CONSTELLATION

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"Leadership is action, not position."

-Donald H. McGannon

Michael Blaylock of Edenspace Systems examines the roots of one of the ferns planted in Spring Valley as part of the Corps' phytoremediation study. Edenspace planted the ferns and is collecting data and maintaining the plants. *(Photo by Doug Garman)*

Corps has big hopes for little fern

by Mary Beth Thompson
Public Affairs Office

The fronds of a small, green, feathery fern may do some of the heavy lifting of environmental cleanup. More precisely, ferns may provide an alternative to the heavy lifting.

Baltimore District has been removing arsenic-contaminated soil at 150 residential properties in Spring Valley, a Washington, D.C., neighborhood near American University, since 2002. The government conducted chemical weapons research there during World War I when it was an open, rural area. Arsenic was a component of some of those chemical agents.

The Spring Valley team is testing whether ferns would make useful tools in the arsenic remediation process.

As it stands now, removing soil with elevated arsenic levels involves ripping up yards with mechanical excavators, removing two feet of soil, the landscape and constructed features from the contaminated area. After removal, the soil, plantings, sidewalks, driveways, patios and walls are replaced.

Each yard requires intensive interaction with its homeowners—information exchange, rights of entry, appraisals, negotiations, scheduling. During the project team's work with the first 20 properties, one homeowner concern emerged head and shoulders above all the others.

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Commander's Comment

Our Affirmative Employment Program

by Col. Robert J. Davis
Commander & District Engineer

When Dr. Martin Luther King Jr. delivered his "I Have a Dream" speech in 1963, he expressed a desire for his small children to "live in a nation where they are not judged by the color of their skin, but by the content of their character."

King wanted America to be a land where people were given equal rights, regardless of their background.

Under the leadership of King and the other key players in the civil rights movement, legislation like Title VII of the Civil Rights Act of 1964 outlawed discrimination in employment, voting, public accommodations and education.

This law ensured that America would no longer be a place where prejudice and injustice went unchecked.

A logical extension of this law was the Civil Service Reform Act, signed into law by President Carter in 1978. This law required the development and implementation of Affirmative Employment Programs, or AEPs, by government agencies.

Our District AEP contains the following key components:

1. Identification of job groups within our workforce that have underrepresentation of minorities or women when compared to the civilian labor force data of "like" or "similar" groups within our geographical area.

Our analysis indicates that females are underrepresented in the areas of: (1) engineering and related technicians, and (2) plant and systems operators.

Minorities are underrepresented in the areas of: (1) general office clerks, (2) typists, and (3) handlers, helpers and laborers.

2. Identification of potential barriers that contribute to the underrepresentation of minorities and women along with an action plan to remove each barrier with its corresponding time frames for accomplishment.

3. My personal commitment to achieving a diverse workforce composition with the assistance of senior management, supervisors, special emphasis program managers and all employees.

4. Noteworthy initiatives and commitments by members of the District to implement the AEP objectives.

Thanks to all of you for your ongoing commitment to our AEP!

I urge all District employees to review our AEP on our Intranet under the captions of: *Internal NAB programs*, *Organizations* and *Equal Employment Opportunity*, and to continue to contribute to the success of the program.

Forty years ago, Dr. King envisioned a time when all people would be able to work collectively for a stronger America. Our AEP helps to keep that dream alive!

Essayons.

Phytoremediation *(continued from cover)*

"There are some spots where the property owners or nearby homeowners, essentially, said, 'You're not going to touch the trees,'" said Ed Hughes, project manager for the arsenic-contaminated soil removals.

Recognizing that losing ancient trees and shrubs which shade and add character to yards is an emotional issue for people, Hughes looked for other solutions. He pursued a recent Florida discovery that certain ferns were removing arsenic from contaminated soil.

"I knew we had a lot of properties to deal with, and I definitely thought it was worth a try," he said.

Working with Cindy Teeter, a physical scientist with the Corps' Engineering Research and Development Center in Vicksburg, Miss., Hughes is having this green approach studied in Spring Valley. It's called phytoremediation—the use of plants to remove contaminants from soil or water.

Teeter conducted the initial greenhouse study last winter in Vicksburg. She used soil from Spring Valley and many different species of brake ferns. She tested a normal moisture regime and a high moisture regime.

