



GREEN PATTERN BOOK

USING VACANT LAND TO CREATE GREENER
NEIGHBORHOODS IN BALTIMORE



Abstract

This document serves as a tool to assist the City of Baltimore's residents, administration, and community and nongovernmental organizations in "greening" the vacant land and improving the quality of life in the city. There are about 14,000 vacant lots in Baltimore, and an estimated 16,000 abandoned houses. While these vacant properties can be a problem, they also offer an opportunity to create greener neighborhoods. Baltimore's Growing Green Initiative, which began in 2014, was developed to improve collaboration, develop procedures, and provide support and assistance to groups working toward a sustainable, green future for Baltimore. Here we classify the types of vacant land, describe eight different 'greening' patterns, and provide descriptions and photos of successful efforts.

How to cite this publication:

Baltimore Department of Planning,
Office of Sustainability. 2015.

**Green pattern book: using
vacant land to create greener
neighborhoods in Baltimore.**

NRS-INF-32-15. Newtown Square,
PA: U.S. Department of Agriculture,
Forest Service, Northern Research
Station. 109 p.

Cover photos by, clockwise from top left: Amy Gilder-Busatti, Baltimore City, used with permission; Miriam Avins, Baltimore Green Space, used with permission; Mark Cameron, Baltimore City, used with permission; Mark Cameron, Baltimore City, used with permission; Miriam Avins, Baltimore Green Space, used with permission; Mark Cameron, Baltimore City, used with permission

Published by:
U.S. FOREST SERVICE
11 CAMPUS BLVD SUITE 200
NEWTOWN SQUARE PA 19073

This document is available at :
<http://www.nrs.fs.fed.us/baltimore/green/>

September 2015

Letter from the Mayor



STEPHANIE RAWLINGS-BLAKE
Mayor
250 City Hall, 100 North Holliday Street
Baltimore, Maryland 21202



Photo by Mayor's Office,
Baltimore City, used with
permission.

Dear Fellow Baltimore City Resident:

I am pleased to release the final version of the Green Pattern Book, a guidebook that provides visioning tools, site selection criteria, guidelines, and resource information for a wide variety of options for greening vacant lots. The Green Pattern Book supports the Growing Green Initiative, which I launched in May 2014. Baltimore's Growing Green Initiative is my administration's strategy to use sustainable, innovative, and cost-effective greening practices to improve vacant lots and set the stage for growing Baltimore. The Growing Green Initiative is a collaborative effort between City agencies and numerous stakeholders to develop and implement new ideas to improve the management and appearance of Baltimore's vacant land. I would like to thank the numerous partners, especially the U.S. Forest Service, for providing beneficial feedback and funding to create this important resource.

By bringing together this information into a single document, the Green Pattern Book will make it easier for communities, non-profit organizations, faith-based groups, developers, and City agencies to apply their imagination, talent, and energy to creating green spaces that will strengthen our neighborhoods and contribute to improved health and environmental quality.

I encourage you to become familiar with The Baltimore Green Pattern Book, and to think about how some of these 'green patterns' could be applied to vacant lots in your neighborhood. Together, we can transform vacant lots into beautiful and productive green spaces that contribute to Safer Streets, Stronger Neighborhoods, and a Cleaner and Healthier City for Baltimore residents. For more information please contact the Planning Department at sustainability@baltimorecity.gov or 410-396-PLAN (7526).

Sincerely,

Stephanie Rawlings-Blake
Mayor
City of Baltimore



GROWING GREEN INITIATIVE





Dear Friends of a Greener Baltimore:

I am very pleased that the USDA Forest Service has partnered with the city of Baltimore, Maryland, to increase the livability and sustainability of this great urban center. The Green Pattern Book, supported by the Forest Service as part of the Baltimore Urban Waters Federal Partnership, is one example of that collaboration. This book assembles guidelines, resources and tools that can help neighborhoods create and maintain green space from vacant lots. The information will help Baltimore achieve its vision of greener neighborhoods and help cities across the United States to take action of their own.



Photo by US Forest Service.

Ensuring vitality of urban forests and waters is part of the Forest Service's mission to "care for the land and serve people" *where they live*. With more than 80 percent of the U.S. population living in urban areas, our agency is committed to the stewardship of natural resources across the spectrum of urban, urbanizing and rural landscapes. Right here in Baltimore, we are studying the unique ecology of urban water systems, developing new ways to filter storm water, and promoting sustainable building design that encourages a low carbon footprint and innovative uses for wood and urban wood waste.

I hope you are as inspired as I am by what you read here and I look forward to what this wonderful partnership will achieve to improve people's lives in Baltimore and the surrounding region now and in the future.

Very respectfully,

Michael T. Rains

Director
Northern Research Station and
Forest Products Laboratory





Acknowledgements

We would like to thank the following people for advice, guidance, and support in helping to develop the Green Pattern Book:

Baltimore Growing Green Workgroup

Thomas Stosur, Director, Department of Planning
Alfred Foxx, Director, Department of Public Works
Theo Ngongang, Department of Planning
Beth Strommen, Department of Planning
Amy Gilder-Busatti, Department of Planning
Jenny Guillaume, Department of Planning
Kate Edwards, Department of Planning
Abby Cocke, Department of Planning
Kim Burgess, Department of Public Works
Mark Cameron, Department of Public Works
Julia Day, Department of Housing and Community Development
Michael Braverman, Dept. of Housing and Community Development
Valorie Lacour, Department of Transportation
Bill Vondrasek, Department of Recreation and Parks
Erik Dihle, Department of Recreation and Parks
Melissa Grimm, Department of Recreation and Parks

Other Contributors

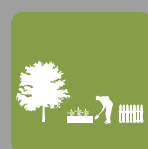
USDA Forest Service/Baltimore Ecosystem Study
Baltimore Green Space
Baltimore Orchard Project
Baltimore Tree Trust
Blue Water Baltimore
Civic Works
Community Law Center
Neighborhood Design Center
Parks & People Foundation
TreeBaltimore
Banner Neighborhoods
Bon Secours of Maryland Foundation
Druid Heights CDC
Historic East Baltimore Community Action Coalition
Park Heights Renaissance
Reservoir Hill Improvement Council
Inez Robb
Earl Johnson

Document and Symbol Design

Kristin Baja

Contents

Introduction	8
How to Use the Green Pattern Book	14
Quick Tips	16
Vacant Land in Baltimore	22
Reusing Vacant Land	
Clean and Green	24
Community- Managed Open Spaces	30
Urban Agriculture	40
Stormwater Management	48
Green Parking	56
Urban Forests and Buffers	64
Neighborhood Parks	72
Mixed Greens	80
Appendix	86

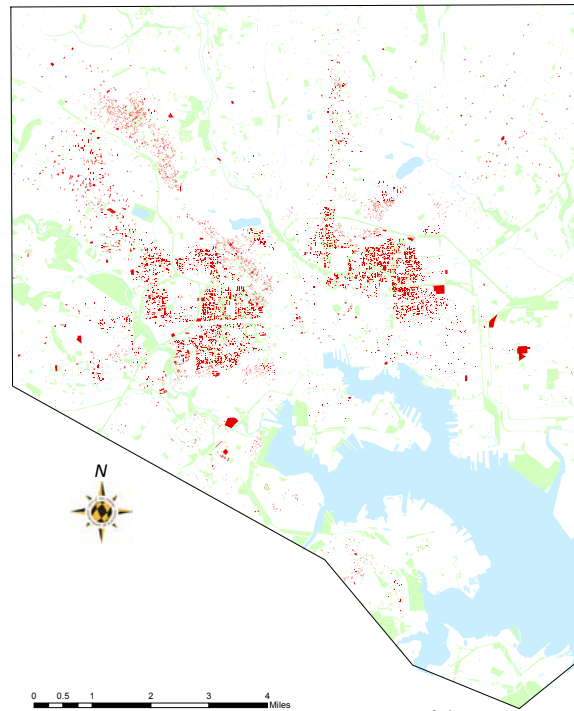




Introduction

In neighborhoods across Baltimore, vacant land and abandoned housing are a blight on communities. Trash-filled, weedy lots are havens for rats and dumping, while boarded and abandoned houses attract crime and pose safety problems for adjacent neighbors. Vacant properties are a drain on City services, resources, and morale.

In 2013, Baltimore had 14,000 vacant lots and 16,000 abandoned houses. Over the next 10 years, 4,000 of these abandoned houses will be demolished as part of the City's effort to eliminate blight. While these vacant properties can be a problem, they also offer an opportunity to create greener neighborhoods that improve the quality of life for current residents while attracting new people to Baltimore.



Department of Planning,
Baltimore City, used with permission

Right: Baltimore's 14,000 vacant lots, shown in red in the map, offer an opportunity to create greener neighborhoods.

The solution for the City's chronically vacant lots and structures begins with a vision for a citywide program to transform many of Baltimore's most blighted areas into an integrated network of green spaces, including parks and squares, rain gardens, urban farms, forests and community gardens. These green amenities have the potential to concurrently provide economic, social, and environmental

benefits to the City and its residents. The wide variety of greening techniques offered in the Growing Green Initiative provide a unique opportunity for land asset management and sustainable economic development, and through these techniques Baltimore can grow sustainably into the next century. The City must undertake this process using a proactive planning and land assembly program to build attractive, mixed-income and walkable neighborhoods adjacent to these green amenities. The Growing Green Initiative (GGI) will use the “green patterns” in this Pattern Book to identify temporary and permanent green uses and strategies, with additional strategies for holding select properties for future redevelopment. What is envisioned is nothing less than a “Green Renaissance” for Baltimore.

The attraction of this vision is undeniable, but what makes such a Growing Green Initiative actually achievable? A combination of factors makes 2014 the opportune moment to embark on Baltimore’s GGI. These factors include: national and regional demographic trends; statewide smart growth policies and regional growth projections; the established strengths of many of Baltimore’s existing and growing communities, businesses, and institutions; new state and federal environmental and water quality mandates; and our inventory of underutilized and abandoned properties available for viable reuse strategies. Each of these factors, on its own, presents an isolated trend, strength, or challenge. Take them together and combine them with strong mayoral vision and leadership, an engaged and activist community, and supportive public, private, and nonprofit partners, and the vision of generating a real and lasting Green Renaissance for Baltimore becomes compelling indeed.

This vision can be reality sooner than you think. Today, 964 vacant lots have been adopted and turned into gardens and community open spaces. Eighteen urban farms are operating and selling their produce at local farmers markets. Vacant housing is being demolished to make way for new community development and community spaces. This Green Pattern Book is an important tool that will help guide decisions to support Baltimore’s Green Renaissance.



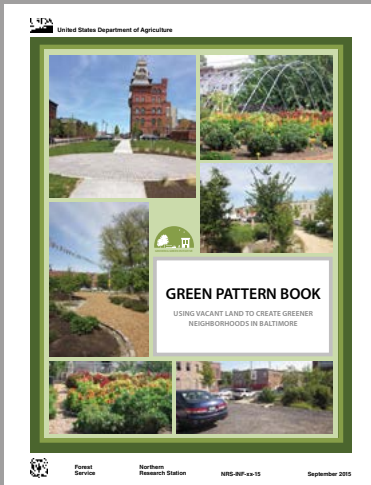
Zachary Holl, Bon Secours, used with permission

Vacant lots at the corner of Pulaski Street and Christian Street in the Carrollton Ridge neighborhood.



Zachary Holl, Bon Secours, used with permission

The same lots after greening by Operation Reach Out Southwest (OROSW).



Right: The Sunflower Village community garden on North Carey Street was created by the Franklin Square Community Association.

Baltimore's Green Pattern Book

We believe that vacant land is an asset that can help grow the City to be resilient, sustainable, and competitive in the 21st century.

There is no rule that requires our return to the pattern of streets, blocks, housing, green space, or infrastructure that characterized Baltimore in the late 1950s. Vacant land and abandoned structures allow us to rethink the form and function of the City; we have the opportunity to set aside new areas to grow local food, to clean the stormwater that now rushes into our streams and harbor, to improve the biological health of our forests and ecosystems, and to ensure that everyone has safe play spaces and parks within a short walk of their houses. These efforts will strengthen our neighborhoods by attracting new investment and development and lay the foundation for a sustainable City for generations to come.

How do we accomplish this vision?

The Green Pattern Book is meant to be a tool to help us achieve this vision. It is a planning and implementation guide for greening vacant land—whether as a holding strategy awaiting future development or an immediate action for putting the land back into productive use. The Green Pattern Book establishes a common language that City agencies, nongovernmental organizations (NGOs), community-based organizations, and residents can use to collectively address vacant land.



Mark Cameron, Baltimore City, used with permission

The Green Pattern Book has eight green patterns that can be used for holding and reusing vacant land:

- **Clean and Green**—Temporary greened spaces meant as a short-term holding strategy for future redevelopment, whether as new development or one of the other green patterns.
- **Urban Agriculture**—Land leased to urban farmers to grow food commercially.
- **Community-Managed Open Space**—Vacant lots maintained by a community, nonprofit, or more than one household used for vegetable gardens, orchards, pocket parks, and small recreational spaces.
- **Stormwater Management**—Land used to reduce runoff, filter stormwater, and decrease impervious surfaces to meet Baltimore’s requirements for improving water quality of our streams and harbors.
- **Green Parking**—Land that can accommodate neighborhood parking needs while keeping greening and stormwater considerations in mind.
- **Urban Forest and Buffer**—Trees planted and maintained on vacant lots, buffers along railroads and highways, and existing forest patches.
- **Neighborhood Park**—Permanent public spaces that can be developed for passive or active recreation or both.
- **Mixed Greens**—Land that can combine the uses described above to achieve a greater number of goals.





GROWING GREEN INITIATIVE



Mark Cameron, Baltimore City, used with permission

Greening projects as simple as cleaning a green lot or as complex as a community farm offer numerous benefits to the environment and the community.



Mark Cameron, Baltimore City, used with permission

The Whitelock Community Farm in Reservoir Hill contributed to improve food access and neighborhood revitalization.

Benefits

Using the Green Pattern Book to transform vacant lots into green spaces will provide both short-term and long-term benefits, including:

- Decreasing costs—A growing body of evidence shows that managed green spaces reduce crime, increase property values, and improve health. In addition, they cost less per acre to maintain than vacant buildings.
- Creating jobs—Greening vacant land will help support job growth through landscape maintenance and planting, stormwater facility development, urban farming, and food systems.
- Consolidating parcels and preparing land to encourage future redevelopment.
- Strategically integrating stormwater management, parks, and green spaces for multiple public benefits.

