S. 6th Street as the Green Corridor

Designation Plan

June 2011

Introduction

What does designation of S. 6th Street from Howard Avenue south to College Avenue as "The Green Corridor" mean in practice? Designation confers a physical place and continuous process to achieve common sustainability goals that improve environmental performance, attract business development, raise public awareness and support regional growth. Designation does not signify that S. 6th Street is a "complete" green street or that, at present, it meets the highest sustainability measures, but it recognizes the coordinated efforts and concentrated energy taking place on this stretch of street to showcase a range of green technology and innovation. Located in the heart of the 13th Aldermanic District known as the Garden District, the activities focused on S. 6th Street that warrant designation demonstrate successful collaboration, sustainable development and community involvement. The street boosts a community-organized and community-operated garden, a forum for neighborhood sustainability in the Energy Exchange, multiple green infrastructure projects to reduce stormwater runoff, enhanced landscaping and beautification, active and engaged neighborhood and business associations and a commitment from stakeholders – public and private - to advance 'green' works on S. 6th Street. The street serves as a highly visible transportation corridor that connects the airport and Amtrak station to downtown Milwaukee and the Port of Milwaukee. The street provides the people, passion, place, commitment and demonstrated success to model development of the city's first Green Corridor.

Discussion about the value of S. 6th Street as "The Green Corridor," its existing assets and future possibilities was held over several months involving a broad range of stakeholders from community and neighborhood associations, local businesses, government and university representatives and environmental advocacy groups. Monthly meetings facilitated by 13th District Alderman Terry Witkowski and the City's Office of Environmental Sustainability and hosted by the Energy Exchange, Milwaukee Area Technical College Center for Energy Conservation and Advanced Manufacturing and The Terminal were held to evaluate the Green Corridor concept, define what it meant, and identify who should be involved and how to proceed. As a result, consensus yielded the following goals for the Green Corridor:

- Achieve City of Milwaukee designation as "The Green Corridor"
- Serve as a living laboratory to demonstrate green technology and innovation that improves water quality, reduces stormwater runoff, saves energy, cleans the air and stimulates business and job growth
- Educate businesses and residents about green technology best practices and encourage application in all sectors – public and private, commercial, industrial and residential
- Enhance Milwaukee's image as a sustainability leader and the Garden District as a model for community sustainability
- Beautify the Green Corridor and surrounding areas with increased landscaping and green infrastructure
- Build and expand partnerships to expand and evolve the Green Corridor
- Support and be inclusive of Aerotropolis Milwaukee

The process to transform S. 6th Street into the Green Corridor is a locally-led community and business partnership directed by the Energy Exchange, American Rivers, Gateway to Milwaukee and the Garden District Neighborhood Association with broad government support from the City of Milwaukee, Milwaukee County, Milwaukee Metropolitan Sewerage District and Wisconsin Department of Natural Resources. Other stakeholders include Linder Logistics, TAPCO, The Brickyard, The Terminal, Milwaukee Area Technical College, Keep Greater Milwaukee Beautiful, University of Wisconsin-Milwaukee, Center for Resilient Cities, WE Energies, Bank Mutual, A-1 Recycling, Town of Lake and Holler Park Neighborhood Associations among other local businesses located within the Corridor. Together these partners and stakeholders will leverage their relevant resources whether they are financial, technical or material to build S. 6th Street as the Green Corridor.

To direct implementation, a Green Corridor Steering Committee and four sub-committees – Business, Neighborhood, Advocacy and Government were established. The Steering Committee will serve as the governance body and guide and facilitate sub-committee activities, projects and funding requests. The Steering Committee is an 8-member body comprised of the sub-committee chairs and 4 at-large members. Draft work plans have been developed for each sub-committee to chart progress toward the broader Green Corridor goals. Sub-committees will report to the Steering Committee on a monthly-basis. The Steering Committee will also coordinate stakeholder meetings on a quarterly-basis to ensure broad awareness and participation in sub-committee activities is encouraged.