After the plants grew for four months in the greenhouse, they were harvested. All the biomass, the plant matter above the root, was collected from each plant and analyzed.

"Comparing the two, we saw that the wet treatment regime had a significantly higher increase in arsenic concentration than the normal, so we're using that moisture regime here in the field study sites," she said.

Hughes and Teeter identified three Spring Valley locations for the study. Edenspace Systems, of Dulles, Va., planted brake ferns called Pteris multifida, Pteris cretica mayii and Pteris vittata in May. The contractor maintains and checks the plants.

Brake ferns grow in a test area along Van Ness Boulevard in Spring Valley. (Photo by Doug Garman)

Early evidence is positive. The plants are thriving in the soil of Spring Valley.

"The roots have to expand out of the initial potting mix into the soil before they're going to take up arsenic, and it looks like, from what I've seen so far, we're getting very good root development that correlates very well with the above ground growth," Edenspace's Michael Blaylock said. "It looks like the roots are expanding into the contaminated soil, which is the important thing that we have to have."

Preliminary tests show that the plants are absorbing arsenic. All involved are upbeat about the possibilities of this method.

"It's exciting to do this type of work, because we can see that this has great potential to help us out at a lot of different sites," Blaylock said.

After the ferns are harvested in the fall, Teeter will analyze the biomass and the soil for total arsenic. The data will help determine how effectively the ferns take up arsenic in Spring Valley and the length of time needed to reduce the arsenic in the soil to the cleanup level of 20 ppm.

Because these are tropical ferns, their ability to survive a Washington winter is a question.

"We're hoping that the P. multifida, which is known to be more cold tolerant, will grow longer into the growing season here to get maximum arsenic uptake," Teeter said. "Over the winter, we will not remove the roots from the soil, but we'll wait until next spring to see if the plants come back."

Hughes expects to have results of the $150,000 study early next year.

"We are having the tests performed throughout this year," he said. "We will get some facts and figures for how it would perform for us and make decisions early next year, so that for next growing season we can hopefully employ it to the greatest extent it can be used."

Even if the study is successful, phytoremediation would not be able to cleanup all of the arsenic contamination in Spring Valley, but it would give the program another tool that also has great side benefits.

"If it works, phytoremediation would be less disruptive to residents," said Spring Valley program manger Gary Schilling. "It's also a more environmentally friendly and a less costly way to accomplish the work."

The net results would be happier customers and an earlier completion of the arsenic-affected soil removal project. For the Spring Valley team, that's heavy lifting.

What is project management?

by Andrea B. Bias-Streat
First in a series of articles from the PM Service Center

Although the Corps of Engineers has been managing projects for years, there is still a great deal of uncertainty among Corps employees when the term "project management" is mentioned. What is it…really?

Before project management can be defined, one must first fully understand the definition of a project.

According to Dr. Harold Kerzner, the guru of project management, a project is any series of activities and tasks that:

- have a specific objective to be completed within certain specifications;
- have defined start and end dates;
- have funding limits;
- consume human and non-human resources, i.e. money, people, equipment; and
- are multifunctional, i.e. cut across several functional lines or organizations.

Kerzner's definition aligns well with the Corps' definition of a project, As stated in ER 5-1-11, Appendix A, that definition is:

"Any work intended to produce a specific outcome. A project has a defined scope, quality objectives, schedule and cost. Internal services are discrete projects when they are non-recurring or of special significance."

Managing a project, however, involves five main processes: project initiation, planning, executing, controlling and closing. These processes become more complex, however, when one factors in multi-level organizational requirements, customers, regulations, constraints and a long list of other issues.

The Corps of Engineers has been a leader in the project management arena, helping to establish project management as a respected profession.

Ray C. Hickson, of Science Application International Corporation, teaches (from left to right) Linda Schofield, Helen Bunche and Pamela Wilson, Real Estate, how to build project schedules in P2, a Corps project management software system. *(Photo by Chanel S. Weaver)*

Many are quick to blame the failure of a project on the project manager, but rarely will a project's success be credited to a manager.

Just like any other profession, principles and standards are required. For the profession of project management, there are nine guiding principles:

1. There must be a project, as defined in the Corps' Project Management Body of Knowledge manual, not just a task or an ongoing activity.