Finally, the Green Pattern Book addresses several of the goals of Baltimore's Sustainability Plan, including:

- Transform vacant lots from liabilities to assets that provide social and environmental benefits.
- Reduce the amount of impervious surfaces and increase on-site stormwater treatment.
- Increase Baltimore's tree canopy to 40 percent by 2037.
- Establish Baltimore as a leader in sustainable, local food systems.
- Provide safe, well-maintained recreational space within one-quarter mile of all residents.
- Raise Baltimore's profile as a forward-thinking, green city.
- Improve health—Trees and green spaces have been shown to help reduce asthma, increase physical activity, contribute to healthy eating, and lower the ambient air temperature.

Green Pattern Book:

A component of the Growing Green Initiative

In the spring of 2014, a multi-agency work group convened to establish a framework for addressing vacant land. Out of this work group came the Growing Green Initiative (GGI). The Growing Green Initiative was tasked with:

- Fostering inter-agency collaboration
- Improving City policies, procedures, and standards for demolishing buildings and assembling land for reuse
- Incorporating “greening” into strategic vacant house demolition and disposition strategies
- Supporting collaborative efforts of various partners, agencies, and nonprofits who are engaged in similar greening activities
- Developing a Green Pattern Book to support the greening of vacant land by City agencies, NGOs, community-based organizations, and individual residents

While the Green Pattern Book may be the most visible component of GGI, it is supported by ongoing work to coordinate policy, planning, and projects to improve how vacant land is held and reused.

The Growing Green Initiative views vacant land and buildings as a raw asset for the future, providing opportunities to implement a new vision for a sustainable city that strategically incorporates green spaces such as parks, stormwater infrastructure, agriculture, and community spaces into the fabric of community revitalization. These changes will benefit existing residents while also attracting new residents and growth. The Growing Green Initiative will help Baltimore become healthier, more sustainable, and more economically sound.

This initiative not only supports the work already underway by the City of Baltimore, local organizations, and individuals to improve the city through greening, but also will establish Baltimore as a green city of the future.

Green spaces will provide both short-term and long-term benefits by:

- Decreasing costs
- Improving health
- Creating jobs
- Consolidating parcels and preparing land to encourage future redevelopment
- Integrating stormwater management, parks, and green spaces for multiple benefits
- Incorporating strong sustainable urban design practices into new developments for a sustainable future



Parks & People Foundation staff, used with permission

The New Broadway East Community Park is an example of City agencies, nonprofits, businesses, and community members working together to transform vacant buildings into a community park.



No single agency, nonprofit organization, or community can solve the problems posed by vacant properties. The task falls on all of us to develop solutions.

I want to grow and sell food.

I want a place where I can sit and relax.

I want to reduce polluted water runoff.

I want to have a place where children can play.

I want to increase the number of trees in my neighborhood.

I want to reduce maintenance costs for vacant lots.

These are the goals of many City agencies, elected officials, community leaders, neighborhood advocates, nonprofits, and faith-based groups. The Green Pattern Book establishes a common language of definitions, guidelines, and information about permits, and resources that can help different stakeholders to work together.

How to Use the Green Pattern Book

Use by Agencies

- Help outside partners (NGOs, communities) understand permit processes and land use codes associated with the improvement of land
- Provide outline for utilizing green patterns for capital projects and planning purposes that support the missions and responsibilities of individual agencies

Use by NGOs/Nonprofit Organizations

- Tool for decision-making and planning that shows how public agencies, NGOs, and residents can work together to share resources
- Guidance on policies, standards, and permits for implementing various green patterns
- Model for documenting NGO projects, including costs and budgets

Use by Community Development Corporations and Faith-based Groups and Residents

- Help residents analyze a site and make decisions about the site improvements, costs, and project phasing
- Inspire residents' vision through local remote examples
- Clarify project costs, maintenance needs, and responsibilities
- Help direct people to the best resources—City agencies, NGOs, and funders
- Introduce terminology that community groups will use in interacting with City agencies

Throughout the book, City agencies and nonprofits are mentioned. Many resources and their contact information are found in the Appendix (page 92).

How this Book is Organized

Introduction: This provides an overview of the problems and opportunities posed by vacant properties, how the Green Pattern Book fits into the Growing Green Initiative, how different groups can use the book, and quick tips for getting started.

Vacant Land Types (begins on page 22): A broad overview of the common vacant land types found in Baltimore.

Reusing Vacant Land (begins on page 24): This section describes the eight green patterns and includes:

- Definitions and images of each of the green patterns
- Site selection criteria that provide a base level of technical guidance about what site factors need to be considered in selecting lots
- Guidance on required permits and agreements, implementation, maintenance, and resources
- Examples of local successes and pilot projects

Appendix (begins on page 86): This provides contact information, examples of leases and agreements, and other resource material.

Icons: The following abbreviations and icons designate the sections of this book that discuss each associated pattern:



C + G
Clean and Green



GP
Green Parking



UA
Urban Agriculture



UF
Urban Forest and Buffer



CMOS
Community-Managed Open Space



NP
Neighborhood Park



SWM
Stormwater Management



MG
Mixed Greens



Amy Gilder-Busatti, Baltimore City, used with permission



Amy Gilder-Busatti, Baltimore City, used with permission

Reclaimed building materials can be creatively reused in greening projects to add character and keep costs reasonable. The greenspace, created by Civic Works, at the corner of Eager Street and Milton Avenue, incorporates reclaimed cobbles, tree grates, and steps.



GROWING GREEN INITIATIVE

Vacant Land Ownership

Of the estimated 14,000 vacant lots in Baltimore, only 20 to 25 percent are city-owned. Determining the ownership of the parcel or collection of parcels is an important step to take as you begin planning your project.

Quick Tips for Commonly Asked Questions

How do I find out who owns a vacant lot?

There are several different ways to find out who owns a vacant lot. If you know the lot address, one way to find out who owns it by doing a search on the Maryland State Department of Assessments and Taxation (SDAT) website at <http://sdat.resiusa.org/RealProperty/Pages/default.aspx>. The Community Law Center's "Information for Neighborhoods" page has a step-by-step guide to searching the SDAT website, as well as guides to other methods for determining the ownership of a property. <http://communitylaw.org/training-events/information-for-neighborhoods/> City-owned properties have "Mayor and City Council" listed as the owner on the property records.

How do I adopt a lot?

The first step in creating a community-managed open space is to adopt the lot. Baltimore Housing and Power in Dirt provide information as to what lots are available for adoption, as well as simple forms for adopting a lot (or multiple lots) and for accessing water. It is important to remember that this is a temporary agreement, and that the Licensee accepts liability for all activities on the adopted lot. Instructions for how to adopt a lot are provided by Vacants to Value at <http://www.vacantstoavalue.org/Homebuyers.aspx#adopt> or through Power in Dirt at <http://www.powerindirt.com/start.html>.

What if the lot is not city owned?

Only about one quarter of all vacant lots are city-owned. If you are interested in cleaning up nuisance vacant lots that are privately owned, then you may use the "Self-Help Nuisance Abatement" process outlined by the Community Law Center. This process requires you to notify the owner by certified letter that the property is a nuisance. If a

certified letter is returned or if the owner fails to respond, that gives you the authority to abate the nuisance, clean, and beautify the lot. There are restrictions, however, on what kinds of changes you can make to the land as this process does not provide permanent legal access to the property. The Community Law Center provides a step-by-step guide to this process on their "Information for Neighborhoods" page <http://communitylaw.org/training-events/information-for-neighborhoods/>. Contact the Community Law Center for more detailed information about using this method.

Can I purchase a vacant lot?

Yes! To purchase a vacant lot adjacent to your home, you may be able to purchase the lot through the City's Sideyard Program (See sidebar for more information about the Side Yard Program). The City maintains a list of other vacant lots available for sale through the Vacants to Value program. This list, an application to purchase city-owned property, and the steps involved in purchasing vacant lots, are available through Baltimore Housing's Land Resources Division http://www.baltimorehousing.org/land_resources

Lots maintained by community members for at least 5 years may be eligible to be purchased and protected by the land trust Baltimore Green Space. Contact Baltimore Green Space (see page 92) for more information and to find out if your site would qualify to be protected through this process.

Side Yard Program

Have you ever wished that you had a larger yard for your children to run around, to plant a garden, or to add a parking pad? If you live next to a city-owned vacant lot, your wish could come true.

If you are a property owner, you can purchase a city-owned vacant lot that is adjacent to your own home for \$500 for up to 1,500 square feet (and 33¢ per additional square foot). If you are not a homeowner, but live in Baltimore, you can purchase an adjacent lot for a fixed price of \$1,000 for up to 1,500 square feet (66¢ per additional square foot). Appraisal costs will be waived. To qualify, a property owner must be current on all taxes and water bills and have no open citations. The purchaser must also agree not to develop the lot for use as a residence or commercial property for 10 years.

Subject to zoning approval, owners can install a deck, parking pad, garage, shed, or gazebo in the side yard. The side yard can also be used for gardens or passive green space. For more information, contact Baltimore Housing's Vacants to Value program (see page 92).



GROWING GREEN INITIATIVE



Mark Dennis, Baltimore City, used with permission

Volunteers transform a vacant lot in the Upton neighborhood into a community-managed open space.

Are licenses or permits needed?

Yes—and it depends on what you want to do with the lot. Adopt-A-Lot licenses are needed if you want to use a city-owned vacant lot, and a farm lease is needed for urban agriculture. Also, various permits are needed for erecting fences and gazebos, raising animals, or treating stormwater. Check the particular green pattern you are interested in, as well as the Appendix (page 98). You should also contact Miss Utility at least 2 business days before undertaking projects that involve digging, so that existing utility lines on the site can be marked and damage to utility lines can be avoided.

Are there costs involved?

There is no cost to Adopt-A-Lot; water access is \$120 per growing season. The annual rent for a farm lease is \$100. Depending on the permits needed, costs could be minimal to several thousands of dollars if stormwater management plans are required. See the Appendix for more information.

Do I need to have insurance?

For Urban Agriculture sites leased through the City's Urban Agriculture program, insurance is required for the individual or group entering the lease.

As part of the Adopt-A-Lot agreement, the person or group adopting the lot agrees to take on liability for the property, and the City waives responsibility for any activities that take place on the property. Community associations or other organizations adopting lots may reduce their liability by acquiring certain types of liability insurance and/or by asking individuals to sign liability waivers. Baltimore Greenspace, a land trust for community-managed open spaces, maintains liability insurance for the sites protected under the land trust.

How will the lot be maintained?

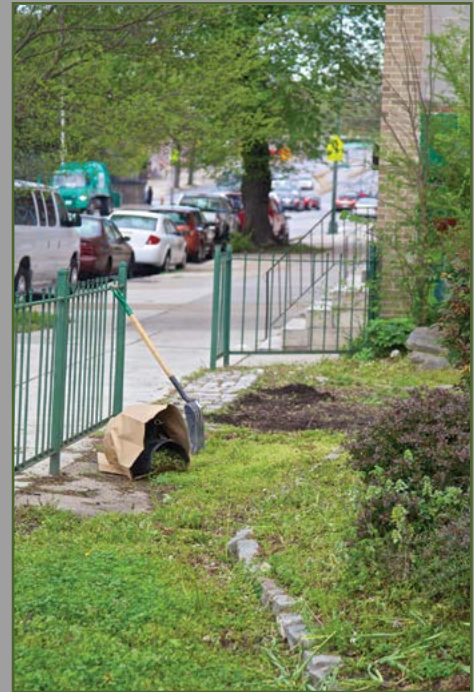
The Department of Public Works is responsible for maintaining city-owned lots—cleaning and mowing on a proactive schedule every 3 weeks. Call 311 to report a lot with tall grass or where trash is being dumped. When City agencies implement greening projects, maintenance is the responsibility of the agency unless an MOU or other agreement is made to place maintenance responsibility with another City agency, a community group, or other partner.

When a lot is adopted through the City's Adopt-A-Lot program, or leased through the City's urban agriculture program, the group or individual adopting or leasing the lot agrees to assume responsibility for maintenance of the lot. In selecting a lot to adopt and determining what improvements may be made to the lot, it is important to consider the time and resources that will be needed to maintain the lot.

The Department of Public Works' Bureau of Solid Waste can provide trash receptacles (such as roll-offs) for community cleanups, including cleaning up vacant lots. These can only be scheduled by recognized community association presidents; call 311 to schedule. Single family property owners can receive credits on their stormwater utility fee by participating in preapproved trash cleanups and tree planting (for every 8 hours, you can get a credit of \$10/year). Contact the Department of Public Works' Bureau of Water and Wastewater, or cleanwaterbaltimore.org, for more information about this credit.

How do I access water for the lot?

A Community-managed open space water access request form may be submitted at http://www.baltimorehousing.org/adopt_a_lot_cmos_form.aspx.



Mark Dennis, Baltimore City, used with permission

Free trash bags and containers are available to communities as part of the Mayor's spring and fall cleanup events.



Mark Dennis, Baltimore City, used with permission

Tools for vacant lot projects and maintenance are available through the Baltimore Community Tool Bank or through the Parks and People Association Community Greening Resource Network (CGRN).



GROWING GREEN INITIATIVE

How Do I Get Started?

The steps for getting started vary, depending on where you are starting from and what your goals are. If you have identified a site that you want to green, you will need to go through the process of determining ownership of the site, gaining access to or adopting the site, and evaluating the site conditions before developing a plan to green the site. If you have an idea for a greening project but need to find a site for your project, your process will likely include visiting similar projects to get ideas, identifying and evaluating potential sites, selecting a site, and securing access. The flow chart on page 106 provides a basic overview of the steps that may be required to take your project from an idea to a transformed green lot.

continued on next page...

Once the form is completed, send a copy of the adoption agreement and a \$120 check made payable to Director of Finance. Reference the lot adopter's name and the address of the lot in the memo line. Once the water access agreement is received, an inspector will visit your site. If water access is available, a device that can connect to a hose will be installed. The inspector will contact you to provide instruction on how to properly connect your hose to the device. If water access is not available, your original \$120 payment will be returned to you.

