumbers® national training and accreditation program seeks to provide environmental training for existing journey-level plumbers, contractors, and professionals in the industry. The program is supported in part by government, utility, and manufacturer partnerships. The organization’s goal is to train plumbers to promote the benefits of water conservation and the reduction of greenhouse gas emissions.

GreenPlumbers® training consists of a five-course, 32-hour accreditation in environmental and technical issues including Climate Care (8 hrs), Caring For Our Water (8 hrs), Solar Hot Water (4 hrs), Water Efficient Technology (8 hrs), and Inspection Report Service (4 hrs). Elective courses in Urban Irrigation, Principles in Pumps, Natural Wastewater Treatment, Commercial Hot Water, and Cooling Tower Systems are also offered.

Recertification is not required, though courses are expanded and updated to meet industry and policy needs.

Green Roof Professional (GRP) Accreditation

Provided By: Green Roofs for Healthy Cities (GRHC)

Training: Yes          Certification: Yes          Grant: No

Program Summary
Green Roofs for Healthy Cities (GRHC) offers four key courses: Green Roof Design 101, Green Roof Design and Implementation 201, Green Roof Waterproofing and Drainage 301, and Green Roof Plants and Media 401. These courses were developed by multidisciplinary committees with experts in the fields of civil and structural engineering, architecture, horticulture, roofing and waterproofing, and landscape architecture. Courses are offered in over 30 cities nationwide.

A set of occupational standards were used to inform all of the courses offered and is the basis for the Green Roof Professional (GRP) accreditation exam. Passing the exam demonstrates a level of knowledge and skill deemed important by the green roof industry and is required for GRP Accreditation. The exam registration cost is $395.

Standing in the program is maintained by obtaining a minimum of 16 continuing education credits every two years. Eight of these credits must be obtained through GRHC-related activities, including the GRHC conference and GRHC courses. Annual accreditation renewals cost $149 for non-GRHC individual members and $70 for GRHC individual members. Accreditation maintenance and renewal guidelines are offered here:

Pervious Concrete Contractor Certification

Provided by: National Ready Mixed Concrete Association (NRMCA)

Training: Yes  Certification: Yes  Grant: No

Program Summary
The National Ready Mixed Concrete Association (NRMCA) offers the Pervious Concrete Contractor Certification Program to ensure that knowledgeable pervious concrete contractors are selected to place the product and thereby minimize the chance for failure. The program is designed to be administered by local sponsoring groups in conjunction with planned training sessions or demonstrations of pervious concrete placement. NRMCA provides certification exams and performance evaluations to approved local sponsoring groups for administering the certification.

Three levels of Pervious Concrete Contractor Certification are available:
1. A Pervious Concrete Technician is a person who has demonstrated knowledge about proper procedures to place, compact, finish, edge, joint, cure, and protect pervious concrete pavements, but who lacks the requisite field experience to qualify as a pervious concrete installer or craftsman.
2. A Pervious Concrete Installer is a person who has demonstrated the ability to place, compact, finish, edge, joint, cure, and protect pervious concrete pavement and has documented a limited project-based field experience in placing pervious concrete.
3. A Pervious Concrete Craftsman is a person who has demonstrated the ability to place, compact, finish, edge, joint, cure, and protect pervious concrete pavement and has documented a higher level of field time-based experience in placing pervious concrete.

The program requires knowledge in the following areas of concrete construction:
1. Basic concrete technology
2. Pervious concrete materials and mix proportioning
3. Proper use of tools and equipment
4. General design principles of pervious concrete pavements
5. Pervious concrete construction
6. Maintenance and troubleshooting

Re-certification is required every five years and requires successful completion of a written examination.

More Information: http://www.nrmca.org/certifications/pervious/
Wetland Training: Wetland Training Institute

Provided By: Wetland Training Institute (WTI)

Training: Yes          Certification: No          Grant: No

Program Summary
The Wetland Training Institute (WTI) offers several courses for 2010 in the following categories: Wetland Delineation, Regional Supplements, Policy, Advanced Technical Courses, Wetland Construction and Restoration, Plants, and others. The courses range in length from 1 to 6 days and cost anywhere from $250 to $1400. Many of these courses satisfy requirements of certification programs in many states.

The WTI also offers the course Basic Wetland Delineation in conjunction with Portland State University.

WTI can also teach specific courses that are not found in the course listing.

Ecoscaper Certification Program: Wild Ones

Provided By: Wild Ones

Training: Yes  Certification: Yes  Grant: No

Program Summary
The Wild Ones Ecoscaper Certification Program provide a process for self-education of native landscaping, with a goal to advocate for native plants and landscaping in local neighborhoods and communities. The Certification Program consists of three educational levels plus continuing education criteria. The educational levels were structured to lay the groundwork for basic knowledge about native landscaping. Once completed, participants apply their knowledge in specific fieldwork aimed at enhancing their ecoscaping abilities. Each level requires a written test along with fieldwork and a project to complete the certification requirements.

Certification is awarded when all three parts of the level are submitted for review and accepted.

- Level 1 covers the basics of native landscaping including Wild Ones philosophy, and should be completed within a two-year period of time.
- Level 2 reaches beyond the basics and into some more challenging experiences outside of your backyard, and should be completed within a two-year period of time.
- Level 3 gets you thinking more on your own and out into the community, and should be completed within a two-year period of time.