CHART 1: Green Corridor Committee Structure

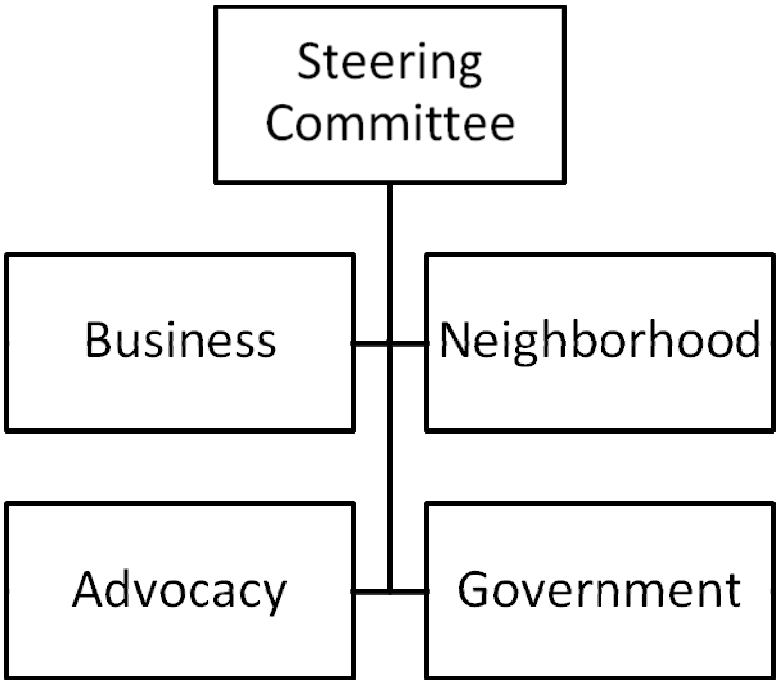


TABLE 1: Green Corridor Stakeholders

NAME	AFFILIATION	COMMITTEE
Samer Abulughod	Gateway to milwaukee	Business
Jan Alba	Milwaukee County UW Cooperative Extension	
Sue Black	Milwaukee County Parks	
Dave Burch	Milwaukee County Parks	
Rick Burgholtz	TAPCO	
Marcia Caton Campbell	Center for Resilient Cities	
David Ciepluch	Garden District Resident	Advocacy-Chair, Neighborhood, Steering-Secretary
Tom Eggert	WI Dept of Natural Resources	
Patrick Elliot	Milwaukee Metropolitan Sewerage District	Government
Sean Foltz	American Rivers	Business – Chair, Government, Steering
Eloisa Gomez	Milwaukee County UW Cooperative Extension	
Socorro Gonzales	WE Energies	
Sherrie Gruder	UW Extension - Madison	
Jason Haas	Milwaukee County Supervisor – X District	Government
Joe Halser	The Terminal	
Matt Howard	City of Milwaukee Office of Environmental Sustainability	Government – Chair, Steering
Joe Jacobsen	Milwaukee Area Technical College - ECAM	
Ghassan Korban	City of Milwaukee Dept of Public Works	
Vanessa Koster	City of Milwaukee Dept of City Development	Government
Chris Kuester	Holler Park Neighborhood Assoc	
Kimberly Kujoth	City of Milwaukee Dept of Public Works	Government, Steering
Yves LaPierre	City of Milwaukee Dept City Development	
Nathan Leinweber	The Brickyard, Inc.	Neighborhood
Dennis Lukaszewski	Milwaukee County UW Cooperative Extension	
Mark McDermid	WI Dept of Natural Resources	
Chris Merritt	TAPCO	
Karen Mierow	City of Milwaukee Dept of City Development	Neighborhood
Julia O'Connor	Town of Lake Neighborhood Assoc	Neighborhood
Kevin Peck	A-1 Recycling	Business

NAME	AFFILIATION	COMMITTEE
Jeff Polenske	City of Milwaukee Dept of Public Works	Steering
Tom Rave	Gateway to Milwaukee	Business, Steering-Vice Chair
Dawn Riegal	Town of Lake Neighborhood Assoc	Neighborhood
Payman Sadeghi	UW-Milwaukee Community Design Solutions	
Karen Sands	Milwaukee Metropolitan Sewerage District	Government
Dave Schlabowski	City of Milwaukee Dept of Public Works	
Bryan Simon	Energy Exchange	Business, Steering-Chair
Chris Socha	UW-Milwaukee	
Debrorah Stoddard	Bank Mutual	
Susan Weistrop	UW-Milwaukee	
Ted Wilinski	Milwaukee Area Technical College – ECAM	Business
Connie Wilson	Garden District Neighborhood Association	Neighborhood-Chair, Steering
Joe Wilson	Keep Greater Milwaukee Beautiful	Advocacy

ATTACHMENT ONE: Existing Green Assets on S. 6th Street

The green assets in place on S. 6th Street indicate an opportunity for further advancement of green technology and innovation and show the level of investment on the part of the Green Corridor partners.

Milwaukee Co. UW Extension Cooperative Extension – existing 100 plot rental gardens.

Garden District Neighborhood Association Community Garden – existing plantings and decorative signage. Rental garden plots, lannon stone fence restoration with native plantings, community gathering space with pergola, fruit orchard, farmers market, teaching/school gardens, compost areas. Agreement with Milwaukee Co. from Howard Avenue to Plainfield for future expansion.

City of Milwaukee Water Works Howard Purification Plant – Demonstrate ozone treatment

City of Milwaukee Richard Anderson Lake Tower – Demonstrate use of hybrid vehicles

City of Milwaukee Sanitation Salt Dome – Demonstrate Geomelt and other alternative de-icing agents

Energy Exchange – community forum for sustainability, provides educational/workshops on stormwater, energy, green infrastructure, etc. On-site demonstration for green roof, permeable pavers, recycled rain water system with bioswales.

City of Milwaukee Bioswales – Installation in public right-of-way on west side of S. 6th between the sidewalk and curb to mitigate stormwater runoff with implementation in 2011

Solar LED Signage Demonstration - Solar LED street designation signs at 13 intersections and Solar LED crosswalk sign to be donated by TAPCO

Wilson Creek Flood Retention Project – MMSD to purchase land along Wilson Creek for use as dry detention pond to reduce flooding

Complete Green Street Student Design – American Rivers & Energy Exchange sponsored student design for two-block area from Bolivar Avenue to Armour Avenue as comprehensive green street test area

Sustainable Boulevard' Signature Landscape Bed Installations – City installed landscaped beds on Layton & Howell Avenues. The Gateway to Milwaukee continues to compliment and expand this effort with additional bed installations and maintenance.

Islamic Center and School – plans for a green roof at Center and School

Milwaukee County Parks Holler Park/Holler Park Neighborhood Assoc – 10,000 plant rain garden, rain barrels. Community plantings, decorative signage, trees planted

Linder Logistics – interested in Green Roof, bioswales, LED lighting for parking lot