Visit the Power in Dirt website at <http://www.powerindirt.com/start.html> or the Vacants to Value website at http://www.baltimorehousing.org/vtov_adopt for more information

Are the soils safe to dig in?

If you are planning to grow food for human consumption in the existing soil on your site, it's vital to know what contaminants may be present. Even if you're planning a less-intensive use for your site, such as a sitting park, you may still wish to know this information, especially if children will be present on a regular basis.

The Baltimore Office of Sustainability developed and released Baltimore's Soil Safety Policy for Food Production, the link to which can be found at <http://www.baltimoresustainability.org/resources>. Under "Urban Agriculture" at this Web page, there is a link to the policy. You can also follow these simple steps:

Site Assessment

Learn about any past uses of your site that could have caused contamination by looking at the Baltimore City Sanborn Maps, either online (<http://www.prattlibrary.org/locations/maryland/index.aspx?id=4324>) or in person at the Maryland Department at the Central Branch of the Enoch Pratt Free Library, and by talking to neighbors. Also look at present characteristics of the site that might

contribute to contamination, such as adjacent uses, slopes, soil erosion, and illegal dumping. Use resources such as the EPA's "Interim Guidelines for Safe Gardening Practices" (http://www.epa.gov/swerosps/bf/urbanag/pdf/bf_urban_ag.pdf) to identify contaminants of concern.

Soil Testing and Analysis

Always test, at a minimum, for lead, arsenic, cadmium, and chromium, as these are common, and potentially harmful, contaminants found most commonly in urban soils. In addition, test for anything else that your site assessment identified as a likely contaminant. Do not use an at-home soil testing kit, as these can be inaccurate. Instead, send a sample of your soil to a reputable lab to be analyzed. Some low-cost options include the Agricultural Analytical Services Laboratory at Penn State University (www.aasl.psu.edu or 814-863-0841) and the University of Delaware Soil Testing Lab (<http://ag.udel.edu/dstp/> or 302-831-1392). To understand the risks posed by any contaminants found in your soil, refer to Cornell University's "Guide to Soil Testing and Interpreting Your Results" (<http://cwmi.css.cornell.edu/guidetosoil.pdf>) or contact the University of Maryland's Home & Garden Information Center (<http://extension.umd.edu/hgic> or 1-800-342-2507) for free guidance.

Mitigation

If analysis of your soil shows a low to moderate risk at your site, and you still wish to use it to produce food, mitigation practices can be put in place to reduce the risk, such as gardening in raised beds, mulching pathways, wearing gloves while gardening, washing all produce thoroughly, peeling root vegetables, and using drip irrigation to avoid splashing soil onto leaves and fruits. Over time, soil quality can be improved by regularly adding compost. Refer to EPA's guidelines (link above) to identify the best mitigation practices for your site. If a high risk is shown at your site, we recommend covering existing soil with an impermeable barrier and using imported, clean soil, or choosing another site at which to grow food.

The Parks & People Foundation has prepared a guide that includes much more detail on how to plan, design, and construct a greening project.

The Guide to Greening Neighborhoods can be found at: http://www.parksandpeople.org/files/resources/2577_Guide%20to%20Greening%20Neighborhoods.pdf

Additionally, there are several organizations that offer services that may be useful in undertaking your project. The Citizens Planning and Housing Association offers community organizing services to its members, the Community Law Center can provide assistance regarding legal issues, and the Neighborhood Design Center provides design assistance for community projects. For contact information and a more comprehensive list of the organizations and resources that may be helpful for your project, see the Appendix.



Vacant Land in Baltimore

Vacant lots are often characterized as a monolithic problem. However, a drive through Baltimore's neighborhoods shows that each vacant lot has particular issues, including location, size, and configuration. Some are small corner lots or 'missing teeth,' others can be found on inner blocks where garages or alley houses were demolished, and some take up nearly an entire block and are made up of dozens of vacant properties.

While each vacant lot has unique characteristics, they are often found in the following six patterns:

Corner Lot

These tend to be small lots (1 to 4 properties) found on the corner of block. These lots are highly visible, which can make them good for creating flower gardens, neighborhood gateways, or art parks. In neighborhoods with single-family detached houses, corner lots can be large and turned into a community green space. While their location makes them highly accessible they are also prone to trash accumulation and people cutting across the lot.



Corner Lot

Missing Tooth

This type of lot can be found mid-block and is the result of scattered demolition. Like the corner lot, these tend to be smaller lots: 1 to 4 properties. In rowhouse neighborhoods, missing teeth lots are the most problematic because they are narrow (sometimes under 10 feet wide) and can get very little sun.



Missing Tooth

Inner Block

These are found in Baltimore’s denser rowhouse neighborhoods with small streets, sometimes called alley streets, such as Rose, Madeira, and Duncan on the east side.

Remnant

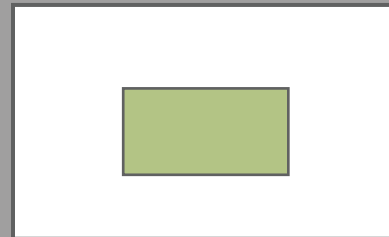
Remnant lots are often oddly-shaped lots due to angled street grids or being adjacent to railroads or parks that have irregular shapes. When these lots are at the edges of neighborhoods, they can make good candidates for urban forest buffers (especially if adjacent to railroads, highways, or streams).

Vacant Block: Half Block/Full Block

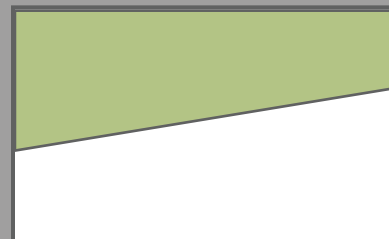
The goal of the Vacants to Value Program is to demolish whole block clusters—contiguous vacant buildings and lots. This not only provides larger, more developable lots, but also eliminates the many scattered missing tooth lots or remaining few houses on a block that create a “swiss cheese” pattern. This lot type is best for urban agriculture or neighborhood parks, or held for future economic redevelopment.

Swiss Cheese

This pattern of scattered vacant lots and houses can be found on many blocks, especially in East, West, and Southwest Baltimore. These blocks contain many of the other vacant lot types, like corner lots, missing tooth, or inner block. While individual lots on the block might be adopted or used for green parking, this vacant land type as a whole is difficult to reuse because of the fragmented nature of the vacant lots. One approach to reusing fragmented lots could be a “Mixed Greens” approach, with different uses on different lots within a block as part of a coordinated plan.



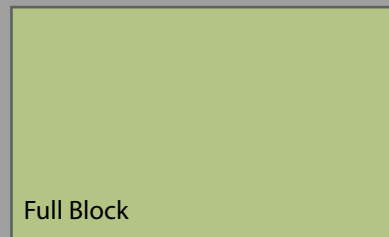
Inner Block



Remnant



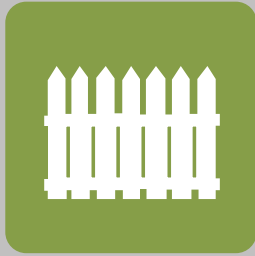
Half Block



Full Block



Swiss Cheese



Site Selection

Site Preparation

Site Layout and Implementation

Maintenance

Resources

Local Examples

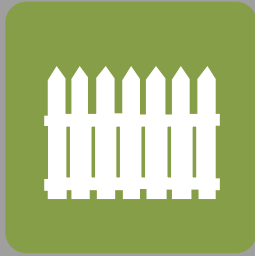
Clean and Green

REUSING VACANT LAND

Photo by Mark Cameron, Baltimore City, used with permission.



Clean and Green



“Clean and Green” is a temporary land-holding strategy: vacant land is kept free of trash and mowed on a regular basis—sometimes improved with new soil and grass, a few trees, and possibly a fence. Clean and green spaces are the first step in stabilizing vacant lots for adoption, future redevelopment, or a permanent open space like a neighborhood park.

Trash-strewn, weedy vacant lots are a blight on neighborhoods. While these lots offer opportunities for future redevelopment, there are often no plans for their use in the foreseeable future. Keeping vacant lots clean and green is an investment by the City and shows residents that the neighborhood matters.

At a minimum, clean and green lots have trash removed from them and are mowed every 3 weeks. Trees along the perimeter, as well as fencing, might also be added. The goal is for these lots to be maintained as an open lawn area, which reduces trash dumping, soil erosion, and stormwater runoff, as well as provides flexible space that can be used for passive recreation. Improved maintenance beautifies lots with minimal cost and increases the sense of pride and neighborhood identity.

Site Selection

All city-owned vacant lots, and some lots that are a combination of privately-owned and city-owned vacant properties, are intended to be clean and green. These can be any of the vacant lot types, and can be any size or shape. Additionally, the following criteria should also be used when targeting attention and resources:

- Highly visible lots (such as those on major streets)
- Lots adjacent to other redevelopment or amenities (such as schools)
- Lots near the group caring for the lot (if adopted)

If the lots are being held for future development, it is important that the community is informed about the

What if the vacant lot on my block is not Clean and Green?

Not every vacant lot in Baltimore is on the proactive mowing list. If you have a nuisance lot, call 311 or the City's Housing Department, who will send out a building code inspector. You can also take over maintenance by adopting the lot—see page 16.

C + G

CMOS

UA

SWM

GP

UF

NP

MG

future use of the lot and potential development plans, and that these lots will be maintained as clean and green. The location of these lots, and the timeframe for redevelopment, is especially important because communities are concerned that these sites will not be regularly cared for.

Site Preparation

The goal of the City is that every newly-demolished site will be maintained as clean and green. Improvements to the demolition specifications, the proactive mowing of lots, picking up trash, and planting trees are some of the measures being employed as part of the Growing Green Initiative.

Unfortunately, many existing vacant lots have highly compacted soils, rubble and fill at the surface, and very little grass growing. To make these lots clean and green, site improvements are needed, including:

- Removal of trash and debris to prepare the site for reseeding
- Soil amendments and the removal of buried bricks, building fragments, and tree stumps prior to seeding
- Prune and limb up the trees if they are already present on the site; prune the shrubs or other vegetation to improve the site's appearance and visibility of the area

Site Layout and Implementation

While clean and green lots are characterized by open lawn and the occasional perimeter of trees, the following site factors should be considered:

- Trees planted along the perimeter of vacant lots help to reduce dumping, according to recent studies. However, communities may be concerned about visibility and safety if trees are included. If trees are to be planted, consider their location, spacing, and species in order to maintain visibility or deter dumping.



Mark Cameron, Baltimore City, used with permission



Mark Cameron, Baltimore City, used with permission



Chris Swan, University of Maryland Baltimore County, used with permission

Clean and Green lots can be as basic as a clean grass lot or include other elements, such as trees, fencing, perennials, or meadow planting.



- Proximity of the lots to problem areas such as dumping sites may warrant fencing, especially along alleys and the back of lots.
- Ground cover other than grass might be considered, such as clover or wildflowers (see Alternatives to Grass, page 29).

Maintenance

The Department of Public Works is responsible for maintaining city-owned lots, which typically includes cleaning and mowing on a proactive schedule every 3 weeks. Call 311 to report a lot with tall grass or where trash is being dumped.

If a community group chooses to clean and mow a lot, they can either adopt it or use the nuisance abatement law (see page 16). Communities should mow and clean it at least every 3 weeks, and possibly more, often depending on the rain and weather.

Resources

For nuisance lots, the Community Law Center can provide assistance to nonprofits and community associations in identifying the owner and following the proper procedures for cleaning and beautifying the lot.

The Department of Public Works' Bureau of Solid Waste can provide bags and containers for community cleanups twice annually in April and October. These can only be scheduled by recognized community association presidents; call 311 to schedule. Finally, single family property owners can receive credits on their stormwater utility fee by participating in preapproved trash cleanups and tree planting (for every 8 hours worked you, can get a credit of \$10/year). Contact the Department of Public Works' Bureau of Water and Wastewater, or cleanwaterbaltimore.org, for more information.

C + G

CMOS

UA

SWM

GP

UF

NP

MG

Local Examples

In the early 2000s, the Bon Secours of Maryland Foundation created a clean and green program for vacant lots in southwest Baltimore. The group cleaned the lots, added new soil, reseeded, and planted trees. Examples can be found at:

- 1600 block of W. Baltimore Street
- Unit block N. Mount Street
- 200 block N. Fulton Avenue

Alternatives to Grass

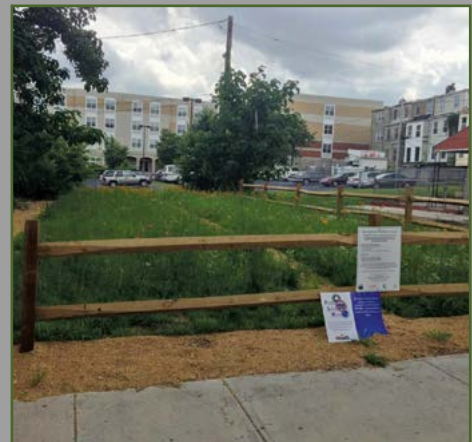
Vacant lots need not be planted only with grass. There are several alternative ground covers that can be used, such as clover, wildflowers, and native grasses. These urban meadows provide several benefits over turf, including reduced mowing and maintenance costs, increased stormwater infiltration, and increased plant and animal biodiversity.

Remember, one person's "weed" is another's native plant. Native plants and flowers that are ecologically beneficial can also look like weeds. If landscapes other than turf are created, the following should be considered:

- Meadows need to be maintained. The City code requires that grass or weeds be maintained at 8 inches or lower.
- Consider maintaining a mowed grass edge to the meadow. A formal edge will show that the plantings are intentional.
- Taller grasses and plants can be trash collectors; additional cleaning may be needed.
- Make sure that the adjoining neighbors and surrounding community understand what is being done with the lot to avoid 311 calls and complaints. Erecting signage informing people that the lot is being maintained as a meadow or wildflower garden may also help educate neighbors and reduce concerns.



Mark Cameron, Baltimore City, used with permission



Chris Swan, University of Maryland Baltimore County, used with permission



Jenny Guillaume, Baltimore City, used with permission

Turf grass, perennials, or native meadows are all options for clean and green lots.





Community- Managed Open Spaces

REUSING VACANT LAND

Site Selection

Leases and Permits

Site Layout and Implementation

Maintenance

Resources

Local Success

Miriam Avins, Baltimore Green Space, used with permission.