The Ecoscaper Continuing Education Level requires formal educational efforts along with fieldwork and a project. This is an annual requirement to keep Ecoscaper certification current.

Green Living™ Technologies Certified Installer Training

Provided By: Green Living™ Technologies

Training: Yes Certification: Yes Grant: No

Program Summary
Green Living™ Technologies (GLT) is a privately-owned company providing products and services that facilitate and simplify the integration of environmental technologies like Green Roofs and Green Walls into our dwellings and work spaces. GLT offers several training courses for GLT Agent and GLT Installer certification.

The GLT Agent is authorized to market and sell the GLT family of products, while the GLT Installer can both sell and install GLT systems. GLT provides two-day courses as part of the GLT Agent and Installer certification to teach the unique features of Green Living™ Roof Systems and Green Living™ Walls, which also includes a small hands-on living wall project. Other requirements of GLT certification include legal documentation, fees, and hands-on experience.

Grey Water Design and Installation Training

Provided By: Community Alliance for Career Training and Utility Solutions (CACTUS)

Training: Yes  Certification: Yes  Grant: No

Program Summary
CACTUS offers a variety of courses and trainings in the areas of Energy Efficiency and Renewable Energy. All courses will provide students with a nationally recognized certification upon successfully completing all of the required training hours and passing all exams.

As a part of the Energy Efficiency and Renewable Energy training series, CACTUS offers a course relevant to green infrastructure in Grey Water Design and Installation. This course is designed for people with basic plumbing, landscaping, or permaculture skills who want to learn how to design and build simple, low-tech residential greywater systems. The course covers five common greywater systems, how to determine which system is appropriate for the site, and how to install the system. Course participants can be certified as a greywater installer by taking an exam and conducting an installation. Certified greywater installers will be eligible to have their contact info listed on the Greywater Action/Guerrillas website, a portal for greywater inquiries across the country, and will join a listserve of other installers to share information and experiences.

Green Infrastructure Training: The Conservation Fund

Provided By: The Conservation Leadership Network (CLN)

Training: Yes       Certification: No       Grant: No

Program Summary
The Conservation Fund offers a variety of courses through its Conservation Leadership Network (CLN) designed to foster collaboration and to replicate real world scenarios. The CLN teaches green infrastructure concepts in many of its courses. Courses offered include:

- How Green is My Infrastructure? A Regional Approach to Municipal Planning and Investment
- Strategic Conservation Planning Using the Green Infrastructure Approach
- Training Course for Mitigation Banking and In-Lieu Fee Program Interagency Review Teams
- GIS Tools for Strategic Conservation Planning
- Water Reuse for Intensive Fish Culture
- Looking Beyond the Transportation Footprint - New Partners/New Scales
- Balancing Nature and Commerce in Communities that Neighbor Public Lands

Courses are intended for individuals currently in particular career fields and are taught “by practitioners, for practitioners.” The CLN courses are taught at the National Conservation Training Center in Shepherdstown, WV, as well as other locations throughout the U.S. The CLN also offers a distance learning program.

More Information:
http://www.conservationfund.org/training_education/upcoming_training_courses
Professional Training & Technology Transfer: Northwest Environmental Training Center

Provided By: EOS Alliance

Training: Yes  Certification: No  Grant: No

Program Summary
The Northwest Environmental Training Center (NWETC), a program of the EOS Alliance, offers courses to improve environmental quality and public health through professional development and technology transfer.

Although NWETC offers courses on a variety of environmental issues across the country, more recently the organization has expanded to include green building courses. NWETC is registered with the U.S. Green Building Council (USGBC) as an Education Provider and is in the process of obtaining course approval. NWETC plans to offer additional green infrastructure courses in the future.

Current courses relevant to green infrastructure include: Deep Green: The Road to Zero Impact Buildings and Low Impact Development: Methods for Ecological Stormwater Management. Courses are taught at least annually.

Compost Operations Training & Education

Provided By: The US Composting Council

Training: Yes  Certification: No  Grant: No

Program Summary
The U.S. Composting Council (USCC) is a national, non-profit trade and professional organization with a mission dedicated to the development, expansion, and promotion of the composting industry based upon sound science, principles of sustainability, and economic viability. The USCC achieves its mission through encouraging and guiding research, promoting best composting practices, establishing standards, educating professionals and the public, and enhancing product quality and markets.

The USCC offers online resources and publications to inform industry, regulators, and facility operators about compost, including a fact sheet on compost use for stormwater management, as well as an annual conference and exhibition with pre-conference workshops. In addition, the USCC offers an intensive 5-day Compost Operations Training Course. The course provides an in-depth look at the composting process, site design and environmental control, regulations and site visits, product quality and marketing, and facility management.

International Society of Arboriculture Certification

Provided By: International Society of Arboriculture

Training: Yes  Certification: Yes  Grant: No

Program Summary
The International Society of Arboriculture (ISA) is a worldwide professional organization dedicated to fostering a greater appreciation for trees and to promoting research, technology, and the professional practice of arboriculture. The ISA offers ISA Certification to raise the standards of professional tree care and to benefit people in choosing tree care professionals.