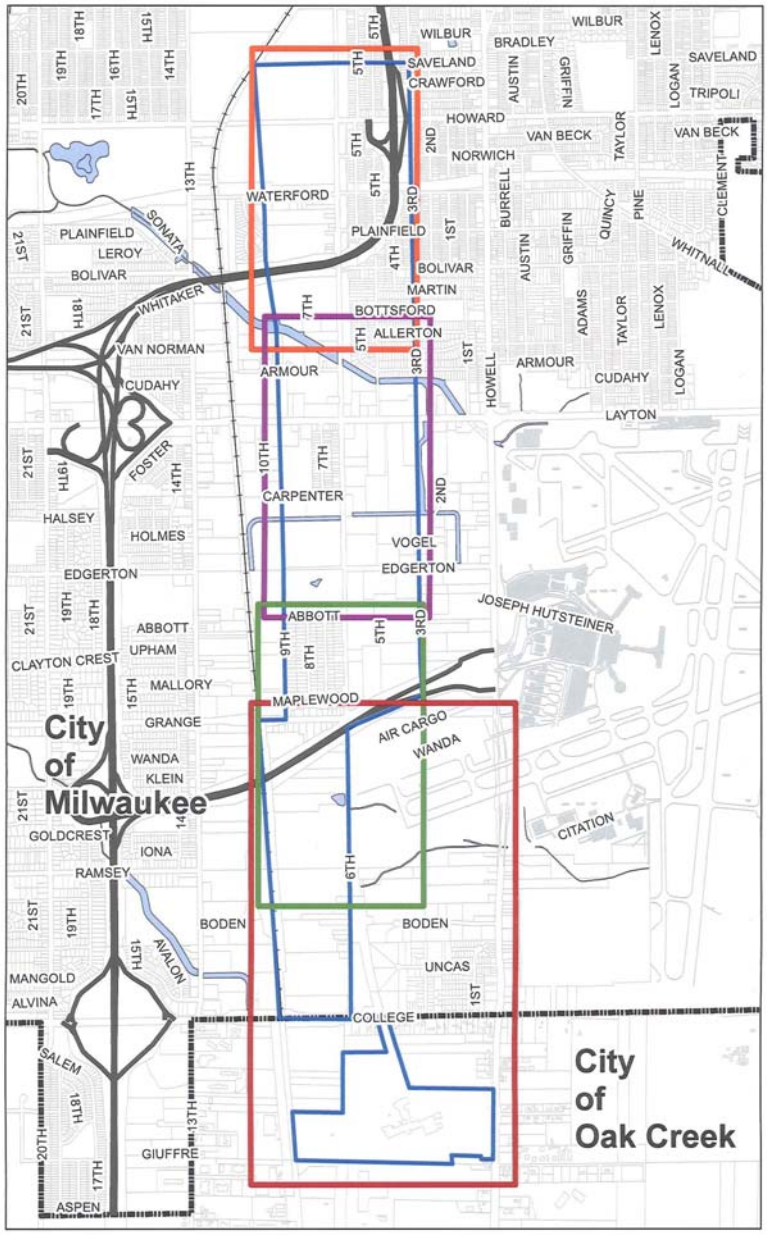
MATC Center for Energy Conservation & Advanced Manufacturing, Oak Creek Campus - Sustainable Facilities Operations AAS Degree, Sustainable Operations Certificate. Need projects for student involvement. Sustainable campus and facilities.

ATTACHMENT TWO: Possibilities for S. 6th Street and Ideas for Future Consideration

Discussion by the Green Corridor partners generated a list of "dreams" or possibilities for future consideration. The list represents brainstorming sessions at stakeholder meetings.

- Bus shelters with solar lighting
- Solar garbage/recycling canisters – solar power compacts trash/recyclables to reduce collection frequency
- Neighborhood pocket park at 5th & Howard
- Solar flares – use solar power for irrigation in community garden
- 24-hour gardening – solar powered lighting to allow 24-hr gardening. Helios will be contacted as possible sponsor of solar lighting demonstration.
- Installation of bike lanes on existing surface road. Connect to larger bike plan.
- Sleep Inn – operate a bike loan program for guests.
- Green Street to serve as a pilot area for City to implement green technologies. Install electric charging station at Water Tower. City to use Green Street to promote energy ME2 programs.
- Solar Roadway – solar installation down middle of road. Solar power melts snow and provides energy for adjacent properties.
- Research UWM "new" concrete technologies
- Need to educate inspectors to understand green technologies
- Field of wildflowers on WE Energies right-of-way to beautify and reduce need for mowing
- Promote plantings between curb and sidewalk – Custom Grown Greenhouse possible demon site
- Wilson Creek Restoration – removal of concrete lining slows flow of stormwater, but also spreads water out. Restoration requires storage of water on adjacent properties.
- Need business involvement and buy-in. Businesses could provide areas for employee gardens. Provide marketing opportunities for businesses that participate in Green Street. Host a business CEO open house @ MATC or other 6th Street location to solicit business participation.
- Gateway of Milwaukee interested in art installations on Layton Avenue – east of Howell Ave.
- Develop a walking tour with lesson stops of green technologies/demonstrations that extends from Howard Ave to MATC campus. Develop a map to promote walking or biking tours
- Incorporate fitness stations along walking tour at key locations (community garden, Holler Park, etc.) to promote health and fitness. Sample "Born Trails"
- Incorporate passive trails (access roads) into design of Wilson Creek detention pond.
- Possible location for Growing Power hoop houses
- Community Design Solutions – low cost design services
- Create common theme to unite street and establish a sense of place. Use consistent signage to unify all aspects of Green Corridor projects.
- Research State of California Highways Dept native planting program – what plants do well roadside
- Incorporate children & nature – Nature Explore Outdoor Classroom (National Arbor Day Foundation/Dimensions Foundation model)
- Model a Green Home – foreclosed home as demonstration for green technologies to educate homeowners and business on what they can do to improve their sustainability. DCD will provide a list of neighborhood foreclosed homes
- Develop a strategic plan for businesses

ATTACHMENT THREE: S. 6th Street – Maps of Green Corridor Assets and Possibilities