Community-Managed Open Spaces

“Community-Managed Open Spaces” (CMOS) are neighborhood spaces adopted, created, and cared for by community members or organizations. These spaces can be used for passive recreation, community gathering, public art, and growing fruits, vegetables, or flowers. Residents, nonprofit organizations, and churches can use the land through the City’s Adopt-A-Lot program by purchasing the land or by placing it into a land trust like Baltimore Green Space.

Communities often have open space needs that are not being met in the neighborhood—growing food, a safe place for kids to run around, beautification, or getting together with some neighbors. Community-managed open spaces are an opportunity for residents, churches, community associations, or nonprofits to adopt and use vacant land in ways that best serve their needs and imagination.

Vacant lots that are cared for by community groups beautify sites that might otherwise be weedy and trash-strewn. They can also be used to grow vegetables and fruit, which is especially beneficial in areas with limited access to healthy foods. Adopting lots also fosters local pride, cooperation, and opportunities for engaging youth and seniors. Finally, studies show that community-managed open spaces stabilize property values of the surrounding properties and blocks.

Remember...these are temporary spaces unless they are purchased or put into a land trust.

C+G

CMOS

UA

SWM

GP

UF

NP

MG

Types of Community Spaces

What a community chooses to do on an adopted lot is only limited by their imagination. However, the following are the most common types of community-managed open spaces:

Community Gardens

Community gardens can be for growing vegetables, fruit trees, flowers, or any combination, often as shared spaces where neighbors have individual plots. Community gardens might be large (such as the Duncan Miracle Garden) or small—just a few raised beds to start. They can also include temporary greenhouses and sheds (see Zoning sidebar page 37).

Flower Gardens

On smaller lots, these spaces might include simple landscaping, flower beds, even a path. These gardens can also be used to reduce stormwater runoff (see page 51).

Passive Recreation and Picnic Areas

These are simple spaces—grass, a few trees, a picnic bench—for children to run around, kicking a soccer ball, dog walking, or community gatherings.

Art and Educational Spaces

These can be places for displaying public art, whether created by an arts organization or by school children. They can also be places to teach kids about nature; if adjacent to a school or church they can be reading gardens or outdoor classrooms.



Eric Imhof, Baltimore Green Space, used with permission



Miriam Avins, Baltimore Green Space, used with permission



Lowell Larsson, used with permission



Miriam Avins, Baltimore Green Space, used with permission

Types of community spaces include community gardens (from top), flower gardens, picnic areas, and educational spaces.



C+G

CMOS

UA

SWM

GP

UF

NP

MG



Arthur Morgan, Gather Baltimore, used with permission



Abby Cocke, Baltimore City, used with permission.

Keeping chickens or bee hives on a property require a permit from the Health Department (410) 396-4399.

Site Selection

There are two key selection criteria to consider when creating a community-managed open space: 1) the time, skills, and interest in the group adopting the lot; and 2) its proximity to the residents or community-based organization maintaining the lot. The following issues should also be considered:

- Property ownership (see the section regarding non-city-owned lots on page 16)
- Size of the space should match your ability to maintain it
- Flat or gently sloping sites
- Sites that require minimal clearance and/or grading
- Water access (see below and page 19)
- Former use of the site and condition of the soil and land (debris, contaminants, etc)
- Adjacent uses, pedestrian movement, safety, and security

Agreements and Permit

In order to use a city-owned vacant lot, an Adopt-A-Lot license is needed. Baltimore Housing manages the Adopt-A-Lot program; you can apply online or via a paper copy. You can also apply for water with this application.

Permits are required if you are going to erect a fence or gazebo. You may also need a permit if you are including a rain garden in your space (see the section on Stormwater Management). Additionally, if you plan on keeping animals (such as chickens) or bee hives, you will need a permit from the Health Department.

If you are using your CMOS for special events and festivals, you will need a permit from the Department of General Services (DGS).

See the Appendix for more information.

Site Layout and Implementation

How one lays out or designs a CMOS will depend on the use. However, the following general factors should be taken into consideration:

- **Solar orientation**—Is the site shady? Sunny? How might this affect gardens or where trees are planted?
- **Location on a block**—If a garden is to be put on a larger vacant lot, these should be located to one end of the lot, not in the middle.
- **Visibility**—Make sure that landscaping, trees, or structures do not block views into or out of the site.

Access to water is critical if gardens or landscaping are included. The first step in securing water access is to request water access (available for a \$120 annual fee) either as part of the Adopt-A-Lot application or by completing a Water Access Program application through Baltimore's Housing and Community Development's (HCD) Vacants to Value program. As part of the program, an inspector will visit your site to determine if a water meter pit is available, and if so, will install a device on the meter that will allow you to connect a hose for water access.

If it is determined by the inspector that an existing water meter pit is not available for your lot, then water assistance might be secured through the Garden Irrigation Fund administered by the Parks and People Foundation. Gardens and other landscaping within a CMOS should be located so that they are easy to water.

Before beginning any project, the soil should be tested. See page 20 for more information on soil testing. If the soil has unacceptable levels of toxins or lead, then use imported, clean soil or develop a remediation plan.



Amy Gilder-Busatti, Baltimore City, used with permission



Mark Cameron, Baltimore City, used with permission



Miriam Avins, Baltimore Green Space, used with permission.



C + G

CMOS

UA

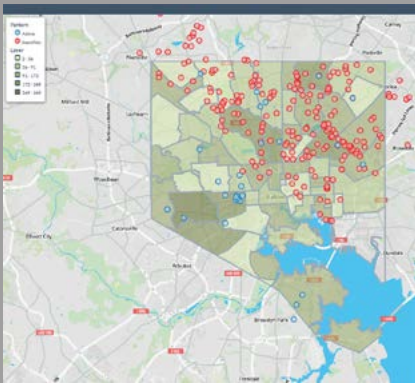
SWM

GP

UF

NP

MG



Baltimore Green Space, Parks and People Foundation, CGRN, Power in Dirt, Baltimore City Master Gardeners, and JHU Center for a Livable Future, Analysis: Baltimore Neighborhood Indicators Alliance – Jacob France Institute (2015), used with permission.

The Baltimore Neighborhood Indicators Alliance (BNIA) has an interactive website that has mapped the many community-managed open spaces in the City, including descriptions, photos, and contact information. Visit <http://water.bnijfi.org/map/> for more information and to see local examples.

Maintenance

Maintenance is the responsibility of the community group that has adopted the site. It is important to match your group's ability to maintain a space (experience in gardening, number of volunteers, etc.) with the types of gardens or plants chosen (lawn, flowers, vegetable gardens, etc.). Sites connected to an active neighborhood association or local institution, such as a house of worship or school, will often have a broader base of volunteers to tap for care and maintenance.

Resources (see Appendix for more detail)

There are several local and statewide organizations that provide funding for CMOS:

- Parks & People Foundation Community Greening Grants
- Baltimore Community Foundation Neighborhood Grants Program
- Chesapeake Bay Trust grants
- HCD and Homegrown Baltimore (dedicated funds for the preparation of sites for groups adopting city-owned land to grow food)

Additionally, these organizations can provide design and technical resources and free or discounted materials:

- Power in Dirt (assistance in adopting a lot and accessing water, workshops, and information on additional funding and resources available for vacant lot projects)
- Community Greening Resource Network (plant and gardening materials, tools, peer support and assistance)
- Community Law Center (legal assistance)
- Baltimore Community Tool Bank (low-cost tool rental, workshops)
- TreeBaltimore (donation of trees)

- Neighborhood Design Center (pro bono design assistance)
- Citizens Planning and Housing Association (community organizing services for CPHA members)
- University of Maryland Extension Program – Baltimore City (horticultural expertise)
- Baltimore Green Space (advice on what types of projects might become part of the land trust)
- Baltimore Orchard Project (assistance with planting and caring for fruit and nut trees, berry bushes)

CMOS and Zoning

Community-managed open space is a new use category in Baltimore's zoning code:

An open space area maintained by more than one (1) household that is used for the cultivation of fruits, flowers, vegetables, or ornamental plants, or as a community gathering space for passive or active recreation, excluding playgrounds.

CMOS is a permitted use in all zoning districts, which means that as long as use standards are met, permitted uses are allowed by default. A \$50 one-time use permit is required. Permitted uses include:

- Cultivation of herbs, fruits, flowers, and vegetables
- Community gathering spaces, not including playgrounds
- Livestock as permitted by Health Department regulations
- Temporary greenhouses, sheds, gazebos, and pergolas

Permanent structures are prohibited.

For more information refer to the Baltimore zoning code.



Mark Cameron, Baltimore City, used with permission



Google maps street view

For a CMOS to be successful, it is important to identify a core group of people who will be responsible for the implementation and management of the space. There are several nonprofits in Baltimore that can assist with community organizing and technical information (see information under Resources in the Appendix). Finally, phased-in improvements should be considered; this can help in terms of funding, organizing volunteers, or testing ideas and interest.



C+G

CMOS

UA

SWM

GP

UF

NP

MG

Local Success: Brentwood Commons

1800 block Brentwood Street

Brentwood Commons is a community area (about 0.08 acres) protected by Baltimore Green Space. The green space consists of a picnic area, landscaping (top left photo), and parking. Creating the space required the removal of a fire-damaged garage, grading of the site, soil amendments, and installation of wood bollards along the perimeter.

Cost to create the CMOS = \$2,500

Costs were primarily for soil amendments, grading, and bollards. Most labor and materials were donated.

Site Improvements

- 11 trees (donated)
- Shrubs/grasses/flowers
- Path (mulch/cobbles donated)
- Bollards

Maintenance (performed by local residents)

- Weeding and pruning
- Mowing grass

Donated Materials / Services (provided by the City)

- Cobblestones
- Mulch/Leafgro
- Trees (TreeBaltimore)

Lead Partners

Local Residents

Civic Works (constructed the project)



Top left, Lowell Larsson, used with permission; all other photos, Mark Cameron, Baltimore City, used with permission

Examples of vacant lot improvements include, clockwise from top left, Brentwood Commons, Franklin Square sunflower garden, 39th and Frisby Street, Charles North Cooperative Garden, and 23rd and Barclay.



Site Selection

Leases and Permits

Site Layout and Implementation

Maintenance

Resources

Funding

Urban Agriculture

REUSING VACANT LAND

Abby Cocke, Baltimore City, used with permission





Urban Agriculture

“Urban Agriculture” is the growing of vegetables, herbs, and fruits in fields or hoop houses. It can also involve aquaculture, tree nurseries, the cultivation of flowers or other plants, and animal husbandry. Urban agriculture is defined as an income-generating activity and business enterprise (whether for-profit or nonprofit), in which crops are grown primarily for sale or distribution to others, rather than primarily for one’s self and family. Cultivating, processing, distributing, and marketing locally grown food increases access to healthy foods, provides jobs and educational opportunities for youth and adults, and improves the health of city residents and local economies.

One of the goals of the Baltimore Sustainability Plan is to establish Baltimore as a leader in sustainable, local food systems, and one of the primary strategies identified in the plan is to increase the percentage of land under cultivation for agricultural purposes. The use of vacant land for urban agriculture can help improve access to healthy foods in areas with limited access to grocery stores.

In commercial urban agriculture, larger tracts of vacant land (at least ½ acre, but often 1 acre or more) are under the control and care of private or nonprofit enterprises, with a goal of a minimum tenure of 5 to 10 years, to allow for a return on investment for the farmer.

Site Selection

The Department of Housing and Community Development (HCD) leases city-owned vacant lots to qualified farmers (who must have at least a year of experience) for urban agriculture through the Homegrown Baltimore Land Leasing Initiative. Several sites have been preselected, and prospective farmers can also request to lease other city-owned sites that they have identified. Sites for urban agriculture should be a minimum 1/2 acre lot (or collection of lots). This means



J. Dolehanty, Baltimore Orchard Project, used with permission

Productive Landscapes

Orchards, agroforestry (managing wooded areas for timber and food), aquaculture, and the growing of plants for essential oils or biofuels (lavender, sunflowers) are examples of nontraditional urban agriculture practices that are being pursued in Baltimore.

C+G

CMOS

UA

SWM

GP

UF

NP

MG

that whole block or half block vacant lots are most appropriate. Additional criteria for consideration include:

- Land must be city-owned if it is to be leased or purchased from HCD
- Minimal slope or existing tree cover
- Water accessibility (see page 19 for information on the water access program).

The condition of the soil and land (debris, contaminants) may be a factor, especially if a site is to be tilled. Proximity of adjacent residents should also be considered (preference is to have a buffer from any high-intensity agricultural use); farmers will need to meet with the community and get approval before a lease is approved.

Leases and Permits

Farmers interested in leasing land for urban agriculture must fill out a prequalification application issued by HCD and the Baltimore Office of Sustainability (BOS), and available at www.baltimoresustainability.org/resources.

If approved, the farmer, HCD, and BOS will work together to identify suitable sites. If a suitable site is chosen and vetted by the surrounding community, HCD will prepare a lease agreement of a minimum of 5 years, subject to approval by the City's Board of Estimates.

Permits are required to erect a fence, gazebo, or shed; no permit is needed for hoop houses. Additionally, maintaining animals, such as chickens, or bee hives on the site will require a permit from the Animal Control Office of the Health Department. If you disturb more than 5,000 square feet or 100 cubic yards of soil, there may be requirements related to Erosion Sediment Control (ESC) and Stormwater Management (SWM); please contact the Department of Public Works' Office of Compliance & Laboratories.

It takes a lot of skill to be able to grow food sustainably. It is an art form.

- Will Allen, Growing Power



Abby Cocke, Baltimore City, used with permission



C+G

CMOS

UA

SWM

GP

UF

NP

MG

Urban Agriculture and Zoning

For the first time, Baltimore's new zoning code, currently under final review by the Baltimore City Council, includes urban agriculture as a use category. Urban agriculture will be a conditional use in all zoning districts except industrial zones (it will be permitted by right in light industrial zones and not allowed in heavy industrial zones). When a conditional use approval is required, the impact on the public will be considered on a case-by-case basis. These are some additional standards set by the proposed new code:

- Urban agricultural uses that involve animal husbandry, processing of food on site, or use of *(continued on far right, page 45)*

Site Layout and Implementation

The size of the lot, its shape and dimensions, the amount of sun it gets, and access and visibility are some of the factors to be considered when creating an urban farm. Additionally, some of the elements that make up an urban farm, such as compost, animal enclosures, and hoop houses, may be unfamiliar to urban neighborhoods or cause concern for nearby residents.