The ISA offers a variety of certifications, including:
- ISA Certified Arborist
- ISA Certified Arborist/Utility Specialist
- ISA Certified Arborist/Municipal Specialist
- ISA Certified Tree Worker/Climber Specialist
- ISA Certified Tree Worker/Aerial Lift Specialist
- ISA Board-Certified Master Arborist

ISA Certification requires an application, a fee, and an exam. ISA Certification must be renewed every three years and requires continuing education credits as well as a recertification fee.

Landscape Architecture Continuing Education and Professional Licensure

Provided By: American Society of Landscape Architects and Council of Landscape Architectural Registration Boards

Training: Yes  Certification: Yes  Grant: No

Program Summary
The American Society of Landscape Architects (ASLA) is the national professional association for landscape architects. Landscape architecture is the profession that designs, plans, or manages land. Landscape architects play an important role in green infrastructure design and installation for projects that meet both the goals of people and the environment.

ASLA maintains a directory of accredited landscape architecture degree programs throughout the country. In addition, ASLA offers resources for continuing education courses.

ASLA and the Council of Landscape Architectural Registration Boards (CLARB) are coordinating efforts to prepare professionals to take the Landscape Architecture Registration Examination for professional licensure.

College & University Programs
University of Washington: Green Futures Research & Design Lab

Provided By: University of Washington

Training: Yes  Certification: No  Grant: No

Program Summary
The Green Futures Lab (GFL) is housed under the University of Washington’s College of Architecture and Urban Planning in the Department of Landscape Architecture.

The mission of the Green Futures Lab is to:
• Support interdisciplinary research and design that advances our understanding of, visions for, and design of an ecologically sustainable public realm.
• Apply Green Futures research and designs to policy development and potential solutions for urban green infrastructure within Seattle and the Pacific Northwest region.
• Work with the University of Washington, local communities, and international partners to provide education and collaboration around urban green infrastructure and a sustainable public realm.

The GFL is developing a Green Infrastructure Resource Center to provide professionals, students, and community members with resources about key green infrastructure systems: water, habitat, low-impact mobility, community spaces, and low carbon energy for a healthy climate.

Physically housed in Gould Hall Room 102 on the University campus, the Green Infrastructure Resource Center exhibits valuable reference and demonstration materials. The GFL website has additional online resources available.

Washington State University: Puget Sound Low Impact Development Technical Workshop Series

Provided By: Washington State University Pierce County Extension and Puget Sound Partnership

Training: Yes          Certification: Yes          Grant: No

Program Summary
Washington State University offers a series of technical workshops offering training in low impact development. Workshops offered include: Bioretention; Green Roofs, LID Foundations and Rainwater Collection; Permeable Paving; and Site Planning, TESC and Inspection.

The workshop series also offers a Low Impact Development Certificate. To be eligible for the certificate, participants must complete all four workshops, must take tests for each workshop, and must take a final test.

A series of workshops is planned for 2010.

More Information: http://capps.wsu.edu/lidworkshops
Program Summary
The Green Roof Environmental Evaluation Network (G.R.E.E.N.) is a collaborative green roof research initiative at Southern Illinois University Edwardsville. The objectives of G.R.E.E.N. projects are to:

- Evaluate the environmental benefits of green roof implementation.
- Evaluate how green roof installation benefits the building owner.
- Evaluate the performance of various green roof materials and techniques.
- Gather input from and disseminate information to interested parties.

G.R.E.E.N. conducts various green roof studies both at the ground-level and on the roof. G.R.E.E.N. has evaluated many factors associated with green roof technologies, including: wind uplift, thermal effects, stormwater, plant performance, growing media, and vegetated walls.

Provided By: Santa Fe Community College

Training: Yes  Certification: Yes  Grant: No

Program Summary
The Sustainable Technologies Center (STC) at Santa Fe Community College integrates 21st century trades with advanced technologies and "green" curricula to promote a sustainability economy. The Sustainable Technologies Center offers for-credit and noncredit courses, as well as preparatory industry certification programs designed to train people for changing skills in jobs they currently hold, as well as expanding career and entrepreneurial opportunities in the emerging green economy.

Components of the Sustainable Technologies curricula are complimentary courses in water conservation technologies, which provide a comprehensive understanding of water conservation principles and practices. The course “Introduction to Water Conservation Technologies” provides an introduction to the origin, history, and technology of water and wastewater. The course “Water Conservation Technologies” teaches sustainable design concepts and principles, water conservation practices, environmental elements, construction and project management, and real world skills. These two courses compliment each other in providing both water conservation skills and perspective. Other offerings of the STC include customized workforce development and training; industry and technology demonstration space; and seminars, symposiums, and special events.

More Information: http://www.sfccnm.edu/sustainable_technologies_center
Northwest Energy Education Institute and Lane Community College: Water Conservation Technician Program

Provided By: Northwest Energy Education Institute and Lane Community college

Training: Yes                Certification: Yes                Grant: No

Program Summary
The Water Conservation Technician program is a career-technical curriculum offered as a two-year Associate of Applied Science degree. It trains individuals to: evaluate water use patterns; develop, implement, maintain, and market conservation programs; perform public outreach; recommend water efficiency techniques; and perform systems analysis to solve problems. Sustainability, collaboration and interdisciplinary learning provide the foundation upon which a graduate will build skills to conserve resources and money while maintaining ecological integrity. Active involvement in the community along with hands-on projects will reinforce practical skills. Additionally, live interactive videoconferencing provides a Distance Learning option for future growth of the program beyond Eugene, Oregon.