Green Street Study Area - Overview

- Green Street Study Boundary
- Map 1
- Map 2
- Map 3
- Map 4

N

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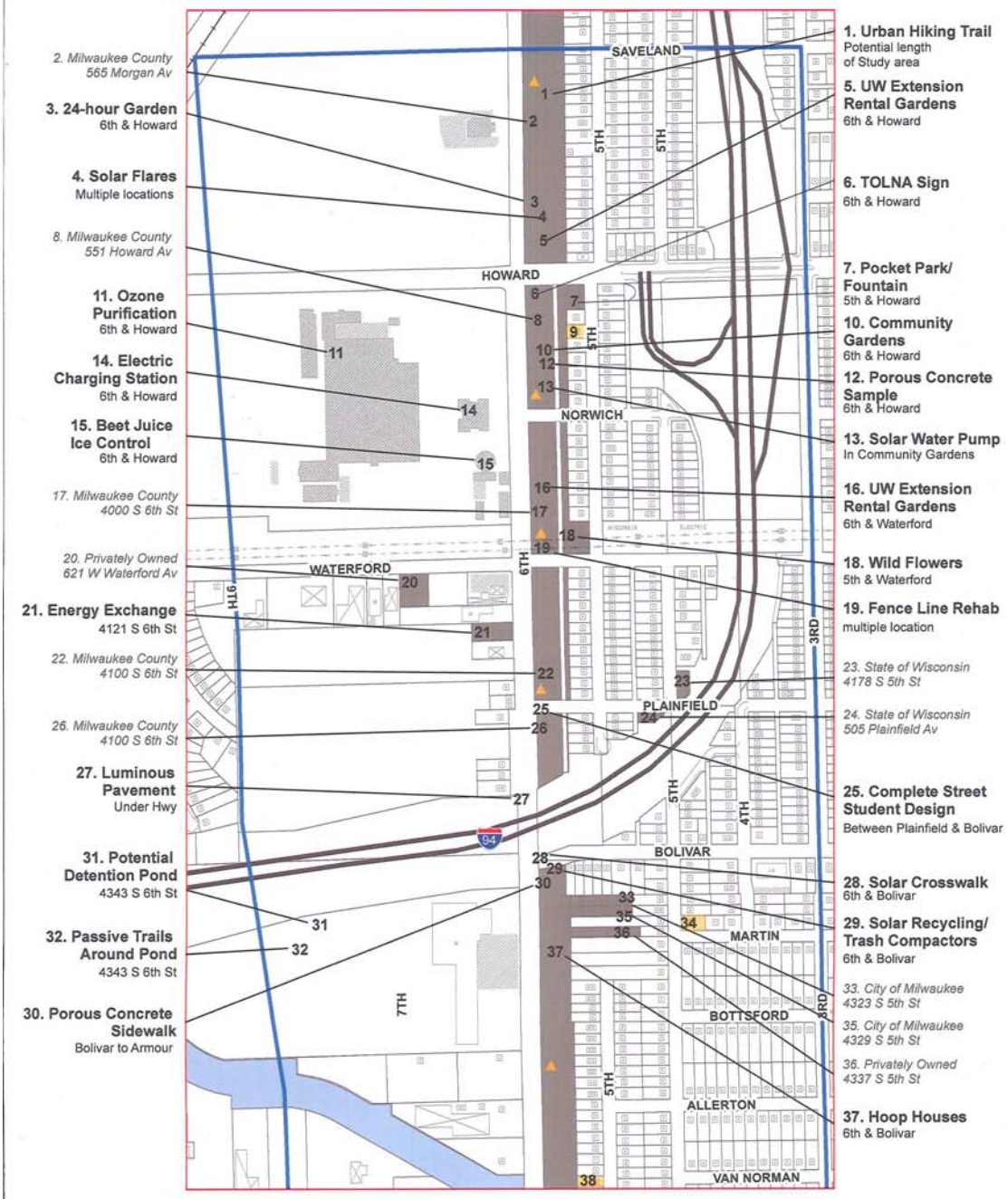

South 6th Street Study Area - Howard Map 1 Targeted Area for Implementation

- Study Area Boundary
- Vacant Land in Study Area
- M — Manufacturing
- Single-Use Building
- Single Family
- Duplex
- # — Multi-Family - # indicates dwelling units
- Parking Lot
- Proposed Bioswales in public right-of-way
- Proposed Exercise Stations
- # — Potential "Model a Green Home" (Foreclosed Home) City's Me2 program (http://smartenergypays.com/)
  - 9. 3939 S 5th Pl
  - 34. 4334 S 5th Pl
  - 38. 4511 S 5th Pl
- #— Approximate locations of suggestions