Other site design factors include:

- Site access, including the number and timing of trucks and other associated traffic.
- Buildings must be set back 10 feet from lot lines and must be less than 25 feet in height, except for structures designed to capture wind energy, which may be taller.
- Trash, demolition debris, or tree stumps may need to be removed depending on the lot's condition. This may determine if crops are grown in hoop houses, raised beds, or in the ground. If hoop houses are to be used, talk with the local residents to get their acceptance.
- In considering site access and management, determine if fencing is needed. In some cases, fencing may actually increase incidences of vandalism. Also, the configuration of the site will influence the cost of improvements. Oddly shaped sites or parcels separated by alleys may be more costly to fence.
- Water access: The first step in securing water access is to complete a Water Access Program application and submit a \$120 annual fee through HCD's Vacants to Value program. As part of the program, an inspector will visit the site to determine if a water meter pit is available, and if so, will install a device on the meter that will allow you to connect a hose for water access. Where a water meter pit is not available, nonprofit urban farmers may qualify for water access assistance through the Baltimore Office of Sustainability. Otherwise, farmers will be responsible for obtaining funding to install new water lines.

Finally, site planning should take into account stormwater management. This might include rainwater harvesting (such as cisterns connected to hoop houses or other structures), drainage of site, and the prevention of soil erosion or agricultural runoff.

Maintenance

Maintenance is the responsibility of the individual or group leasing the property, as spelled out in the lease agreement. This includes keeping the site in good order and condition.

Some farm sites may involve the community in the production and maintenance of the site through community engagement activities, jobs training programs, or by employing local residents.

Resources (see Appendix for more detail)

In 2013, BOS released “Homegrown Baltimore: Grow Local”, Baltimore’s first urban agriculture plan. The plan lists resources for various types of local food production. The BOS can also facilitate good relationships between farmers and local communities and assist farmers with the permit process.

Other Resources

The Farm Alliance of Baltimore City offers standards, support, and shared infrastructure for urban farmers. Training and other forms of support are available from the University of Maryland Extension, and from Future Harvest-CASA.

heavy equipment, must submit a management plan for approval.

- Greenhouses, either temporary or permanent, are permitted.
- For any cultivation of plants for human consumption, the applicant must use imported, clean soil OR test the soil.
- Permanent accessory structures are limited to tool sheds, shade pavilions, barns, restrooms, planting prep houses, and post-harvest processing facilities. Structures should take up no more than 25 percent of the lot area.
- Farmstands are permitted but must be stored when the site is not open to the public for sales.

For more information about urban agriculture and what is required and allowed under the zoning code, refer to www.rewritebaltimore.org.



C+G

CMOS

UA

SWM

GP

UF

NP

MG

Funding

HCD has dedicated funds for the preparation of sites by groups adopting city-owned land to grow food. Some of these funds are available for site improvements as part of Homegrown Baltimore.

Organizations that have demonstrated an interest in supporting urban agriculture include the Abell Foundation, United Way, and PNC Bank.

The Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO) is a quasi-public corporation broadly authorized to develop agricultural industries and markets, support appropriate commercialization of agricultural processes and technology, and alleviate the shortage of nontraditional capital and credit available at affordable interest rates. MARBIDCO offers low-interest loans and financing programs to farmers.

Some farmers may qualify for assistance from the U.S. Department of Agriculture, and should contact the Maryland Department of Agriculture for information.

Finally, a business plan is required for a farm lease. This is used to ensure that the group has a sustainable plan for income for any additional site improvements, ongoing production, and maintenance.

Local Examples

Commercial-scale urban agriculture is emerging in Baltimore. Examples include:

- Strength to Love Farm (Sandtown-Winchester)
- Real Food Farm (Clifton Park)
- Big City Farms (Port Covington)

Local Success

Strength to Love Farm

1800 block Lorman Street

In June 2013, the Strength to Love Farm officially broke ground in the Sandtown-Winchester neighborhood in West Baltimore. The farm is a partnership between the for-profit Big City Farms and the nonprofit Newborn Holistic Ministries. The 1.5-acre site is being leased from HCD as part of "Homegrown Baltimore", a program to increase healthy food access in the City, especially in neighborhoods lacking grocery stores.

The farm will eventually consist of several "crop squares" consisting of six hoop houses each, a model that Big City Farms has used on its other sites. Additionally, the farm is working with the Parks and People Foundation to implement a stormwater management system on site.

In addition to growing produce for sale, Newborn Holistic Ministries has three additional goals for the farm: provide employment opportunities to ex-offenders, beautify areas of blight within Sandtown-Winchester, and make affordable and healthy food available to neighborhood residents.

Site Costs = \$90,000

Costs include:

- Site acquisition, prep, and permits
- Hoop house construction and growing media
- Equipment and supplies
- Electric, water, and other connections

Farming labor, insurance, production costs, tools, marketing, etc., not included.

Lead Partners

Big City Farms / Newborn Holistic Ministries
Baltimore Office of Sustainability



Abby Cocke, Baltimore City, used with permission



Abby Cocke, Baltimore City, used with permission



Abby Cocke, Baltimore City, used with permission





Stormwater Management

REUSING VACANT LAND

Types of Stormwater Practices

Site Selection

Site Layout and Implementation

Permits and Maintenance

Resources

Local Success

Amy Gilder-Busatti, Baltimore City, used with permission

Stormwater Management

Rain gardens, bioretention areas, and grass swales are all forms of “green Stormwater Management.” Baltimore is required by law to remove pollutants and contaminants that stormwater picks up from our neighborhoods before it enters our waterways. Utilizing green space and plantings, in addition to “grey” techniques like piping, not only filters rain fall back into the soil naturally but also beautifies neighborhoods and provides new community spaces. These spaces can also be used as mitigation sites for new development, which can help to revitalize surrounding blocks.

Baltimore has a large amount of impervious surfaces—roofs, streets, and parking lots. When it rains, the runoff from these surfaces drains into stormwater sewers. Baltimore is one of the few large cities that have a municipal separate storm sewer system (MS4), which means that the stormwater is not mixed with sewage. However, it also means that runoff empties directly into streams and the harbor without being treated.

Stormwater management is needed to remove pollutants from rainwater entering Baltimore’s waterways. Additionally, stormwater management can provide opportunities to include trees and landscaping in neighborhoods with very little green space, and possibly new community spaces and nature experiences.

Stormwater management can be used on any of the vacant lot types, although larger lots are best since it is important to keep rainwater away from adjoining houses or structures.

Types of Stormwater Practices

There are various types of green stormwater techniques that can be employed to reduce and treat runoff. The following practices are most appropriate for vacant lots in Baltimore:



C + G

CM/OS

UA

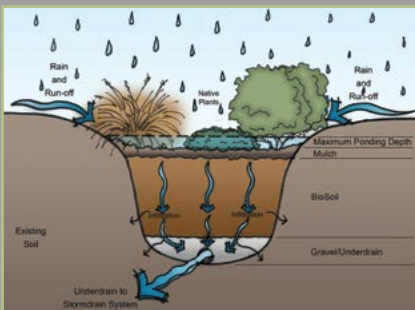
SWM

GP

UF

NP

MG



Amy Gilder-Busatti, Baltimore City, used with permission

This illustrates how rainwater is collected, filtered, and released by a bioretention area that includes an underdrain.

Bioretention

Bioretention is the most commonly used landscape practice for stormwater management. It uses a bed of sand, soil, and plants to filter contaminants and pollutants from stormwater runoff. Although water may briefly pond during heavy rain events, bioretention areas are designed to be dry most of the time. The filtered stormwater is either returned to a storm drain through an underdrain or partially infiltrated into the soil (see diagram on page 50). Bioretention areas are greater than 2,000 square feet in size and require engineering or design drawings, as well as stormwater plans and permits. One such example is Pierce’s Park at the Inner Harbor (see photos on the right).

Rain Garden

A rain garden is a shallow, excavated landscape feature that temporarily holds runoff. Plantings can include shrubs, grasses, and flowers. Rain gardens are typically smaller and simpler than a bioretention practice. They are less than 2,000 square feet in size and do not include an underdrain. Rain gardens are best used to treat runoff from small impervious areas.

Vegetated Swale

Swales are channels that collect, filter, and slow down the flow of stormwater. These can be simple grass swales or bioswales (with an underdrain) that can include shrubs, perennials, or trees. Swales are often used along the edges of lots, especially if the space is narrow or if there will be some other use on the site.

Landscape Infiltration

Landscape infiltration includes impervious cover removal, tree planting, soil remediation, or landscape areas to capture, store, and treat stormwater runoff. While these green spaces can be simple grass spaces with trees, it is best that they treat drainage areas less than 10,000 square feet. Successful application is dependent upon soil type.



Amy Gilder-Busatti, Baltimore City, used with permission



Amanda Rockler, University of Maryland, used with permission



Jennifer Dindinger, University of Maryland, used with permission



Amy Gilder-Busatti, Baltimore City, used with permission



Seek Professional Help

Almost any type of green space—grass, gardens, trees—is beneficial for reducing stormwater runoff. However, to treat the stormwater, and to make sure that the runoff being collected and infiltrated does not cause flooding problems, it is important to plan and design the green space properly. Green infrastructure practices, or BMPs (best management practices) are engineered stormwater management facilities that are sized, designed, permitted, and constructed to properly handle the stormwater that they are intended to treat. If you need a Bobcat to construct your facility, please seek professional engineering assistance.

C+G

CMOS

UA

SWM

GP

UF

NP

MG

Permeable Surfaces for Parking

Two other types of stormwater management practices, permeable pavement and reinforced turf, are covered in Green Parking (page 56).

Site Selection

Stormwater facilities require technical expertise to ensure that they function properly and do not cause inadvertent problems of runoff or flooding. Thus, in selecting stormwater management sites, it is important to consider the following:

- Minimum size is 1/8th acre
- Site's low point is within 20 feet of a stormwater inlet, or site with soils that will allow for infiltration (unless soil amending is planned)
- Impervious surfaces, such as rooftops, streets, or parking lots, are nearby from which runoff can be captured
- Amount of stormwater that can be collected and treated is adequate
- Sites near corner stores or liquor stores should be avoided, as these tend to generate trash

Because of the investment required to install stormwater management practices, the vacant lots should either be purchased or designated a permanent green space by the City. The Office of Sustainability, HCD, and Department of Public Work (DPW) are working to identify sites that could be used for stormwater mitigation.

If a nonprofit or community group is interested in constructing a stormwater management facility or site, they may be able to adopt or lease the lot on a long-term basis.

Site Layout and Implementation

Stormwater projects should be undertaken by or with an agency or organization that has experience implementing

such practices. Such projects are typically too costly for community groups to fund and implement on their own. (see Resources, page 54).

However, resident involvement is important when selecting the location of the stormwater management facility, as well as the selection of plants. This will encourage community acceptance and avoid cases where well-meaning neighbors remove or mow plants, thinking they are weeds. People may also be concerned about standing water or local flooding, visibility and safety (if tall plants are included), and maintenance.

Because vacant lots are usually made up of some type of compacted fill, soil maps may not be accurate. Soils need to be surveyed and tested to determine their ability to infiltrate. Projects undertaken on sites with poor soil conditions may require soil amendments or replacement, or the construction of an underdrain system to allow the facility to function as intended. Where an underdrain system is planned, an outfall to the existing stormdrain system is needed.

To maximize their benefit, stormwater facilities need to be located so that runoff from impervious surfaces, such as nearby pavement or buildings, can be collected and directed into the facility.

Permits and Agreements

An Adopt-A-Lot license will be needed if a group wishes to adopt the lot and install the stormwater management practice (see page 16). Depending on the size and technical considerations involved in the project, technical plan reviews may be required, especially erosion and sediment control and stormwater management plans (see page 103 in the Appendix). Project planning should allow several months for the review process if permits are needed. Also, these design plans must be signed and sealed by an engineer. Expenses for these services should be included in the project costs.



Parks & People Foundation staff, used with permission



Parks & People Foundation staff, used with permission

Designed by the Forest Products Lab of the U.S. Forest Service and completed by Parks & People in the spring of 2014, this stormwater runoff pollution reduction installation serves a drainage area of 8,655 square feet. This model sends stormwater through an underground settling tank before allowing the water to drain into a dual box filtration system. The system is covered by a wooden deck that features inconspicuous access panels for water-monitoring. The deck has also served as a neighborhood resource used for community gatherings.



Offsite Stormwater Mitigation Credits

Developers, City agencies, and industrial property owners often have trouble meeting on-site stormwater management requirements for their properties and projects. Vacant lots offer an opportunity to accommodate offsite mitigation in a cost-effective manner. The Department of Planning, Department of Public Works, and Baltimore Housing are actively working together to identify potential sites where developers or agencies can install and maintain stormwater facilities. These sites can also provide multiple benefits as “Mixed Greens”—supporting economic development, creating new community spaces, reducing local flooding problems, and improving water quality. For more information contact the Growing Green Coordinator at the Department of Planning.

C+G

CMOS

UA

SWM

GP

UF

NP

MG

Maintenance

Stormwater management projects should not be implemented unless maintenance responsibilities have been identified and agreed upon by the groups implementing and maintaining the project. Regular maintenance is required for stormwater facilities to function as designed. Depending on the project, maintenance may include mulching, weeding, pruning vegetation, and removing trash and debris. Groups that are implementing stormwater projects should not assume that City agencies will perform maintenance activities unless such an agreement has been made in writing. For most projects of this type, a community maintenance memorandum of understanding (MOU) will be created by the agency controlling the property.

Resources (see Appendix for more detail)

Several local and state organizations provide funding for stormwater projects, including the Chesapeake Bay Trust, Parks & People Foundation (community greening grants – rain garden projects), and the Baltimore City Critical Area funds. Additional resources include local and native plants (Herring Run Nursery) and design and technical assistance (Blue Water Baltimore, Civic Works, and the Neighborhood Design Center).

Finally, nonprofit organizations such as Blue Water Baltimore and Parks & People are often looking for sites to install stormwater facilities and/or remove impervious surfaces.