Participants will be eligible for Professional Certification offered by the American Water Works Association in partnership with Lane Community College. To qualify for the program, applicants are required to hold a high school diploma or something of equivalence. For graduation with an AAS Degree, participants are required to maintain enrollment in Lane every year.

Provided By: University of Florida

Training: Yes  Certification: Yes  Grant: No

Program Summary
The Program for Resource Efficient Communities (PREC) integrates and applies the University of Florida’s educational and analytical assets to promote the adoption of best design, construction, and management practices in new residential community developments that measurably reduce energy, water consumption, and environmental degradation. The PREC offers opportunities for homeowners through Community Environment Education and for building professionals through Continuing Education Programs.

Key activities for PREC include outreach, research, teaching, and certification. Some of the practices and techniques PREC implements include direct training and consulting activities, applied research projects and case studies, academic courses and degree programs, and evaluation of “green” certification standards.

Some of the green infrastructure offerings are fact sheets on bioretention basins/rain gardens, bioswales/vegetated swales, cisterns/rain barrels, enhanced stormwater basins, exfiltration tanks/trenches, green roofs/eco-roofs, low impact site preparation, permeable surfaces, resource efficient landscapes and irrigation, soil moisture sensors, and stormwater reuse. PREC also has research publications on green infrastructure research.

More Information: http://buildgreen.ufl.edu/
Villanova University: Villanova Urban Stormwater Partnership

Provided By: Villanova University

Training: Yes   Certification: No  Grant: No

Program Summary
Villanova University partnered with various agencies, organizations, and other universities to address issues on stormwater and best management practices. Villanova University’s Department of Civil and Environmental Engineering and the Pennsylvania Department of Environmental Protection (PADEP) formed the Villanova Urban Stormwater Partnership (VUSP) with the goal to “advance the evolving field of sustainable stormwater management and to foster the development of public and private partnerships through research on innovative stormwater Best Management Practices, directed studies, technology transfer and education.” Green infrastructure-related research of the VUSP includes research on green infiltration, pervious pavement, stormwater wetlands, and green roofs.

Villanova University’s College of Engineering offers concentrations in Civil Engineering, Environmental Engineering, Water Resources Engineering, Transportation Engineering, and Structural Engineering for Bachelors, Masters, and PhD’s. In addition, the University provides educational courses for professionals and established engineers to further their understanding in Environmental Management.

Butte College: Biofiltration Wetlands Education Learning Laboratory (BeWELL)

Provided By: Butte College

Training: Yes  Certification: Yes  Grant: No

Program Summary
BeWELL is a new project at Butte College to train minority and underserved STEM (Science + Technology + Engineering + Mathematics) students in technologies related to biofiltration of urban and agricultural runoff. Through BeWELL, the college plans to implement biofiltration systems on its parking lots to protect the high quality salmonid bearing streams that flow through the campus. Implementation of these systems will also provide educational opportunities highlighting water quality issues of the region. In addition, BeWELL is looking at using living machines to process sewage generated in new construction on-site.

Butte College is in the process of developing a certificate and AA degree in water quality and watershed protection.

More Information:  http://www.butte.edu/
University of New Hampshire: Stormwater Center

Provided By: University of New Hampshire

Training: Yes  Certification: No  Grant: No

Program Summary
The University of New Hampshire’s Stormwater Center provides technical resources for practitioners through its studies and outreach, education, and partnering. The Center studies a range of issues for stormwater management strategies including design, water quality and quantity, cost, maintenance, and operations. Outreach efforts include Stormwater Technology Demonstration Workshops and hosting annual meetings for professional associations, government agencies, and others. Educational activities include a variety of publications, presentations, and other educational resources.

The Center currently maintains a Primary Field Facility, a pervious concrete parking lot, a porous asphalt parking lot, and in the future, a green roof and pervious pavers. The Center is also involved in the testing of a wide variety of stormwater controls, including Low Impact Development Technologies.

The University of New Hampshire’s Stormwater Center is a research Center of the Environmental Research Group in the Department of Civil/Environmental Engineering. The University of New Hampshire offers BS, MS, and PhD degrees in Civil and Environmental Engineering.

More Information:  http://www.unh.edu/erg/cstev/
North Carolina State University: BMP & LID Professional Development

Provided By: NC State University

Training: Yes          Certification: Yes          Grant: No

Program Summary
NC State University’s Department of Biological and Agricultural Engineering offers courses, workshops, and training in green infrastructure-related topics. The workshops and conferences offered are designed to appeal to a wide variety of professionals. Recent and upcoming Stormwater and Low Impact Development Trainings include:

- Stormwater BMPs Inspection & Maintenance Certification
- LID Technologies: Permeable Pavement/Water Harvesting Workshops
- Bioretention Design
- Stormwater Wetland Design
- Level Spreader Workshops
- Rain Garden Certification Workshop
- NC Low Impact Development & Green Building Workshops
- Integrating LEED, LID, & Policy

Most workshops are offered multiple times a year and in multiple locations throughout North Carolina.

