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NEWS AROUND THE CLOCK | philly.com

LABOR DAY PARADE

UNCERTAIN STEPS FORWARD



MICHAEL BRYANT / Staff Photographer

Talayia Robinson (center), 6, carries the flag of the Union of Healthcare Workers Local 1199C as she marches down Columbus Boulevard during the Philadelphia Labor Day Parade. The decreasing number of union members and Trump administration policies have union leaders worried. Story, **B1**.

NORTH KOREA'S THREAT

Haley says Kim is 'begging for war'

The U.N. ambassador proposed other penalties at an emergency session of the Security Council.

By Maria Sanminiatelli and Jennifer Peltz
ASSOCIATED PRESS

NEW YORK — North Korea's leader is "begging for war," the U.S. ambassador said Monday at an emergency meeting of the U.N. Security Council, as members called for punishing the country with even stronger sanctions for its powerful nuclear test.

Ambassador Nikki Haley said the U.S. would look at countries doing business with the North — which include China — and planned to circulate a resolution this week with the goal of getting it approved Sept. 11.

► **DEFENSE:** South Korean official raises bringing back U.S. tactical nuclear missiles. **A2**

"Enough is enough. War is never something the United States wants. We don't want it now. But our country's patience is not unlimited," Haley said.

"The United States will look at every country that does business with North Korea as a country, that is giving aid to their reckless and dangerous nuclear intentions," she said.

The move came as South Korea said it was seeing preparations in the North for an ICBM test and fired missiles into the sea to simulate an attack on the North's main nuclear test site.

The emergency U.N. session was scheduled after North Korea said it detonated the See **UNITED NATIONS** on A2

INTERNET ACCESS

Rural counties seek ways to speed up their broadband

Officials argue that high-speed internet is a modern necessity.

By Jason Nark
STAFF WRITER

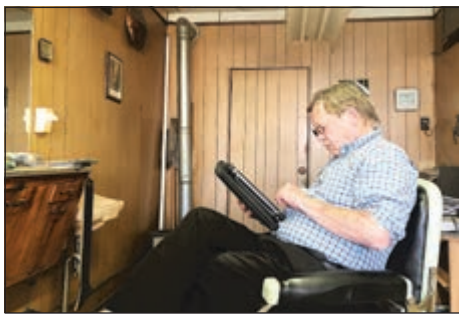
When Pennsylvania's ridges rise along highways north and west of Philadelphia, cellphone bars often fall and the digital world fades.

Tourists call that unplugging.

For the people who live "out there," though, dropped calls and spinning wheels of death on web pages can be part of a daily routine. Motorists there know the dead zones because they are legion. Sometimes, when it rains, they say, it's better to close the laptop and take another crack at that summer read.

"Oh, I tell people when I'm driving that I'm coming up on a mountain and I'm going to lose them," said Chrissy Salsman, who was writing "Crab Cakes \$18.99" on the specials board at the Wyalusing Hotel in Bradford County last week.

Current and former elected officials in some of Pennsylvania's most rural counties say broadband issues are more than mere annoyances for residents. The internet, they See **RURAL WEB** on A9



In his barbershop, Lee Bendinsky uses a neighboring business' WiFi network to connect his tablet to the internet in Wyalusing, Bradford County. JASON NARK / Staff

STORM RUNOFF



The gardens involve many calculations and an assessment of thousands of plants to see which ones can thrive in the environment. FRANK KUMMER / Staff

PennDot tries gardens to help manage water

Collaboration with Villanova and Temple is aimed at keeping rain overflow from the city's overtaxed system.

By Frank Kummer
STAFF WRITER

It's a surprising sight: a large garden next to a sound-barrier wall along I-95 in Philadelphia's Fishtown neighborhood, with an undulating grade, marked by tall grasses, wildflowers, evergreens, and other trees.

Unexpected as it may seem, it's part of a meticulously planned, large-scale experiment.

By 2023, 70 "rain gardens" like this one are planned to border PennDot's massive, years-long I-95 reconstruction project. The main phase spans eight miles from I-676 to Cottman Avenue and is aimed at widening and modernizing the heavily used corridor. Smaller-scale work is then

“ We have a ton of water that's being removed from the system. It also provides greening and cooling.

Robert Traver, Villanova University engineering professor involved with the I-95 rain garden project

planned for Delaware and Bucks Counties.

The gardens are part of a novel collaboration among PennDot, Villanova University, and Temple University to prevent rainwater from flowing from the highway into the city's overtaxed storm-water system.

Philadelphia has a combined storm-water system, meaning all See **RAIN GARDEN** on A8

ISLAMIC EXTREMISM

Local woman wed to an IS soldier is no aberration

Keonna Thomas is part of a small sorority of terrorist sympathizers.

By Jeremy Roebuck
STAFF WRITER

A North Philadelphia mother who planned to abandon her children and travel to Syria for an Islamic State fighter she married over Skype was driven by loneliness and a desperate search for religious structure, her lawyers wrote in court filings this week.

But as Keonna Thomas faces a sentencing in federal court Wednesday, her case shines a spotlight on an unsettling phenomenon in the United States' continued fight against religious extremism.

Over the last six years, at least five other women — including another from the Philadelphia region — have been convicted in cases involving their seduction by IS fighters who approached them, often online, with romantic promises coupled with religious fundamentalist beliefs.

As troubling as their cases are individually, together they show that Thomas was far from an aberration.

See **ISIS** on A11

“ Western women, particularly American women, [are] of extra value to [IS]. Their participation is perceived to send a strong message ... about [IS's] strength, validity and global reach.”