Existing Local Examples

- McElderry Rain Garden Park (see Local Success, page 55)
- Morgan State University CBEIS Bioretention
- Pierce’s Park (Pier 5 of the Inner Harbor)

Local Success: McElderry Rain Garden Park

945 square foot site (2 vacant rowhouse lots)
McElderry and Collington

This small corner rain garden was created in 2012 by Civic Works' Community Lot Team, in partnership with the C.A.R.E. community (see photos at right). The community space, located on a long-vacant corner, features stone boulders, trees, shrubs, perennials, stone borders, and mulch walking surface. The rain garden collects stormwater from the roof of the adjacent rowhouse.

The city-owned lots are adopted and cared for by the C.A.R.E. community association.

Site Costs = \$10,000

Implementation Costs

Site preparation and rain garden construction

- Removal of rubble
- Grading
- New topsoil (planting areas)
- Sub-surface material (rain garden)

Site Improvements

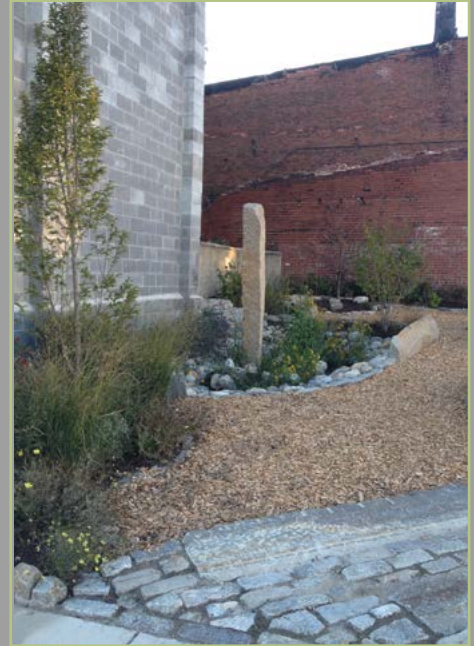
- Planting
- Rocks, weirs, etc
- Planting mulch
- Wood chip path

Maintenance

- Trash removal
- Mulch replacement
- Pruning vegetation

Lead Partners

Civic Works
CARE



Amy Gilder-Busatti, Baltimore City, used with permission



Amy Gilder-Busatti, Baltimore City, used with permission



Types of Green Parking

Site Selection

Site Layout and Implementation

Permits and Zoning

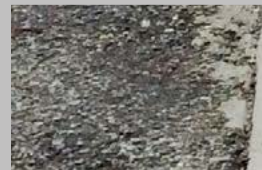
Maintenance

Funding

Green Parking

REUSING VACANT LAND

Amy Gilder-Busatti, Baltimore City, used with permission





Green Parking

“Green Parking” differs from traditional asphalt lots by incorporating permeable paving materials, tree planting, and rain gardens that capture stormwater runoff and shade surfaces, thus improving water quality and cooling the parking areas. Green parking provides residents, churches, and businesses in the City’s denser neighborhoods additional parking that cannot otherwise be accommodated on the street or one’s property.

Finding a parking space can be difficult in Baltimore’s rowhouse neighborhoods and commercial areas due to the number of residents and visitors as well as the narrowness of some streets. Although the City’s goal is to reduce the need for automobile travel, there are instances where vacant lots can be used to meet parking needs while also providing benefits such as filtering stormwater, reducing the heat island effect, and using recycled and repurposed materials.

Types of Green Parking

Green parking can include permeable paving, parking strips, or stormwater management practices.

Permeable Paving

Permeable pavements typically consist of porous surfaces with an open stone base or sand drainage system over soils with a high infiltration rate. Stormwater drains through the surface, is captured in the drainage system, and infiltrates into the surrounding soils. The materials commercially available include porous bituminous asphalt, pervious concrete, and permeable interlocking pavers.

Reinforced Turf

Reinforced turf consists of interlocking structural units with gravel or grass in between. These systems are best for lightly used parking areas and only where vehicles will be parking, not for travel lanes. Reinforced turf is best in areas that receive direct sun.



C+G

CM/CS

UA

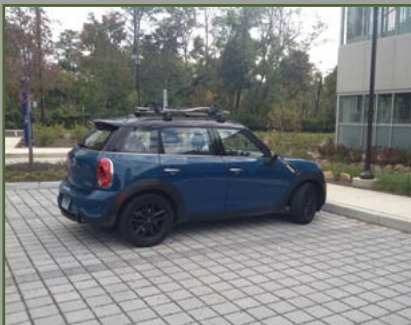
SWM

GP

UF

NP

MG



Amy Gilder-Busatti, Baltimore City, used with permission

Permeable paving



Mark Cameron, Baltimore City, used with permission

Reinforced turf

Parking Strips

These are 3 feet wide concrete or brick strips, set in grass, that allow cars to park on the strips rather than the turf. Parking strips minimize the amount of impervious surfaces, provide a hard surface for car tires, and protect the grass from compaction.

Stormwater Management

Because of the nature of urban soils, as well as demolition practices, the soils of vacant lots are often highly compacted, which can make permeable paving unfeasible. If this is the case, a better option is to use a stormwater management practice such as bioretention or bioswales (see the Stormwater Management section on page 48).

Site Selection

City-owned inner block vacant lots (those on small alley streets) are attractive to faith-based groups, developers, and community members to use as parking because of the proximity to churches and houses. These lots can be bought from Housing and Community Development (HCD) or adopted; remember that the Adopt-A-Lot license is for temporary use and limits what can be done on the lot. Corner or missing tooth vacant lots may be of interest to adjacent residents for private parking. These lots can be purchased from HDC through the Vacants to Value Side Yard Program (see Side Yard Program on page 17). There are also zoning regulations to follow when selecting a site for green parking (see Green Parking and Zoning on page 62).

When considering sites for green parking, the following factors should be taken into consideration:

- The number of parking spaces desired will guide the size of lot needed.
- Parking is most effective when it is adjacent to whomever will be using and managing the parking area. Inner block lots are typically best because they are the least desirable for infill development but can be used by multiple residents or a church. In some



Mark Cameron, Baltimore City, used with permission

Parking strips



Amy Gilder-Busatti, Baltimore City, used with permission

Parking with stormwater management



Amy Gilder-Busatti, Baltimore City, used with permission

Stormwater management



Amy Gilder-Busatti, Baltimore City, used with permission

Parking with rain garden.



cases, parking created along an alley street could be added to the right-of-way and be managed by the City. (See the 200 N. Duncan Street example on page 63.) In commercial areas, corner lots provide easy access.

- Because parking areas are often used in the evening, they should be located on lots with good visibility, whether from the street or houses.

Other criteria include:

- Sites with less than 5 percent slope
- Sites with minimal existing tree cover

Finally, the type of soil that is on the lot is critical to the green parking practice that is used. Because vacant lots are made up of some type of compacted fill, soil maps and surveys may not be accurate. Soils need to be surveyed and tested to determine their ability to infiltrate, especially if permeable paving or reinforced turf is to be used.

Site Layout and Implementation

Each green parking practice mentioned in the Green Pattern Book provides stormwater management, except for parking strips. This means that permeable paving, reinforced turf, and bioretention are engineered stormwater management facilities that need to be sized, designed, permitted, constructed, and maintained so that they properly handle the stormwater that they are intended to treat.

New paved surfaces should be created only where needed to minimize both costs and stormwater runoff. Existing paved areas in good condition could be repurposed as space for parking. Sites should be graded to capture stormwater runoff and sediment so as not to create additional sources of untreated runoff. For pervious parking surfaces to function properly, the underlying soils must allow for drainage or an underdrain system must be included in the design to allow for proper drainage.



Amy Gilder-Busatti, Baltimore City, used with permission

The soils at the New Broadway East Community Park were loosened and replaced to allow the pervious parking surface to function properly.

C+G

CMOS

UA

SWM

GP

UF

NP

MG

A clearly defined edge for parking surfaces will help deter people from parking in areas not intended as parking. The location of trees, shrubs, and planted bioretention areas should maintain visibility and eliminate hiding areas. Lighting may be needed for safe nighttime use.

Permits and Zoning

Depending on the size and technical considerations involved in the project, permits may be required, especially erosion and sediment control and stormwater management plans (see page 101 in the Appendix). Project planning should allow several months for any permit approvals. Depending on the location of your parking, zoning variances or conditional use permits may be needed. Refer to the Baltimore City zoning code for specific information.

Maintenance

Green parking should only be used where regular maintenance can be performed. Maintenance agreements need to be in place and should clearly specify how to conduct routine tasks to ensure long-term performance. Maintenance routines will vary according to the green parking practice.

Permeable pavements should be swept and vacuumed twice a year with a wet-dry shop-vac to reduce sediment accumulation that can clog the surface pores. Drainage pipes, edge drains, or other structures should be cleaned out at regular intervals. De-icing agents should be used in moderation, and snow plowing should be done carefully with blades set 1 inch above normal.

Reinforced turf and parking strips should be mown regularly and clippings removed. Additionally, trucks and other heavy equipment can damage interlocking paving or parking strips; these vehicles should be prevented from parking in these areas. Finally, for reinforced turf, drainage pipes, edge drains, or other structures should be cleaned out at regular intervals.

Does Gravel Reduce Runoff?

Gravel is often suggested as a parking surface because it is less expensive than concrete or asphalt. However, gravel is not considered a pervious surface, and for parking lots on nonresidential properties, gravel is not allowed by code.

According to the Baltimore City zoning code and Building Code (TITLE 16. OFF-STREET PARKING AND LOADING), gravel is allowed for parking and driveways of single-family detached, semi-detached, and rowhouse dwellings. Parking lots in all other locations must be surfaced and maintained with a dustless all-weather material in accordance with the Baltimore City Building Code (including asphalt, brick, concrete, or stone block). Semi-pervious materials, such as grass-crete and pervious pavers, may also be used.



Green Parking and Zoning

Off-street parking is covered in TITLE 16 of the City zoning code (Off-Street Parking and Loading). Various standards, restrictions, and site plan review requirements are included in this section, including curb cuts, dimensions, and surfacing. Consult the zoning code prior to beginning any parking project.

In addition, recommendations of the City's 2006 Comprehensive Master Plan included the creation of a Baltimore City Landscape Manual in conjunction with the modernization of the Baltimore City zoning code. *(Continued on far right)*

Parking areas created on City-owned vacant lots are the responsibility of the City or the group implementing the improvements. Maintenance responsibilities should be included in the Adopt-A-Lot agreement or lease for the site as an MOU. Permeable paving and reinforced turf surfaces are discouraged for parking areas to be maintained by the community.

Resources

Housing and Community Development (HCD) should be contacted if you are interested in purchasing or adopting property to be used for parking. You should also contact the Planning Department and speak with the community planner for your area.

The Chesapeake Bay Trust provides grants for stormwater projects, including removing impervious surfaces. Blue Water Baltimore, Parks & People Foundation, and Civic Works can provide technical assistance, funding, and/ or in-kind resources. The Neighborhood Design Center can provide design assistance.

Existing Local Examples

There are several examples of parking lots that incorporate stormwater management throughout the area, in particular the new Center for Built Environment and Infrastructure Studies building at Morgan State University. Examples in neighborhoods include:

- 300 Block South Bruce Street
- 900 Block North Milton Street
- 1800 Block Mura Street

Local Success

New Broadway East Community Park (0.3 acres)
1601-1635 N. Gay Street

Cost = \$178,858 for site restoration and parking

North Gay Street in East Baltimore has a large number of vacant lots, but very little community space. This changed in June of 2013 when the Parks and People Foundation,

C+G

CMOS

UA

SWM

GP

UF

NP

MG

Humanim, and New Broadway East community association dedicated the New Broadway East Community Park. The 1/3-acre triangular open space, immediately south of Humanim's headquarters in the renovated American Brewery building, was once 18 vacant houses. After the demolition of the houses, Parks and People approached Humanim to partner on creating a green space that would also include green parking. With nearly \$200,000 in grants, the site was excavated and new topsoil and subsoil was added. The adjoining sidewalks were repaved, 24 large trees were planted, and landscaping and benches made from recycled paper were added.

Green parking was included in addition to green space. Porous paving was used on the central path, plaza, and parking lot as a stormwater management element (the site was transformed from 100 percent impervious to 100 percent pervious). The parking is used by employees and visitors of Humanim, which maintains both the park and the parking lot.

Lead Partners

Humanim, Parks & People Foundation, New Broadway East Community Association, Maryland Department of Natural Resources, and Alliance for Community Trees Boise (Project UP).

Pilot Project: 200 N. Duncan Street

Duncan Street is a small street in East Baltimore. As with many small "alley" streets across the city, half of the inner block is vacant. HCD partnered with Southeast CDC, DOT, Recreation and Parks, and the Department of Planning to turn the vacant lot into seven parking spaces, a rain garden, and green space that will be used by an adjacent development project of Southeast CDC. The lot will be subdivided and the parking will become part of the right-of-way, while the green space and rain garden will be adopted by the C.A.R.E. community.

Cost = \$230,000

Parks & People Foundation and Maryland
Department of Natural Resources = \$100,000
DOT = \$100,000
HCD = \$30,000

The Landscape Manual, which is a new development review tool, defines the required landscaping and screening for development or redevelopment projects of 5,000 square feet or more, including new buildings, streetscapes, open spaces, and parking lots.

The manual establishes various standards for new parking lots, including interior and perimeter landscaped areas and plant requirements. Additionally, the manual encourages the use of parking lot perimeter and interior planting areas to accommodate stormwater management facilities. Additionally, the minimization of impervious surfaces and the use of pervious paving materials are encouraged.

For more information regarding the Baltimore zoning code or Baltimore City Landscape Manual, contact the Department of Planning.





Urban Forests and Buffers

REUSING VACANT LAND

Reforestation and Forest Patches

Site Selection

Site Layout and Implementation

Maintenance

Resources

Local Examples

Mark Cameron, Baltimore City, used with permission

Urban Forests and Buffers

An “Urban Forest” is the system of trees and vegetation in and around a community. Wooded parks, street and yard trees, orchards, forested buffers or corridors, remnant forest patches, and landscaped boulevards are all part of an urban forest, providing critical green infrastructure for the city. Planting extensive areas of trees can buffer undesirable views, reduce erosion and stormwater runoff, cool surrounding blocks, create habitat for native species, provide publicly accessible fruits and nuts, and offer new green spaces in neighborhoods often lacking trees—as well as help the City meet its goal of increasing tree canopy. Vacant land adjacent to existing wooded parks, streams, and rail corridors offer great opportunities for incorporating urban forests.