The Department of Biological and Agricultural Engineering offers a graduate certificate, a Distance Education Master’s in Biological and Environmental Engineering, and MS and PhD degrees.

More Information:  http://www.bae.ncsu.edu/training_and_credit/
George Washington University: Sustainable Landscapes

Provided By: George Washington University

Training: No  Certification: Yes  Grant: No

Program Summary
The Graduate Certificate in Sustainable Landscapes provides an innovative curriculum that reflects the growing momentum behind conservation and sustainability in our living environments. The Sustainable Landscapes program provides advanced landscape design students and seasoned landscape design professionals with an improved understanding of best practices in landscape conservation and sustainability. Courses include Ecological Restoration, Tools for Sustainable Design, The Green Scale Spectrum, and four others related to sustainably designed landscapes.

The Graduate Certificate in Sustainable Landscapes is offered as four, 3 to 6 day intensive courses at George Washington University’s Alexandria Graduate Education Center (in Virginia) and is supplemented by distance learning courses. The certificate is designed to be completed in one academic year, and students must complete the program within five years of admission to the program.

More Information: www.nearyou.gwu.edu/landscape
Training Grants
Brownfields Jobs Training Grants

Provided By: U.S. Environmental Protection Agency

Training: No  Certification: No  Grant: Yes

Program Summary
EPA's Office of Brownfields and Land Revitalization solicits applications each fiscal year from eligible applicants to deliver environmental job training programs which facilitate the assessment or remediation of brownfield sites. The objective of the Brownfields Job Training Program is to recruit, train, and place, predominantly low-income and minority, unemployed and under-employed residents of brownfields-impacted communities with the skills needed to secure full-time work in the environmental field and brownfields redevelopment activities. Applicants must propose to serve a community that currently receives, or has received, financial assistance from EPA for a brownfields assessment, cleanup, or revolving loan fund grant, a targeted brownfields assessment, and/or site specific brownfields work carried out under a state or tribal response program.

EPA anticipates a national minimum of at least 250 persons completing training annually and a minimum job placement rate of at least 65%. Other outputs include: (1) classroom style training, practical training and curricula modules; (2) appropriate certification in environmental sampling and site cleanup methods; (3) training in innovative environmental and green technologies, and other related subjects, including: Occupational Health and Safety (OSHA) Hazardous Waste Operations and Emergency Response Standard (HAZWOPER), lead and asbestos abatement, mold remediation, and specialized knowledge of brownfields problems and solutions. While the focus of the Brownfields Job Training Program is on providing training for environmental remediation, the program also provides training in other environmental certifications and subject areas, including: training individuals in debris recycling and the reuse of biosolids and other industry residuals; training in building trades related to construction; CDL, fork lift and machinery operations; site surveying, mapping, GIS and GPS; training ecological and riparian restoration, as well as landscaping and native plant revegetation; training in the installation of technologies that use alternative energy (solar, wind, geothermal) or alternative fuels, or training in greener remediation technologies; training in storm water management design; and training in toxicology, mine-scarred land remediation and the clean up of methamphetamine manufacturing sites (i.e. abandoned drug labs).

State Programs and Resources
Arizona: Water Harvesting Certification

Provided By: Watershed Management Group

Training: Yes  Certification: Yes  Grant: No

Program Summary
The Watershed Management Group (WMG) Water Harvesting Certification program is a hands-on training course to earn certification in water harvesting design and implementation. The program is designed for professionals, educators, community organizers and others seeking to develop skills in this green career field. Professionals that have participated in the program include: landscape architects, hydrologists, urban planners, consultants, general contractors, and water harvesting installers.

WMG’s Water Harvesting Certification is the only such program in the nation. What sets the program apart is its combination of hands-on and classroom instruction, a unique approach that provides participants with a thorough, on-the-ground understanding of the core practices of water harvesting. The 67-hour curriculum includes training in integrated design and installation of water harvesting systems including water harvesting earthworks, cisterns/tanks, and greywater systems. Also covered are principles and practices of sustainable landscaping, water harvesting for food production, and developments in governmental water harvesting policy.

Participants can earn certification as a WMG Certified Water Harvesting Practitioner by completing the training and passing a written exam. Certification signifies that the participant has received a thorough training and has demonstrated a basic level of proficiency in the topics outlined above. Certified practitioners are listed on WMG’s web site.

The Water Harvesting Certification course is designed and administered by WMG staff with assistance from an advisory board made up of professionals who teach and implement water harvesting practices. The lectures and trainings are taught by WMG staff and respected guest instructors.

WMG offers the program at various times throughout the year, both as a 9-day intensive course and as a weekend course spread out over 8 weekends.

For more information: www.watershedmg.org/certification or call 520-396-3266.
California: Certified Green Building Professional Training

Provided By: Build It Green

Training: Yes  Certification: Yes  Grant: No

Program Summary
Certified Green Building Professional (CGBP) training is open to all California building professionals involved in the design and construction of residential buildings, as well as to professionals that support and develop the market for green building.

CGBP training consists of a two-day, 16-hour course based on the overarching principles of green building and the systems approach to the design, construction, and operation of buildings. Course content includes Energy, Resource Conservation (including water conservation), Indoor Air Quality, Developing and Marketing a Green Business, and a Final Exam. Attendance at each session of the CGBP training and a passing grade on the final exam (80%) are required to earn certification. Participants who miss a session must attend that session at a future CGBP training within 12 months before they can take the final exam and become certified.