Assistant U.S. Attorney Jennifer Arbittier Williams, urging lengthy prison sentences for women working with IS

WEATHER
High 88, Low 66
AccuWeather report, D8

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Villanova professor Robert Traver checks a rain garden in South Philadelphia. The gardens are a joint project with PennDot and Temple. FRANK KUMMER / Staff

PennDot gardens help to manage water flow

RAIN GARDEN from A1 water going into streets and storm drains ends up at one of three treatment plants that can become overwhelmed.

When that happens, dirty water has nowhere to go other than directly into the Schuylkill and Delaware River.

The gardens involve thousands of calculations, precisely calibrated contours, and an assessment of thousands of plants to see which ones are hearty enough to thrive in a roadside environment. Previous attempts to use Jersey Shore marsh-type grasses did not go well, for example.

One recent day after a heavy rain, Robert Traver, a professor of civil engineering at Villanova and chair of the university's Urban Stormwater Partnership, was out inspecting one of the rain gardens.

This one, running along Richmond Street, between Shackamaxon and Marlborough Streets, covered about 1.7 acres.

"It's dry. It shows it's working," he said, referring to the fact that the gardens are designed to allow water to percolate into the ground or evaporate, rather than pooling. He then popped open a pole-mounted box, filled with wires and labels.

"This is our weather station. It measures wind, solar, radiation, humidity, and rainfall," Traver noted.

"We've really pioneered the monitoring so we can figure out everything we've done wrong. Because this is not easy."

He can check the data anytime on a mobile-phone app or in his campus office. He has six students — four candidates for master's degrees and two seeking doctoral degrees — helping with the project and analyzing data. They also test the soil.

Traver transferred some of the experimenting he has done on the Villanova campus, including several rain gardens there, as well as a former detention basin converted into a wetlands that drains and filters runoff from 40 acres of campus property.

"We have a ton of water that's being removed from the system," Traver said of the I-95 rain garden, noting that most of it is being absorbed into the soil, rather than flowing into the street and then into the sewers. "It also provides greening and cooling."

Residents have adopted the rain garden as a small park, walking their dogs along it. One neighbor even installed hummingbird feeders. At Halloween, they've been known to put up scarecrows since the garden was installed in 2015.

Previously PennDot would have simply installed concrete detention basins, which can overflow, or become stagnant pools where mosquitoes breed, said Elaine Lebach, a portfolio manager for PennDot.

"This was our test," Lebach said. "When we get into the interchanges [the rain gardens] get much bigger."

She said it takes two years for the plants in a rain garden to take root and flourish. Once they do, they are mostly maintenance-free, except for a yearly weeding and trash removal.

'People were skeptical'

A big test of the technology will be the rain garden being built at the interchange at Girard and Aramingo Avenues. Construction crews have already dug large sections there, unearthing soil that will eventually be covered with plant life.

Also on hand to inspect three of the rain gardens along a two-block section of Fishtown was Edwina Lam, a senior project engineer with AECOM, a subcontractor for PennDot, and a former student of Traver. Lam walked to a rain garden installed for the project that ran behind a home. It was guarded by a tall metal fence to keep out trespassers.

"We're trying to make it as maintenance-free as possible. And we also



A flow monitoring station at the rain garden. Previously PennDot would have simply installed concrete detention basins, which can overflow.

wanted to make it so it doesn't feel like you live next to a highway," Lam said. "Originally, people were skeptical."

She said the goal is to be able to handle a 1.5-inch rainfall in a 24-hour period, the goal set by the city's Water Department to comply with state and federal regulations under the Clean Water Act. In a normal year, only three or four rainfalls should exceed that.

Laura Toran, a professor in Temple's geology department, explains that the group used the sophisticated LIDAR (Light Detection and Ranging) surveying method to map the rain gardens' area. Toran said such precision was needed to engineer proper drainage.

"Water doesn't always go where we expect it to," she said.

Sasha Eisenman, an assistant professor in Temple's landscape architecture and horticulture department, considered 7,000 plants in the area and found 75 percent of them could survive in a rain garden, which catches road salt, oil, and other contaminants, she said.

Narcissus and black-eyed susan have done well, for example, as have sumac, pussy willow, elder berry, black willow, beach grasses, and switchgrasses.

Early on, some vegetation planted without Temple's help died, especially some varieties placed in gullies.

The rain gardens seem to be working. Traver said a recent test at the site showed the garden took in more than 1.67 inches of rain without overflowing, exceeding its requirements.

'Every bit helps'

Alan Fody, a manager handling storm water for the Philadelphia Water Department, said it's critical to control road runoff.

"Roadways are typically the dirtiest storm-water runoff," he said. "There's a lot of hydrocarbons, bacteria, sediments, and other pollutants. The highway is a large area and a lot of it goes into the combined sewer system."

He said just the stretch of three rain gardens running along Richmond Street, between Shackamaxon and Marlborough Streets, helps drain about 45,000 square feet on a 500-foot stretch of road.

Collectively, they can potentially prevent about 32,538 gallons of water from entering the city storm system during a heavy rain.

But, he said, that's just one phase of the project. A much larger phase running from Columbia to Allegheny can manage much more. Together, the two phases will be able to handle about 1.2 million gallons — nearly enough to fill two Olympic-sized swimming pools.

He said PennDot is also installing pipes in some areas of the construction that run parallel to the city's, but don't drain into a wastewater-treatment facility.

That way, if too much rain falls for the garden to handle, the water can be returned to the Delaware River rather than further taxing the sewage-treatment system.

As Fody says, "Every little bit helps."

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