2. There must be a single leader, the project manager, who is experienced and willing to take the responsibility for the work.

3. There must be an informed and supportive management structure that can delegate appropriate authority to the project manager.

4. There must be a dedicated team of qualified people to do the work of the project.

5. The project goal must be clearly defined along with the priorities of the "shareholders."

6. There must be an integrated plan, a Project Management Plan, or PMP, that outlines the action(s) required in order to reach the goal.

7. There must be a schedule, part of the PMP, establishing the time goals of the project.

8. There must be a budget of costs and resources, part of the PMP, required for the project.

9. There must be a system to accommodate changes, part of the PMP as well.

While there are several components that make up project management, people are the most important resource in completing a project.

Project management is only beneficial when every person accepts it as his or her responsibility.

For more information on project management, contact the PM Service Center at 410-962-6091.

Protect yourself from lightning strike

Lightning facts:

Each year, there are about 25 million cloud-to-ground lightning flashes in the United States.

Each one is a potential killer.

Lightning kills more people in the United States than tornadoes or hurricanes.

The most dangerous place to be during a storm is OUTDOORS.

Where to go to protect yourself from lightning:

A substantial building, like a school, church or a mall, provides the best protection.

A house also provides good protection.

If you can't get to a substantial building, a hard-topped metal vehicle with closed windows will provide protection.

Small or open shelters, such as sheds, picnic shelters, are NOT SAFE during thunderstorms

If you are caught outside:

You are at risk of being struck by lightning. By taking some preventative measures you can lower the risk of being struck by lightning.

If you are caught outside and can't get to a safe place, the following steps should be taken:

In an open area:

Find a low spot away from isolated trees and other tall objects.

Crouch down on the balls of your feet; do not lie on the ground.

Don't be the tallest object or be near the tallest object.

In the woods:

Take shelter in an area of shorter trees

Avoid creek beds, gullies and wash-outs where there may be flash flooding.

Boating or swimming:

Get to land immediately and seek safe shelter.

Stay away from metal fences, wires and structures. These can carry lightning charges long distances.

Remember your pets as well; metal runners or chains can increase your pet's risk of being struck by lightning.

Indoor protective measures:

Unplug sensitive electrical equipment, such as TVs, computers, etc., BEFORE the storm.

Stay off corded phones.

Stay away from electrical equipment.

Don't unplug electrical equipment during the storm.

Stay away from windows and doors.

Stay inside; don't sit on a porch.

If lightning strikes:

People who have been struck by lightning DO NOT carry an electrical charge and should be tended to immediately.

Call 911; check the victim for heart and respiratory problems; provide first aid if needed.

What you should do:

Plan ahead for dealing with lightning.

Know where safe shelter is.

Establish home safety measures.

Educate your family.

Be safe.

For more tips and information about lightning and weather safety, visit www.noaa.gov.

School is starting. Please

slow down

and keep an eagle eye out for school children walking to and from school and at bus stops.

Isle of Wight Park completed, reopened

Before construction, this section of Isle of Wight Park shore was bleak.

(Photos by Susanne Bledsoe)

After, salt marsh is thriving on eight acres of the park.

Governor Robert L. Ehrlich Jr. and Congressman Wayne Gilchrest were among the many who joined Col. Robert J. Davis in a ceremony that officially reopened the Isle of Wight Park. The park is located in Worcester County and serves as a gateway for tens of thousands who visit Ocean City, Md., annually.

The ceremony marked the completion of a project conducted by Baltimore District and its partners that added about eight acres of salt marsh to a desolate shoreline, cleaned up an unsightly littered beach and provided new recreational amenities for residents of the area.

The first phase, completed in July, involved installing a breakwater around the footprint of the project area. The breakwater provides protection for the shoreline, prevents future erosion and allows for vegetation to grow. Phase one also included installing a 580-foot interpretive observation walkway across the new wetland and laying groundwork for recreational amenities, such as a small dock for local fishing boats and canoes.

During the second phase, workers removed and pulverized the concrete currently on the shoreline, contoured and graded the new beach, and planted two kinds of salt marsh vegetation—spartina alterna flora and spartina patens.