All graduates of the CGBP training may choose to become affiliates of the Green Building Professionals Guild. Various chapters of the Guild meet every month and provide continuing education and networking opportunities.

Build It Green promotes CGBPs via the CGBP Directory. California homeowners turn to this online directory to locate professionals qualified to design and construct their new home or renovation projects.

Certification is valid for two years, and recertification is required to keep certification current. To achieve recertification, 16 Continuing Education Units (CEU) are required over the course of two years from the certification date. In addition, an application along with a $50 recertification fee is required.

More Information: http://www.builditgreen.org/cgbp
District of Columbia: Green Building Training

Provided By: GreenHOME

Training: Yes  Certification: No  Grant: Yes

Program Summary
Based in Washington, DC, GreenHOME offers education, training, and technical assistance for building professionals to choose green practices and to accelerate the adoption of green building practices within government.

GreenHOME provides training in green affordable housing for building professionals, lenders, investors, developers, and government staff. Through courses, charrettes, and workshops, GreenHOME provides training on the basics of affordable green housing and on making green development a common practice.

GreenHOME provides technical assistance for renovation and new construction projects to integrate green building into the design, financing, inspections, and permitting process in efforts of implementing the Green Building Act. GreenHOME also offers several online guides for green building assistance.

GreenHOME collaborated with Enterprise Community Partners to form the DC Green Communities Initiative to offer technical assistance and capital budget grants for green development.

Additionally, GreenHOME is in the process of creating a green building resource center, called GreenSPACE, to host trainings, charrettes, construction demonstrations, and product and material information.

More Information:
http://www.greenhome.org/about/work/providing_expertise.html
District of Columbia: Green Collar Job Training

Provided By: D.C. Greenworks

Training: Yes     Certification: No     Grant: No

Program Summary
D.C Greenworks recognizes the importance of ecology and economy as well as the strong need for clean and green communities. By providing education, job training, and employment opportunities, together with various partners D.C. Greenworks helps to build a workforce of individuals trained in urban landscape management. Participants learn all components of green roof design, installation, and operation and maintenance. D.C. Greenworks provides on-the-job greenroof and horticulture apprenticeship programs and hands-on landscaping and low impact development installation training in an easy and fun atmosphere.

Upon completion of the training/apprenticeship programs, D.C Greenworks provides job placement in areas such as landscaping, park maintenance, and nursery work. To date, twenty-seven people have received green roof training.

More Information:  http://www.dcgreenworks.org (search under Outreach & Advocacy)
District of Columbia: River Restoration

**Provided By:** Earth Conservation Corps

**Training:** Yes  **Certification:** No  **Grant:** No

**Program Summary**
The Earth Conservation Corps (ECC) is a nonprofit organization with a mission to “empower our endangered youth and to reclaim the Anacostia River, their communities, and their lives.” The Corps partners with various organizations to train unemployed, out of school youth ages 17-25 with hands-on environmental training, career skills, and leadership development training. The environmental service activities include cleaning the Anacostia River and its tributaries of trash and debris, rebuilding the shore line, creating community access trails, and planting trees.

The Earth Conservation Corps engages students and the community in several programs. The Career Training Program provides professional development in low environmental impact and light construction training in preparation for job placement. The Anacostia Riverkeeper Program (ARK) engages volunteers to plant trees, remove invasive plants, test water quality, and remove trash to increase community awareness and stewardship. Members who complete the ARK program are licensed boaters and are qualified for entry-level maritime positions. The Youth Media Arts Program provides career training for Corps members and project training for elementary youth in film, print, radio, and photojournalism.

ECC members dedicate 1700 hours to cleaning up the environment, including river clean ups, protecting endangered wildlife, and providing community service. Corps members receive a stipend, health insurance, child care benefits, and a roughly $5000 scholarship.

District of Columbia: Urban Forestry

Provided By: Casey Trees (Washington, DC.)

Training: Yes  Certification: No  Grant: No

Program Summary
Casey Trees hires DC high school students every summer as paid Urban Forestry Interns to help “regreen” D.C. neighborhoods. The student interns learn about trees and how to care for them. The interns then apply what they learn outdoors in the local community and share their knowledge with local residents. The focus of Casey Trees is to help the youth of today learn and develop a future for their tomorrow.

Casey Trees has three main goals for the interns:
- To gain job experience
- To learn about a wide range of forestry and environmental careers
- To become stewards for trees planted by Casey Trees

Applicants must meet the following qualifications:
- A DC resident currently enrolled in a DC high school
- 16 years or older
- Motivation to learn
- Demonstrated interest in DC’s environment
- Show a willingness to represent Casey Trees as a professional in conduct and appearance
- Have a strong work ethic and the physical ability to work hard outdoors in all weather conditions, including rain and heat
- Show a willingness to work with a variety of landscaping tools and equipment
- Complete an application with two references supporting qualifications for the job

More Information:
http://www.caseytrees.org/education/high-school-internship/index.php
Illinois: Chicagoland Green Collar Jobs Initiative

Provided By: Chicagoland Green Collar Jobs Initiative

Training: Yes  Certification: No  Grant: No

Program Summary
The mission of Chicagoland Green Collar Initiative is to facilitate the development of a skilled workforce that is ready to meet employer demands in the emerging “green” economy and to capture new employment opportunities for Chicagoland workers.