Baltimore aims to achieve a 40 percent tree canopy by 2030 (see page 71). While parks, private properties, and streets are typically seen as locations for planting trees, vacant lots offer multiple opportunities for growing and protecting our urban forest. This can be done by planting trees on neighborhood lots, creating buffers on vacant land along railroads, highways, and streams, and preserving forest patches on vacant land.

Trees and urban forests reduce erosion and stormwater runoff, provide neighborhoods with green space, and create new community spaces and nature experiences.

Urban forests and buffers should be treated as permanent green space; they should be located on city-owned vacant lots that will not be sold or that can be put under a forest conservation easement. Urban forestry projects, depending on the type of tree-planting project, can be located on any of the vacant lot types. However, some project types work best on certain types of lots. Single trees and rows can be appropriate for any type of lot, while groupings of trees are more appropriate for larger vacant lots such as remnant, one side, or whole block sites. Buffers are best suited for remnant sites.

The following are different ways that vacant lots can be used to increase the City’s tree canopy.



Did You Know?

The five most common tree species in Baltimore are American beech, black locust, American elm, tree-of-heaven (also known as Ailanthus; it is an invasive species), and white ash.

The emerald ash borer, a serious pest that kills ash trees, could cause losses estimated at \$179 million, not including tree removal or treatment costs.



David Cappaert, Michigan State University
(www.invasive.org)

C + G

CMOS

UA

SWM

GP

UF

NP

MG

Urban Forestry Project Types

To increase our tree canopy, new trees need to be planted. This can be done singly, in groupings and groves, or as buffers to shield railroads or protect streams.

Single Trees and Rows

The planting of one tree helps increase our tree canopy. Trees planted along the perimeter of a lot can be a sign of investment in a Clean and Green lot, while fruit trees can be included in a community-managed open space. Trees can help shade a green parking lot, as well as provide stormwater management credits.

Open Grove / Tree Park

These are larger groupings of trees and differ from forest patches in that they are planted less densely and maintained with grass or low ground cover so that they are visually open and accessible. Groves and tree parks can act like mini-parks. They can also be used to expand existing wooded areas when adjacent to parks.

Orchard or Food Forest

These are larger groupings of trees planted for food production, and could stand alone or be part of an urban farm site. Orchards are usually planted as formal rows of trees. Food forests are modeled after natural forests, and may include informal groupings of nut trees, fruit trees, and fruit-producing shrubs, as well as herbs, vegetables, or mushrooms.

Buffer

These are linear plantings of trees that can be used to create buffers between a neighborhood and rail lines, highways, industrial properties, or to protect streams and waterways. Buffers can also be used to connect existing forest patches.



Mark Cameron, Baltimore City, used with permission



J. Dolehanty, Baltimore Orchard Project, used with permission



J. Dolehanty, Baltimore Orchard Project, used with permission



J. Dolehanty, Baltimore Orchard Project, used with permission



C+G

CMOS

UA

SWM

GP

UF

NP

MG



Mark Cameron, Baltimore City, used with permission

The Govans Urban Forest is approximately 1/3 acre on the 5200 block of York Road. It is preserved under a Forest Conservation Easement and cared for by the York Road Partnership, which has removed trash and invasive species, planted seedlings, and erected a sign.

Forest Patches

A 2013 study by Baltimore Green Space showed that 34 percent of Baltimore’s tree canopy is in the form of “forest patches” (see page 71). These are what most people would consider forest—areas (10,000 square feet or greater) with large trees, understory plants, and a “floor” of vegetation and decomposing leaves. A forest patch can be an existing wooded area or newly planted.

Site Selection

Because it takes years or decades for a tree to reach maturity, the goal is for urban forests to be permanent green spaces. Thus, they should be planted on city-owned vacant lots. While any type of vacant lot can be used for tree planting, the following criteria should be considered:

- Minimum size of 10,000 square feet for forest patches; smaller areas might be used for buffers
- Preference for sites containing steep slopes or adjacent to an existing forest, streams, or rail corridors
- Neighborhoods with few trees

Agreements/Protection/Easements

Community groups, faith-based organizations, and nonprofits that are interested in planting trees on vacant land can adopt the lots through HCD (see page 16). Groups should refrain from planting fruit trees on Adopt-A-Lots given the temporary nature of the agreements and the number of years needed for fruit trees to mature. Groups interested in planting fruit trees should investigate purchasing or permanently protecting the lot through a land trust before committing resources to the planting and long-term maintenance of fruit trees.

Over 30 acres of forest patches are on city-owned vacant properties. If a group is interested in preserving and caring for one, they can contact Baltimore Green Space. Depending on the location, these forest patches might also be transferred to Maryland Department of Transportation (if along highways or railroads) or Recreation and Parks (if contiguous to a park). Forest patches can also be put under a protected easement as part of the Forest Conservation Program; contact the Planning Department.

Site Layout and Implementation

Whether planting a few trees, creating a tree park, or preserving a forest patch, visibility and access are concerns for residents. The community needs to be consulted to determine how the site might be used. If the site will have limited or no access, or will be used as a buffer, then denser plantings are warranted. If community access is encouraged (with features such as a path) then less dense tree spacing is called for.

Other considerations prior to planting include safety and the potential for the site to be used for dumping, especially if it's along railroad track or streams. It is important to provide clear sight lines into a wooded area, especially as a forested patch matures

Edges along sidewalks and roads need to be given special consideration, such as a well-maintained grass edge or fencing (consider wrought iron or wood rail). If understory planting is desired or exists, choose plants that would require minimal maintenance.

If new trees are to be planted, determine the condition of the soil. Sites with poor soil conditions may require soil amendments as well as the removal of buried bricks, building fragments, and tree stumps.

Maintenance

How the site will be maintained, as well as who is providing the maintenance, will determine the density of planting, types of trees, and whether there is an understory or ground cover. If the site will be mowed, 20-foot spacing between trees is recommended. In the initial years, tree maintenance, pruning of the lower branches to enhance visibility, and removing any dead trees is needed. Ground covers that require minimal maintenance, such as clover, can be used, with "no mow" areas as options in later years. Also, it is important to make sure that there is a plan for removing trash and litter; wooded areas are attractive locations for dumping. Removal of invasive species and vines may be needed.

Finally, newly planted trees need water. The responsibility for watering the trees in their early years needs to be determined.



Mark Cameron, Baltimore City, used with permission

Less dense tree plantings may be desirable on some sites to maintain visibility.



Miriam Avins, Baltimore Green Space, used with permission

Pruning trees and removing invasive plants are two maintenance activities needed to keep urban forests healthy.



*The creation of a
thousand forests is in
one acorn*

-Ralph Waldo Emerson



C+G

CMOS

UA

SWM

GP

UF

NP

MG

Resources

The following organizations and agencies can provide financial or in-kind assistance for tree planting projects:

- Exelon and other utility companies
- Chesapeake Bay Trust grants
- Department of Transportation storm water mitigation offsets for capital improvement projects
- TreeBaltimore (provides free trees)
- Blue Water Baltimore
- Department of Recreation and Parks / Forestry Division
- Department of Planning - Critical Area grants for new forest patches and riparian buffers

Other Resources

There are several nonprofits that provide technical assistance and training:

- Baltimore Green Space (for stewardship of established forest patches)
- Blue Water Baltimore
- Parks & People Foundation
- Baltimore Tree Trust
- Baltimore Orchard Project

Existing Local Examples

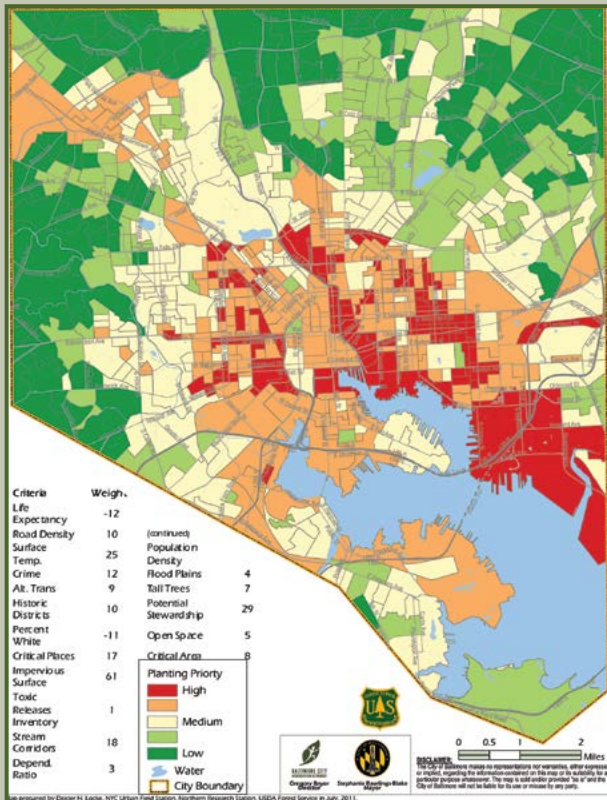
Examples of trees planted on vacant lots can be found throughout Baltimore (see page 22 for Clean and Green). Examples of forest patches with community stewardship include:

- Govans Urban Forest
- Springfield Woods
- Wilson Park Woods

Baltimore's Forest Patches

People often think that Baltimore's trees are mostly located along streets, in parks, and on residential property, but forest patches comprise a substantial portion of our total tree canopy: 34 percent of Baltimore's tree canopy is land that can be classified as a forest patch. Forest patches are areas of contiguous canopy that are at least 10,000 square feet – places that “feel” like an actual forest, with large trees, understory plants, and a forest floor of leaves and critters. In 2013, Baltimore Green Space raised awareness of the city's forest patches with their 2013 report, “Baltimore's Forest Patches: Emerald Assets for Ecosystem Services,” which provides new research and key findings. Forest patches often exist on land that is not appropriate for development. Many forest patches abut streams and riparian areas, playing a significant role in managing stormwater. Other patches border parks and rail lines, and some are scattered in more wooded neighborhoods. Few are recognized as forest, and many are only valued by nearby residents. Because of their size or multiple ownership and lack of regulatory protections, forest patches are vulnerable to development, threatening the critical benefits they provide to urban residents. The Baltimore Green Space report identifies goals and strategies for their long-term preservation and stewardship.

Achieving Our Canopy Goal With Help From the U.S. Forest Service



This map illustrates results from a stakeholder Urban Tree Canopy prioritization process for the City of Baltimore, based on social, economic, and environmental criteria.

For more than two decades the U.S. Forest Service has worked in Baltimore, providing information about our urban forest and foundational knowledge for implementing sustainability initiatives. Forest Service researchers are part of the Baltimore Ecosystem Study, a long-term research program funded by the National Science Foundation. The social and ecological knowledge of the Forest Service and the Baltimore Ecosystem Study provides us with a unique understanding of our city as an ecosystem, and how this urban ecosystem changes over time.

Currently, Baltimore City has 14,000 acres of tree canopy that covers 27 percent of the city, across public and private lands, including residential properties. Forest Service research has helped us understand our urban forest resource and how we can achieve our goal of 40 percent tree canopy cover by 2030. We now know where we can plant more trees, which neighborhoods need trees the most, and where we should prioritize our efforts (see map, left, and the “Urban Forest” listings in Resources, page 93).



Types of Neighborhood Parks

Site Selection

Site Layout and Implementation

Maintenance

Resources

Local Success

Neighborhood Parks

REUSING VACANT LAND

Mark Cameron, Baltimore City, used with permission





C+G

CMOS

UA

SWM

GP

UF

NP

MG

AGREEMENTS

Community groups and Community Development Corporations (CDCs) may be interested in adopting lots to become neighborhood parks. If so, it is best to contact Baltimore Green Space to discuss the long-term viability of using the lots for recreation.

Neighborhood Parks

Baltimore’s rowhouse neighborhoods often lack parks and recreation spaces. Vacant land is an opportunity to create public spaces that provide new amenities for residents and can attract new development. Parks are permanent green space and recreational facilities and can be phased in over several years. These spaces can be maintained as clean and green while the properties are being assembled and plans developed for determining park uses and layout.

One of the goals of the Sustainability Plan is that “every citizen lives within a quarter-mile walking distance from a park.” Vacant land can help to meet this goal in areas that are lacking recreational spaces. Creating new neighborhood parks can also be attractive to developers, providing an amenity for new housing along its perimeter (see Baltimore Squares, page 77). These parks can also be used for stormwater management with the addition of rain gardens or if grass fields are used for infiltration.

Types of Neighborhood Parks

Unlike Baltimore’s major parks such as Druid Hill Park or Carroll Park, neighborhood parks are smaller and meet the needs of residents living within a quarter-mile walk (about 4 blocks), including:

Passive Recreation

These are spaces that have a more traditional park look and use—lawn with scattered trees and possibly a walking path. As open spaces, they can accommodate informal ball play, space to run around, or picnicking. They can also include small gardens and seating.

Athletic Fields

These include soccer fields, football fields, and baseball fields. Because they need to accommodate regulation sports, the lots should be flat and sized appropriately.

Play Spaces

Play spaces can include formal play equipment, basketball and tennis courts, or alternative play areas such as earth mounds, sand areas, or tricycle paths. Play spaces can also include gathering or sitting areas.

Site Selection

While any of the vacant lot types can become a neighborhood park, whole and half-block vacant lots are best because they provide more space for recreation and activities.

Neighborhood parks are permanent public spaces. Thus, it is important to choose sites that will not impede future development or that are not already adopted. Because neighborhood parks will ultimately be the responsibility of the Department of Recreation and Parks, lots that are entirely or majority city-owned are preferable. Other factors to consider for site selection include:

- Minimum 1-acre lot (about ½ block in size) for parks including athletic fields or active recreation
- Minimum 1/8-acre lot for passive parks and play spaces
- Sites with less than 5 percent slope
- Sites with minimal existing tree cover (if athletic fields are to be included)
- Contiguous vacant parcels preferred (to minimize conflicts with streets and alleys)

It is important to work with the local community and police to identify concerns regarding visibility, safety, access, and potential dumping. Because a future neighborhood park may take years to be developed, it should be maintained as clean and green in the meantime.