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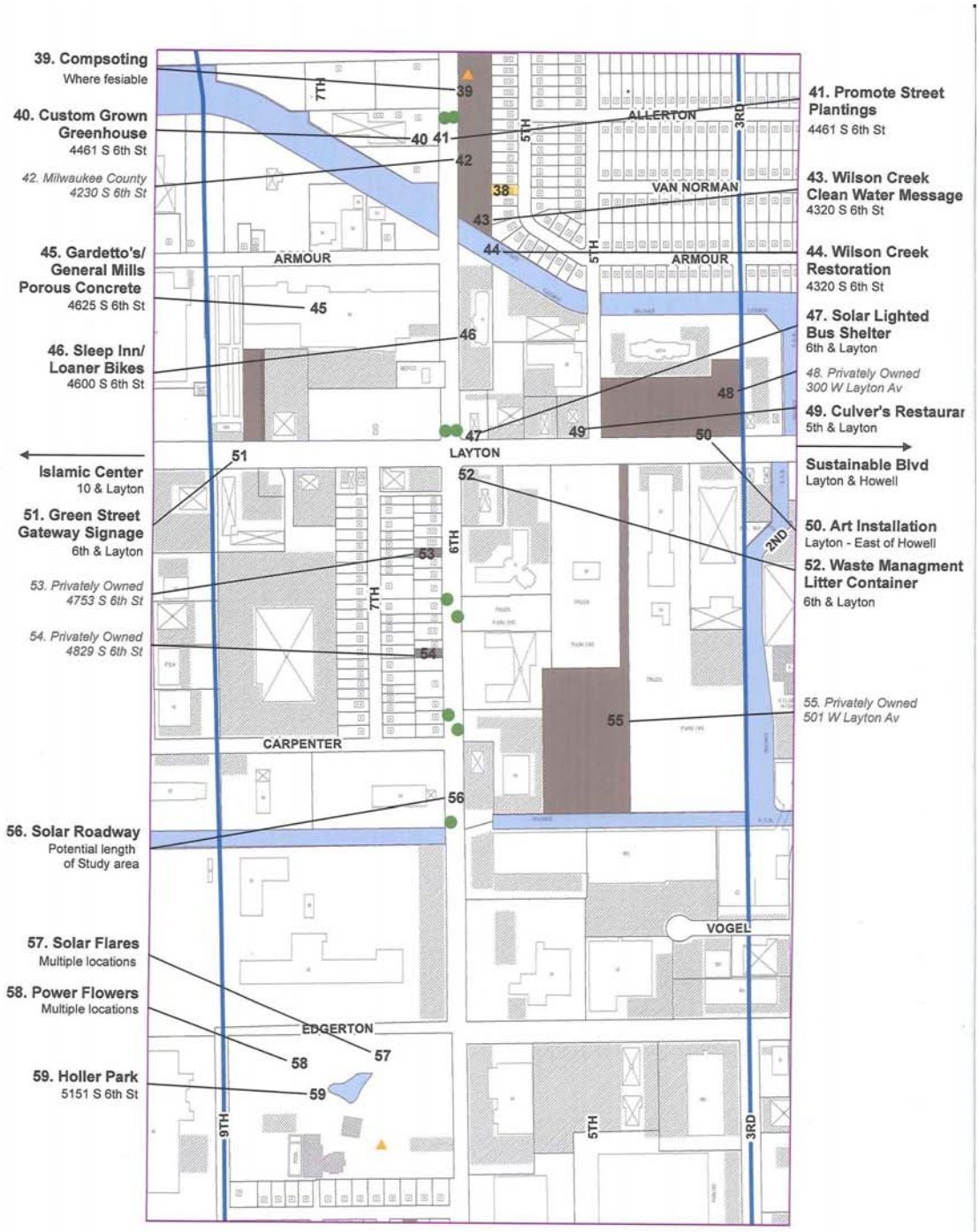

South 6th Street Study Area - Layton Map 2

- Study Area Boundary
- Vacant Land in Study Area
- M — Manufacturing
- Single-Use Building
- Single Family
- Duplex
- # — Multi-Family - # indicates dwelling units
- Parking Lot
- Proposed Bioswales in public right-of-way
- Proposed Exercise Stations
- # — Potential "Model a Green Home" (Foreclosed Home) City's Me2 program (http://smartenergypays.com/)
  38. 4511 S 5th Pl
- #— Approximate locations of suggestions

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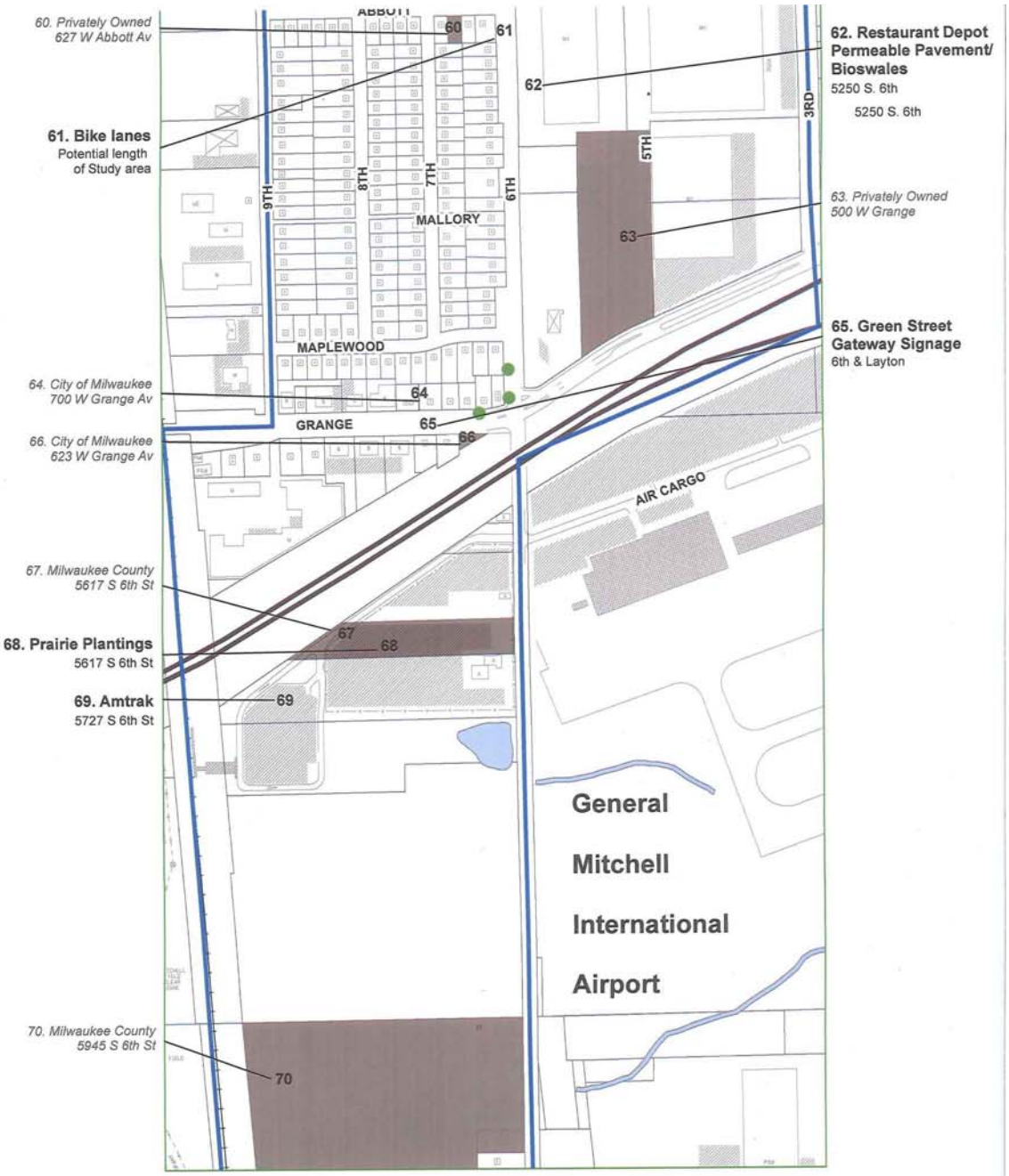