The Initiative is exploring and identifying employment and job training opportunities to prepare workers for emerging green jobs related to sustainability, natural resource conservation, and environmental technology. The target audience for a new green collar jobs program includes unskilled, unemployed, or underemployed individuals, and incumbent workers requiring updated training for new technologies.

Based on their initial research, some of the prevalent green collar jobs include: energy raters for homes and commercial buildings; green cleaning and building maintenance staff; alternative energy service providers (solar, wind, geo-thermal); installer/maintenance of stormwater management systems (green roof, permeable pavement, rain water collection); urban agriculture (landscaping, farming, apiculture) and green-related services (recycling, retail, manufacturing).

Future work will focus on selecting two promising job types and drafting a program development plan for these jobs that will serve as a program model for additional job and career selections. The model will identify program components to be developed including job readiness, participant support services, career counseling, training classes that link existing programs as well as new classes to be developed on a career path, curriculum development needs, employment, retention and advancement training. Strong emphasis will be on mapping a career path and gaining the training, credentials and work experience necessary to advance.

Detailed information about the Green Collar Jobs Summit 2010 will be provided on the Green Collar Chicago website soon.

Illinois: GreenCorps Chicago

Provided By: City of Chicago, Illinois

Training: Yes  Certification: No  Grant: No

Program Summary
GreenCorps Chicago’s mission is to improve the quality of life throughout Chicago by providing horticultural instruction, materials, and employment. Greencorps Chicago is a program of the City of Chicago Department of Environment (DOE) in partnership with WRD Environmental, an ecological consulting firm that creates and fosters environmentally responsible landscapes.

Greencorps Chicago offers workshops, plant materials, technical assistance and educational programs. Organizations working in a public space, including schools, faith institutions, libraries, public housing communities and block clubs, may participate in program activities. Each spring, Greencorps Chicago hires approximately 50 people into its six-month landscaping training program.

Iowa: Conservation Corps

Provided By: Conservation Corps Iowa

Training: Yes  Certification: No  Grant: No

Program Summary
Conservation Corps Iowa is a program of the Minnesota Conservation Corps, a non-profit organization. 5-person Conservation Corps crews work throughout Iowa and the Upper Midwest to complete natural resource-based projects on public land. Crew members are enrolled in AmeriCorps, and receive a stipend and healthcare benefits. The crew works from mid-February to mid-December with approximately 20 percent of their time dedicated to learning positive workplace behaviors and technical work skills. Through on-the-job training, the Conservation Corps prepares members for natural resource and other technical fields. The 2009 Conservation Corps crew focused on stormwater control measures, such as rain garden installation. Conservation Corps crews also gain experience in erosion control, fire suppression and prescribed burning, tree and plant surveys, water quality sampling and monitoring, and general construction and carpentry skills.

More Information: http://www.conservationcorps.org/  Iowa crew manager is Chris Severson: chris.severson@conservationcorp.org
Iowa: Green Building Training

Provided By: Iowa Department of Economic Development and the Center on Sustainable Communities

Training: Yes  Certification: No  Grant: No

Program Summary
The Iowa Department of Economic Development (IDED) and the Center on Sustainable Communities (COSC) are coordinating green building training programs that build capacity for Iowa’s disaster recovery efforts to rebuild in a safer, stronger, and smarter manner. At the same time, the workshops will lay the foundation for ongoing training approaches to strengthen Iowa’s ability to design and construct healthier, more durable, more energy efficient and easier to maintain infrastructure, homes and commercial buildings. Included in the training are ongoing quality installation certification programs for HVAC contractors through the community colleges in Iowa and also inclusion of a 10 module green building training program incorporated into all of the community college building trade programs. Training topics will range from general introductions on green building to detailed trainings on heating, ventilation and air conditioning systems; foundation framing; materials selection; roofing; assessing and prioritizing rehabilitation for existing homes; historic preservation; windows, doors and insulation; and stormwater management. Trainings will be available for both residential and commercial properties and for contractors as well as homeowners and building owners.

More Information: www.icosc.com
Iowa: Rainscaping Iowa

Provided By: Iowa Storm Water Education Program (ISWEP)

Training: Yes    Certification: Yes    Grant: No

Program Summary
Rainscaping Iowa is a statewide educational campaign that promotes urban stormwater management practices to protect water quality and reduce runoff with the help of its partners. The ultimate goal of the program is to build awareness and behavioral change that will result in the improvement and protection of water resources in Iowa.

Rainscapers are professionals that have a passion for creating beautiful landscapes that protect Iowa’s water and soil resources and understand stormwater management concepts and the hydrologic footprint of landscapes. They have undergone specific training and have professional experience in the design, installation, and maintenance of Rainscaping practices. The professionals may include landscape designers, landscape architects, engineers, contractors, horticulturalists, master gardeners, urban conservationists and other interested parties.