McKinley Technology H.S. renovated, ready for new school year

The ribbon was cut for a state-of-the-art technology high school resurrected out of an old, disused technical school in Washington, D.C., Aug. 17. Baltimore District's D.C. Programs Office managed the McKinley Technology whole-school modernization project, which was completed in time for the start of the school year.

Representing Baltimore District, Commander Col. Robert J. Davis presented Principal Dan Gohl with a framed collage of photos of the school as a tribute to the teachers and staff who work there.

"We are honored to have worked with you and your staff and hope you are pleased with the results," Davis told Gohl.

McKinley is the fifth whole-school modernization project to be completed by the Corps in partnership with the D.C. Public Schools system. Seven more are under construction, some of which, like McKinley, will greet their first students in September.

Corps employee, contractor receive general's thanks for Lauderick work

At the July 29 Aberdeen Proving Ground, Md., Restoration Advisory Board meeting, a brief ceremony was held to mark the completion of the Lauderick Creek Chemical Warfare Materiel boundary cleanup. Bruce Ware, Construction Division, was commended by Maj. Gen. John C. Doesburg, APG commander, for his key role as head of the Corps' Environmental Remediation Resident Office during the project.

Ted Henry, a contractor who does community outreach for the Corps' Spring Valley program, was also recognized by Doesburg for his community outreach work on the project and the technical oversight he provided as a private citizen on the Lauderick Creek Restoration Advisory Board.

Corps to start Lycoming flood protection study

Deputy District Engineer Lt. Col. J.T Hand joined Lycoming County, Pa., Commissioners Dick Nassberg, Rebecca Burke and Ernie Larson in a contract signing ceremony Aug. 10 at Metzger Park in Lycoming Township. The ceremony officially began a multi-year, $3.5 million flood protection feasibility study.

Baltimore District will study the best means of protecting land, businesses, homes and lives from the devastation and destruction caused by recent heavy floods in the area, Hand said.

The study is of particular importance to the region, according to project manager Phil Hager, because this region is thriving, with more businesses and residents settling there than ever before. As of April 2000, more than 120, 000 people lived in the Lycoming Creek basin.

The study will examine ways to control flooding in the five municipalities of Lycoming Township, Old Lycoming Township, Loyalsock, Hepburn Township and Lewis Township. Among the possible alternatives are bank stabilization, detention and retention opportunities, floodplain enhancement, wetland creation, diversion channels and traditional structural reduction methodologies, such as levees and floodwalls, Hand said.

District employees recognized at Morgan State ceremony

Four Baltimore District employees who are Morgan State University School of Engineering alumni received certificates of appreciation for their work in the Global War on Terrorism from North Atlantic Division Commander Brig. Gen. W. B. Temple and Baltimore District Commander Col. Robert J. Davis.

During a ceremony at the university in August, Adrian DeVillasee, Dale Ann-Marie Duncan, Delray Wylie and Israel Miller were recognized for serving in Afghanistan as part of a Corps team helping the country to transition into a more stable environment.

Both commanders also presented the dean of the university's School of Engineering, Eugene Deloatch, with a citation recognizing the schools' success in producing quality engineers for the Corps.

Through a multi-faceted alliance with Morgan, the Corps has also worked closely with AMIE, or Advancing Minorities' Interests in Engineering, which is headquartered at Morgan State University. A nonprofit organization launched in 1992, AMIE is a coalition of representatives and engineering professionals from Fortune 500 companies and historically black colleges and universities.

Left to right, Delray Wylie, Dale Ann-Marie Duncan, Adrian DeVillasee and Israel Miller pose after receiving certificates of appreciation.

(Photo courtesy of Morgan State University)

Filtrations system installed at Edgewood's Advanced Chemistry Lab

An important milestone for the Advanced Chemistry Laboratory project at Edgewood Chemical and Biological Center, Edgewood, Md., was celebrated Aug. 10. Jim Jones, deputy district engineer for Programs and Project Management, represented Baltimore District at the ceremony to mark the installation of the lab's filtration system.

The completion of this installation was essential to maintaining the construction schedule, Jones said. The system was designed, fabricated, delivered and installed on time.

"With this outstanding team effort, we can all look forward to gathering here again next summer to cut the ribbon that will signify the construction of the project has been completed," he said.

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