South 6th Street Study Area - Grange Map 3

- Study Area Boundary
- Vacant Land in Study Area
- M Manufacturing
- Single-Use Building
- Single Family
- Duplex
- # Multi-Family - # indicates dwelling units
- Parking Lot
- Proposed Bioswales in public right-of-way
- Proposed Exercise Stations
- Arrows show approximate locations

N

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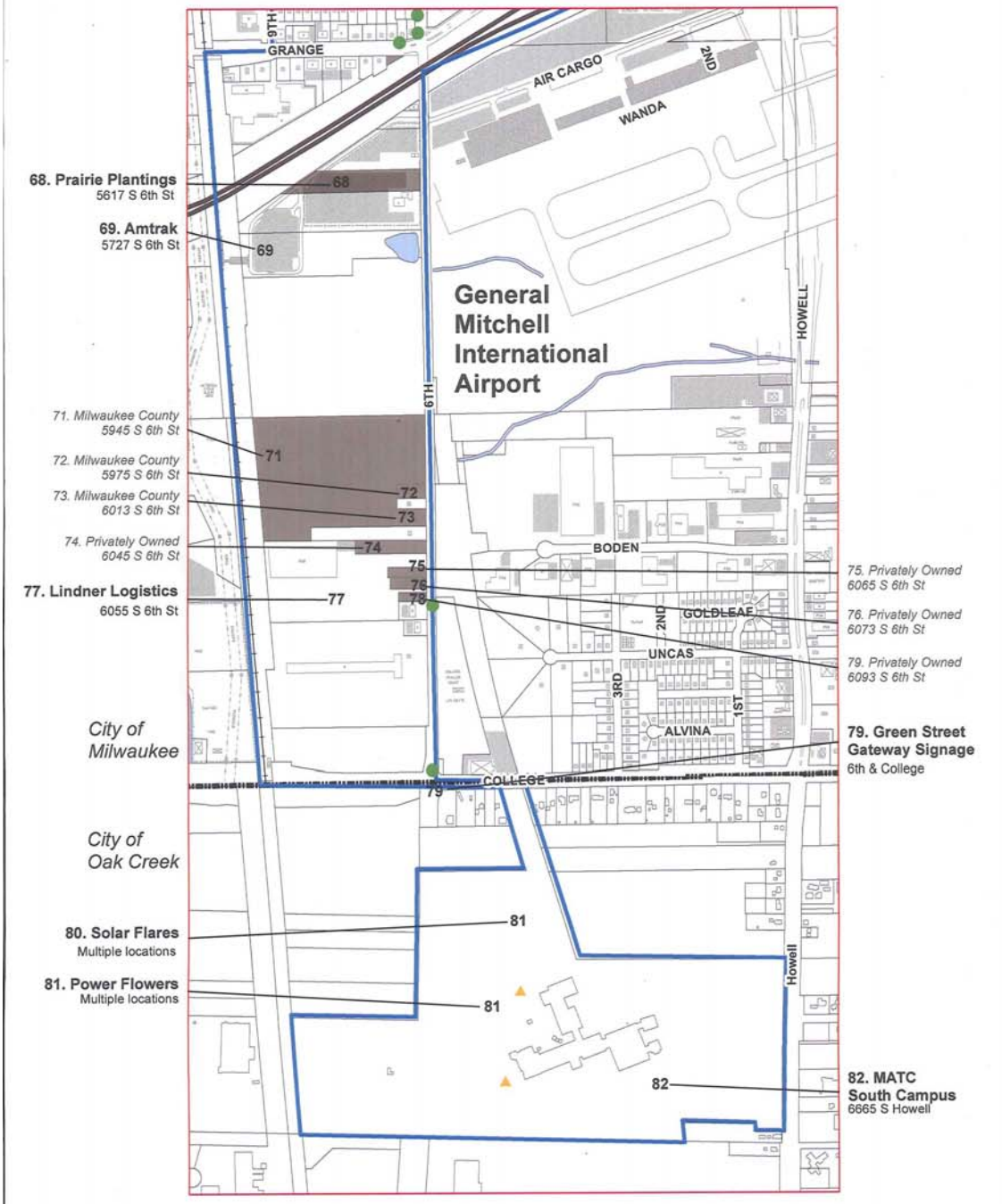


South 6th Street Study Area - College Map 4

- Study Area Boundary
- Vacant Land in Study Area
- Manufacturing
- Single-Use Building
- Single Family
- Duplex
- Multi-Family - # indicates dwelling units
- Parking Lot
- Proposed Bioswales in public right-of-way
- Proposed Exercise Stations
- Approximate locations of suggestions