Rainscaping Iowa offers Rainscaper training and certification. Requirements for certification include:

- Attend a Rainscaper training class for each practice or combination of practices.
- Pass a written exam for each practice for which you are requesting a certificate that will be reviewed by a designated urban conservationist.
- Submit two case studies for each practice for which you are requesting a certificate that will be reviewed by a designated urban conservationist.
- Upon successful review of the studies and completion of the above requirement a certificate will be awarded to an individual for each specific practice or combination of practices. The Rainscaper will also receive access to Rainscaping educational resources that can be used for marketing purposes.
- Complete the application form for the practice or combination of practices for which one is seeking a certificate.
- Pay an annual fee to help support the Rainscaping program.

Maryland: Green Infrastructure Training

Provided By: Green Building Institute

Training: Yes Certification: No Grant: No

Program Summary
The Green Building Institute’s mission is to foster sustainable building practices through education and example. Courses are taught by experienced professionals from the private and non-profit sectors at the Green Building Institute or at partnering local colleges. The Institute offers several green infrastructure-related courses including: Water Management, How to Build a Rain Garden, and Harvesting and Harnessing Rainwater at Home. Water Management offers guidance on water conservation and stormwater runoff. How to Build a Rain Garden teaches participants how to design, build, and maintain their own rain garden, including teaching appropriate rain garden plants and soils. Harvesting and Harnessing Rainwater focuses on how and why to collect, store, and transport rainwater from the roof to the garden.

Course costs range from $20 to $80.

Maryland: Native Landscaping and Conservation Skills

Provided By: Maryland Civic Justice Corps

Training: Yes  Certification: No  Grant: No

Program Summary
Maryland Civic Justice Corps has partnered with Baltimore City to provide hands-on conservation work to Baltimore youth at Maryland State Parks. The program provides the opportunity for youth to be outside during the summer learning new skills such as building bridges and trails and natural resource protection. The program provides training for future park service careers.

The program divides the youth into 12 crews, with each crew consisting of 5 individuals under the supervision of a Crew Chief. Each morning, bus transportation departs from Baltimore city at 7:00 AM and returns back to the city at 3:30pm. Compensation includes $7.25 for each hour of service provided, along with a work uniform, breakfast, snack, lunch, and afternoon snack.

More Information: http://www.dnr.state.md.us/cjc/program.html
Minnesota: Green Building Certification

Provided By: Minnesota GreenStar

Training: Yes  Certification: Yes  Grant: No

Program Summary
Minnesota GreenStar is a Minnesota-based residential building and remodeling standards and certification program. The program promotes healthy, durable, high-performance design and construction for both new and existing homes that is flexible and adaptable to any type of residential remodeling or building project. GreenStar certifies homes in 3 levels: Bronze, Silver, and Gold. Fundamental to GreenStar certification are the 5 principles of green:

1) Energy Efficiency
2) Resource Efficiency
3) Water Conservation
4) Indoor Environmental Quality
5) Site and Community Impact

Homes can be certified by collecting enough points to meet the minimum requirements in each category. The requirements differ for remodeling projects and new construction. To achieve certification, the builder or remodeler must submit a binder to Minnesota GreenStar for final review. There are also fees associated with GreenStar Certification Registration.

MN GreenStar also offers courses in GreenStar Registration and Green Homes for Realtors.

Minnesota: LID Certification

**Provided By:** Minnesota Erosion Control Association (MECA)

**Training:** Yes  **Certification:** Yes  **Grant:** No

**Program Summary**
MECA promotes effective erosion control and stormwater management through an annual erosion conference, regional workshops and seminars, a semi-annual newsletter, and field demonstrations.

MECA offered LID training through pre-conference training and certification sessions at its 2009 annual conference. Some highlights of the 2009 conference included:
- The best BMPs in North America
- Argenta Hills: A true LID development - from planning to construction
- Economics of LID development
- Optimizing bioretention for cold climates
- Integrating rain gardens in road reconstruction
- Pervious concrete applications for reduced runoff

The 2010 annual conference will be held March 11-12 in St. Cloud, MN.

MECA recently organized an LID/MS4 tour which included visits to a green roof, pervious concrete, bioswale, and retrofit sites. In addition, MECA offers resources for obtaining Erosion and Sediment Control Certification and other trainings.

**More Information:** [http://www.mnerosion.org](http://www.mnerosion.org)
New York: Bronx Environmental Stewardship Training

Provided By: Sustainable South Bronx

Training: Yes  Certification: Yes  Grant: No

Program Summary
Sustainable South Bronx (SSBx), an environmental justice organization, addresses land-use, energy, transportation, water and waste policy, and education to advance the environmental and economic rebirth of the South Bronx. SSBx also directs the Bronx Environmental Stewardship Training (BEST) program, one of the nation's first and most successful green-collar job training and placement systems. Students graduate with several certifications, job readiness preparation, and a powerful environmental justice perspective on all of the important work they are qualified to do. Nearly all of the students were on some form of public assistance, and about half have prison records. This 14 to 16-week program is free to qualified applicants. BEST works with their graduates to help them find the right job and also tracks their progress for three years in case they need help finding their place in this growing and rewarding job market. Now in its 5th year of operation, over 80 percent are employed and 15 percent have gone on to higher education.

BEST participants receive hands-on training in green roof installation and maintenance, brownfield remediation, wetland restoration, landscaping, and many other green skills. SmartRoofs, LLC is a subsidiary of SSBx, and exclusively employs graduates of this program to install and maintain the green roofs they design.