N

0 500 1,000 2,000 Feet

The Green Corridor
Business Committee

#	Goal	Activity	Lead Agency/Individual	% Complete	Budget
1	Increase buy-in and awareness within business community of green corridor concept	Design a program brochure that is targetted to businesses. Focus on the financial benefits and ROI	American Rivers/Sean	5%	$0
		Create a website that has in-depth explanations and cases for participation in the Green Corridor	Bryan Simon		
		Conduct door-to-door and mailing outreach	Gateway to Milwaukee	5%	$0
		Host a CEO Open House at MATC to solicit participation in the Green Corridor	MATC, Gateway	0%	$200
2	Encourage "green" sustainability practices at Green Corridor businesses	Provide localized ME3 training and benefits to business owners.	Matt Howard	10%	$0
		Promote installation of Green Roof technology and aid in grant applications	MMSD	10%	$0
3	Enhance aesthetics of Green Corridor businesses using green infrastructure	Develop landscape guidelines for the Corridor. Include plant and material recommendations	Interns	0%	$0
		Install bioswales		15%	$0
		Continue enhanced landscaping efforts along Layton, Howell, and Grange Avenues	Gateway to Milwaukee	ongoing	$20,000
		Promote plantings between road and sidewalk		ongoing	$5,000
4	Recruit businesses with green technology into the corridor.	Identify potential businesses that are complimentary to the Green Corridor concept and make outreach/recruiting efforts		0%	$0
		Identify the appropriate financial tools available to firms locating within the Green Corridor (tax credits, MEDC financing, etc.)	Gateway to Milwaukee	0%	$0

The Green Corridor
Neighborhood Committee

#	Goal	Activity	Lead Agency/Individual	% Complete	Budget
1	Build buy-in of residents for the Green Corridor concept	Produce outreach documents (brochure, flyer, etc.) for distribution	GDNA	0%	200
		Present Green Corridor concept at neighborhood assn. meetings	GDNA	0%	0
		Support and expand the creation of community gardens at the 6th and Howard site	GDNA Garden Committee	ongoing	0
2	Produce physical reminders that are easily visible to residents	Produce and install Gateway signage at key intersections	Gateway to Milwaukee	0%	5,000
3	Improve the visibility and neighborhood usage of the Green Corridor through its residential areas	Enhance walkability through pedestrian improvements (crosswalks, pavers, bike lanes)	DPW	0%	?
		Produce uniform plaques that demonstrates each site within the Corridor and provides educational background	GDNA	0%	1,000
4	Educate residents about sustainable technology	Host a series of seminars or events that focus on sustainable technology and promote them to neighborhood associations	Energy Exchange	5%	0
		Provide tools and resources for continued application of sustainable technology and BMPs for residentil properties	Energy Exchange	0%	

The Green Corridor
Advocacy Committee

#	Goal	Activity	Lead Agency/Individual	% Complete	Budget
1	Achieve "Green Tier" designation of the entire district	Discuss intent and determine feasibility with DNR	Matt Howard	0%	$0
2	Build partnerships with like-minded organizations	Research green infrastructure/technology advocacy groups and pursue joint educational opportunities		0%	$0
3	Enhance Milwaukee's image as a sustainability leader and the Green Corridor as a model of sustainability	Attend national green building and sustainability conferences as representatives of Milwaukee's efforts		0%	$0
		Work with the Milwaukee Image Taskforce and Visit Milwaukee on designating S. 6th St at the official demonstration site for sustainable technology		0%	$0

The Green Corridor

Government Committee

GOAL: Positively affect government action in order to best facilitate development of and investment in the Green Corridor.

#	Goal	Activity	Lead Agency/Individual	% Complete	Budget
1	Achieve official designation of S. 6th Street as "The Green Corridor"	Petition the appropriate City departments and commissions for approval of this designation	Alderman Terry Witkowski	0%	$0
2	Position the Green Corridor as a demonstration or test site for pilot programs in sustainble infrastructure/development at the City and County levels	Enter into MOUs and achieve an official level of support among City and County departments which may be involved in this concept (Transportation, Roads, DPW, DCD)		0%	$0
		Encourage govt action which supports investment in green infrastructure		0%	$0
		Petition appropriate City departments for the installation of an electric vehicle charging station at the Water Tower site		0%	$0
		Work with MCTS, AGBID, and other appropriate agencies for the installation of solar powered bus stops at various sites	The Gateway to Milwaukee	0%	$15,000
		Bike Lanes	DPW	0%	?
		Bioswales (Howard to Layton)	DPW	?	?
		Me2/ME3 for residents, commercial and business	OES	N/A	N/A
		Planning Documents	DCD	?	?
3	Rehabilitate the Wilson Park Creek to an attractive natural state	Advocate for the removal of the conrete-lined channel east of S. 6th st in favor of a natural riparian buffer	MMSD	0%	$0
		Construct a detention pond for flood reduction along the Wilson Park Creek		0%	?
4	Increase investment in green infrastructure training at MATC	Discuss the goals and intended outcomes of the Green Corridor concept with the MATC Board of Directors and other key decision makers		0%	$0

ATTACHMENT FIVE: Early News on the Green Corridor

Marquette students' green design could catch water on S. 6th St.

Benny Sieu

Sean Foltz, of American Rivers, stands near the concrete ditch that carries Wilson Park Creek. A proposal to redo a five-block stretch of S. 6th St. would reduce runoff into the creek.

By Don Behm of the Journal Sentinel

May 31, 2011 |(0) Comments

One five-block stretch of a south-side street could be transformed into a "green street" and become an urban laboratory for storm-water management practices, under a design proposal from three Marquette University engineering students.

S. 6th St., stretching from Bolivar Ave. south to Armour Ave., would be reconstructed so it could hold rain where it falls and use it in growing trees and flowers and replenishing groundwater.

Paved roads traditionally send rainwater into storm sewers that discharge to creeks, adding to downstream flooding, said Sean Foltz, associate director of the clean water program for American Rivers, a national conservation organization.

A 1-inch rainfall on this section of S. 6th St. would yield 116,000 gallons of storm water, Foltz said. The students' design, incorporating such simple steps as planters for shrubs and flowers between the road and sidewalk, or bioswales that are specially constructed ditches designed to absorb water rather than drain it away, has a much greater capacity for water retention, said Foltz, who acted as a mentor for the students.

Milwaukee Ald. Terry Witkowski said the students' storm-water management practices for this section of street in his district could be installed on any city or suburban road.

Witkowski does not plan to ask for city funds to build the students' proposed design. He expects American Rivers and its local partners - including Southeastern Wisconsin Watersheds Trust, Garden District Neighborhood Association, the Energy Exchange and The Gateway to Milwaukee - to go after grants to pay costs of constructing and maintaining the "green street."

He sees the students' project as one step toward completing a three-mile-long "green corridor" on S. 6th St., all the way from Howard Ave. to College Ave. and the MATC South campus, he said. The alderman plans to ask the Common Council's Public Works Committee to grant the "green corridor" designation at its June 22 meeting.

The corridor plan will be given a boost this summer with the Milwaukee Department of Public Works' planned construction of small bioswales to be scattered along that same three-mile section of S. 6th St. between curbs and sidewalks.

Flood prevention

One goal of the five-block green street project is to reduce storm water into Wilson Park Creek, a narrow stream lined with concrete that flows beneath S. 6th St. south of Armour Ave., Foltz said. The creek is prone to flash floods during heavy rainstorms as it collects water from a south-side neighborhood with more than 80% of its surface area either paved or shingled.

Wilson Park Creek is a tributary of the Kinnickinnic River, so all of that storm water is pushed downstream, adding to the risk of flooding crowded neighborhoods from S. 27th St. to S. 6th St., as the river pushes toward the Milwaukee harbor.

Student engineer Paige Peters said her team exceeded its goals by piecing together a design of water-absorbing swales, planters and porous paving blocks that prevent rain from draining to storm sewers.

"This keeps it all in the ground," she said of the proposal.

Similar bioswales will be constructed along large paved parking lots at a nearby Islamic Society of Milwaukee community center and school in the 800 block of W. Layton Ave., Foltz said. Tens of thousands of gallons of water in a rainstorm flow off the pavement, eroding adjacent soil as it rushes into storm sewers that empty the load into Wilson Park Creek.

Peters and her teammates, Klarissa Keadle and Kyle Hill, completed the S. 6th St. project for a design course required of all senior-year civil and environmental engineering students. Each graduated earlier this month and attained the status of engineer-in-training.

Kate Morgan, water policy director for 1,000 Friends of Wisconsin, asked Clifford Crandall, an associate professor of engineering at Marquette, whether senior students might be interested in participating in her group's student design challenge for storm water best management practices.

The Southeastern Wisconsin Watersheds Trust was seeking designs for projects that could be built either in the Kinnickinnic or Menomonee River watersheds and help improve water quality in those urban streams. The challenge was a good fit for the semester-long course, and the green street team joined 22 other teams with assigned projects, Crandall said.

Bryan Simon, owner of Simon Landscaping on S. 6th St. near Howard Ave., has built several storm-water management practices at his business, such as porous pavement that allows rain to drop into cracks between blocks and bioswales. He topped it all off with a green roof on the building that is covered with water-absorbing plants.

Simon said his property is water-neutral. "All the water that falls here, stays on the site," he said.

Witkowski describes Simon as a "missionary" for such green practices.

After 25 years in the landscaping business, one of the benefits of holding rainwater in place is lower cost of maintaining lawns and gardens, according to Simon.

In the past, landscape designers came up with plans for shedding water from sites, so that it didn't soak into the soil. Then the property owners bought water for lawns, trees and gardens, he said.

Rain should stay where it falls, seeping into the ground and watering roots of trees, grasses and shrubs, rather than being discarded, said Simon, a member of the Garden District Neighborhood Association.

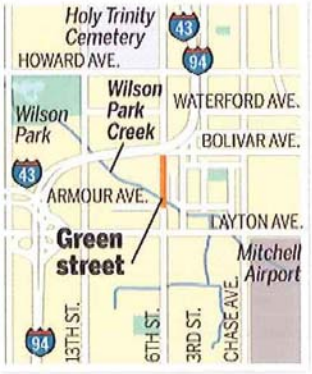
As the rainwater moves down through soil, it also helps replenish local groundwater resources, he said.

Headline here

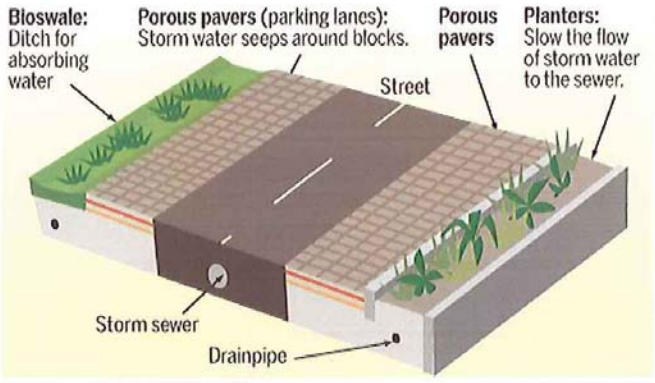
To view a slide show, go to jsonline.com/photos.

City's first 'green' street

A proposed reconstruction of S. 6th St., between W. Bolivar and W. Armour avenues, would be Milwaukee's first "green street." The goal of the project is to reduce storm-water runoff to storm sewers that empty into Wilson Park Creek. The creek is subject to flash floods in heavy rains.



Project green street



Source: EnviroPAKK Environmental Services

Journal Sentinel