Adam Boarman, Baltimore City, used with permission



Mark Cameron, Baltimore City, used with permission

Two examples of parks created from vacant land: The 32nd Street Park, a 0.14-acre community park in Charles Village on the site of several garages that were demolished. Also shown at top, is a plan for Ripken Fields in Park Heights. The 7-acre site was assembled as part of Baltimore Housing's Vacants to Value program and transferred to Recreation and Parks.



C+G

CMOS

UA

SWM

GP

UF

NP

MG

Site Layout and Implementation

Parks are public green spaces and will either be the responsibility of Recreation and Parks or the group adopting the lots. Because of the capital costs for developing a park, phased development should be considered; a park may begin as Clean and Green while waiting for funding. Thus, it is important that the local community be consulted to determine how the park will be used.

While neighborhood parks can be open lawn with trees, they can also include athletic fields and play equipment. Thus, the following should also be considered:

- Accessibility to the neighboring community.
- Proximity of the lots to problem areas such as dumping sites. Fencing may be needed, especially along alleys and the back of lots.
- Visibility and safety, especially if trees are planted. Make sure that trees are spaced at least 20 feet apart to allow for mowing.
- Edges along sidewalks and roads need to be given special consideration; a well-maintained grass edge, signage, fencing, or lighting might be considered.

A park might also provide stormwater management or include tree planting. See the sections on Stormwater Management (page 48) and Urban Forests and Buffers (page 64) for examples.

Maintenance

Maintenance will eventually be the responsibility of the Department of Recreation and Parks, although in the interim it might be the responsibility of Department of Public Works as a Clean and Green site. If the community is interested in assisting with maintenance, partnership agreements or MOUs as a "Friends of Park" group should be considered. While the park is being established, fencing may be needed to deter dumping; consider wrought iron or wood rail fencing.

Resources (see Appendix for more detail)

Large parks, such as Ripken Fields (page 75), can include recreation fields, paths, and playgrounds. Baltimore City capital improvement funds, state bond bills, and Maryland Program Open Space are funding sources.

For smaller parks such as the 32nd Street Park or Bethel Street Parks, the Parks & People Foundation's Partnership for Parks grant, the Baltimore Community Foundation, and volunteers are sources for funding, labor, and materials.

Other resources include:

- Baltimore Green Space—assistance in making a temporary community park a permanent green space
- Neighborhood Design Center—design and planning assistance
- Department of Recreation and Parks—guidance in deciding if vacant land should become a park

Baltimore's Residential Squares

During the 19th century, Baltimore was expanding rapidly from the harbor. To encourage the development of houses for the growing merchant class, City leaders set aside whole blocks that were to be permanent green spaces. Patterned after squares like Gramercy Park in New York City, Baltimore's new neighborhood parks were to remain open to the populace. The City agreed to improve the park and surrounding streets and sidewalks, while developers who purchased the properties around the green spaces agreed to develop housing within a certain period of time. These green spaces would become fashionable residential areas like Union Square (right), Lafayette Square, Harlem Park, and Park Place.



Mark Cameron, Baltimore City, used with permission



Mark Cameron, Baltimore City, used with permission



Jenny Guillaume, Baltimore City, used with permission



C+G

CMOS

UA

SWM

GP

UF

NP

MG

Local Success

Calvert Street Park

2200 block North Calvert Street

For years this lot was simply a green space waiting for a use. In the late 2000s, the Old Goucher neighborhood, with the Neighborhood Design Center (NDC), worked to turn the green space into a 1.1-acre park. The community asked Recreation and Parks to have the lot transferred from Housing and Community Development. Once this happened, they applied for and received funding from Healthy Neighborhoods to install a low, wrought iron fence to provide edge definition to Calvert Street. NDC also worked with the community to create a master plan for the park.

Within a month after the fence was installed, people were walking dogs and playing pick-up soccer games. The park is now marketed to new homeowners as part of an adjacent redevelopment project called North Calvert Green.

Site Improvements \$25,000

- Fence (\$25,000)
- New trees (donated)

Lead Partners

Baltimore Housing
Department of Recreation and Parks
Old Goucher Community Association

Pilot Project

2500 S. Paca Street

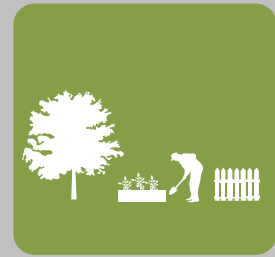
When public housing in the Mt. Winans neighborhood was selected for demolition, the community asked that the land be consolidated with existing park space adjacent to it. The new park land (1.8 acres) will serve as additional green space as well as a buffer to the railroad tracks along its northern edge.



All photos, Mark Cameron, Baltimore City, used with permission

Calvert Street Park





Mixed Greens

REUSING VACANT LAND

Site Selection

Site Layout and Implementation

Maintenance

Resources

Pilot Project

Amy Gilder-Busatti, Baltimore City, used with permission



C + G

CMOS

UA

SWM

GP

UF

NP

MG

We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.

- Aldo Leopold

Mixed Greens

“Mixed Greens” are sites that can accommodate more than one green space type, such as community-managed open space with storm water management. While these sites tend to be larger vacant lots, or clusters of vacant lots, they can be of any size (the example cited on page 38, Brentwood Commons, is only 1/8th of an acre). Accommodating multiple uses provides both flexibility in reclaiming and greening vacant land while also providing new partnerships for implementation, use, and maintenance. In particular, mixed greens are an opportunity to phase in new uses to clean and green sites.

The previous seven green patterns are ways to think about how we can reuse vacant land in positive and productive ways. While we can envision and use these patterns singularly, they often overlap and complement one another. Because mixed greens is where more than one green pattern is used, the benefits of each pattern, when used in combination with one another, can help to achieve multiple goals for neighborhood improvement and greening while encouraging multiple partners and resources.

Site Selection

The selection of a site will vary depending on the mix of green space types (see location criteria for other greening types). Larger vacant lots—inner block lots, half and whole blocks—often work best, but smaller lots can be appropriate when including community-managed open spaces. It is important to understand who owns the lots, especially if utilizing any patterns that are permanent green space.

Site Layout and Implementation

See the guidelines for individual green space types. In addition, the compatibility of the mix of uses (implemented and in the future) should be considered.

Maintenance

Maintenance of a mixed greens site is the responsibility of the group owning or adopting the lots (whether a community group, nonprofit, church, or City agency).

See maintenance recommendations for individual green space types.

Resources

As with site selection, layout, and maintenance, the resources available for mixed greens will vary depending on the mix of green space uses.



Amy Gilder-Busatti, Baltimore City, used with permission



Amy Gilder-Busatti, Baltimore City, used with permission



Amy Gilder-Busatti, Baltimore City, used with permission



C+G

CMOS

UA

SWM

GP

UF

NP

MG

Pilot Project

East Eager Stormwater Park

2300-2400 blocks East Eager Street

Phase 1: Clean and Green

The 1-acre site is within Station East, a redevelopment area targeted by the nonprofit Historic East Baltimore Community Action Coalition (HEBCAC). Because of the site's proximity to the railroad tracks, no new housing can be built on these blocks. This provided an opportunity for the Maryland Department of Transportation (DOT) to use the vacant land for stormwater mitigation (demolition counts toward impervious surface removal) and to create a community space that would benefit the Station East redevelopment. The proposed project is illustrated on page 85.

After the demolition of vacant houses on the 2300-2400 blocks of East Eager Street, the site will be stabilized and fenced to deter dumping. It will then be maintained as Clean and Green until all of the properties can be acquired by HCD.

Phase 2: Stormwater Park

Once the properties are under HCD control, they will be transferred to DOT and final site work will be implemented for stormwater mitigation. This will include the removal of the alley, final grading, and the planting of trees to buffer the railroad tracks. The parking on the southwest corner of North Milton and Eager Streets will move across the street to make way for new housing (Green Parking is Phase 3 by HEBCAC).

Lead Partners

HEBCAC

HCD

DOT

Office of Sustainability

Expected cost for the project (not including demolition)

\$80,000

Site Preparation

- Erosion control
- Final grading, 4 inches of topsoil
- Removal of concrete alley

Site Improvements

- Trees
- Grass seed (as needed)



Mark Cameron and Amy Gilder-Busatti, Baltimore City, used with permission



APPENDIX

Definitions

Adopt-A-Lot: A formal agreement that allows an individual or group to use a city-owned vacant lot as a community-managed open space.

Agency: A government entity or department, such as the Department of Planning, Maryland Department of Agriculture, etc.

Agriculture: An income-generating activity and business enterprise (whether for-profit or nonprofit), in which crops are grown primarily for sale or distribution to others, rather than primarily for one's self and family.

BMP (best management practice): A stormwater management facility, such as a rain garden or bio-retention area, that collects and treats stormwater runoff.

Community Development Corporation (CDC): A neighborhood-based nonprofit, typically with full-time staff, often developing affordable housing and/or neighborhood programming.

Community managed open space (CMOS): A community space that is either under an Adopt-A-Lot agreement or protected by a land trust.

Conditional use: Requires approval, as in the zoning code. It differs from "Permitted Use", which is allowed by the zoning code.

Food forest: Modeled on a natural forest, but including plants that produce fruits, nuts, herbs, and mushrooms.

Forest patch: A forested area that is at least 10,000 square feet in size.

Growing Green Initiative (GGI): The Mayor's initiative that provides planning, policy, resources, and administrative support for the Green Pattern Book. It is housed in the Office of Sustainability.

Hoop house: An outdoor greenhouse made of polyethylene, usually semi-circular and elongated in shape.

Impervious: A surface that does not let water infiltrate, such as concrete or asphalt.

License: A legal agreement that allows a particular use, like the Adopt-A-Lot license.

Lease: A longer-term agreement for the use of a property. Generally includes some type of fee.

Mitigation: The act of making a condition or situation less severe, like improving contaminated soil.

Memorandum of Understanding (MOU): A formal agreement between two or more parties.

Nongovernmental Organization (NGO): Nonprofit organization

Nuisance abatement: Removing a nuisance from a vacant lot, like cleaning up trash or mowing.

Off-street parking: Parking that is not along a street, such as a parking lot or driveway.

Permit: An official document giving someone authorization to do something, such as erect a fence or keep chickens.

Pervious: A surface that allows for water infiltration, such as grass or garden plantings.

Stormwater management (SWM): The practice of diverting, collecting, treating, and/or reusing rain water that runs off of impervious surfaces.

Vacant lot: An unoccupied property that has no structure.

Vacant property: An unoccupied property with a structure.

Vacants to Value (V2V): A program of Baltimore Housing, which oversees the demolition, acquisition, disposition, and creative reuse of the City's vacant lots and buildings.

Zoning code: The legal regulation of buildings and structures in accordance with their construction and the nature of their use.

Vacant Lot Types Suitable for Green Patterns

	Vacant Lot Types - Page 22						
	Corner Lot Highly visible site on the corner of a block	Missing Tooth Mid-block site, between existing buildings	Inner Block Site at the center of a block, along a small street or alley street	Remnant Irregularly shaped site, due to angled streets, rail lines, or natural features	Vacant Block - One Side Site with street frontage along one whole side of a block	Vacant Block - Whole Block Site on an entirely vacant block, often with street frontage on more than one side	Swiss Cheese Site consisting of several vacant lots scattered among existing buildings
Green Patterns							
Clean & Green Page 24	●	●	●	●	●	●	●
Community-Managed Open Space Page 30	●	●	○	●	○	○	○
Urban Agriculture Page 40	○	X	○	○	●	●	X
Stormwater Management Page 48	●	○	○	●	●	○	X
Green Parking Page 56	○	X	●	○	●	○	○
Urban Forests and Buffers Page 64	○	X	○	●	●	●	X
Neighborhood Parks Page 72	○	○	○	○	●	●	○
Mixed Greens Page 80	○	○	●	○	●	●	●

Key

- X Not Suitable
- Suitable
- Most Suitable

Resources Required for Implementation

Green Patterns	Time The amount of time needed to implement a green pattern	Cost The relative expense of different Green Patterns	Labor How much work is needed and how much still is involved in implementation and maintenance
Clean & Green* Page 24	●	\$	◇
Community-Managed Open Space* Page 30	● to ●●	\$ to \$\$	◇ to ◇◇
Urban Agriculture** Page 40	● to ●●	\$\$\$	◇◇ to ◇◇◇
Stormwater Management* Page 48	●● to ●●●	\$\$ to \$\$\$	◇◇
Green Parking* Page 56	●●●	\$\$\$	◇◇
Urban Forests and Buffers* Page 64	● to ●●	\$ to \$\$	◇◇
Neighborhood Parks* Page 72	● to ●●●	\$\$\$	◇ to ◇◇
Mixed Greens* Page 80	● to ●●●	\$ to \$\$\$	◇ to ◇◇◇

- 6 months or less \$ Less than \$1,000 ◇ Small group sufficient to implement/maintain
No special skill required
- 6 to 12 months \$\$ \$1,000 to \$5,000 ◇◇ Medium-sized group needed to implement/maintain
Some specialized skills or training may be required
- More than 12 months \$\$\$ More than \$5,000 ◇◇◇ Medium or large group needed to implement/maintain
Specialized skills and/or training are required

*Assuming a 1/4-acre site
**Assuming a 1-acre site

FAQs and Resources for Green Patterns

Green Patterns	How do I determine ownership of a lot? Page 16	How do I adopt, lease, or buy a lot? Page 16 & 17	Do I need to have insurance? Page 18	How do I access water for a lot? Page 19	How do I determine if the soils are safe to dig in? Page 20	Baltimore Community Toolbank Offers low-cost tool rental for nonprofit and community groups	Baltimore Farm Alliance Offers support, shared resources, and training for farmers	Baltimore Green Space Land trust for the protection of green spaces and forest patches	Baltimore Orchard Project Assistance with planting fruit and nut trees and berry bushes
Clean & Green Page 24	●	●	○	○	○	○			
Community-Managed Open Space Page 30	●	●	○	●	●	●		●	○
Urban Agriculture Page 40	●	●	●	●	●	○	●		○
Stormwater Management Page 48	●	●	○	○	○	●			
Green Parking Page 56	●	●	○	○	○	●			
Urban Forests and Buffers Page 64	●	●	○	○	○	○		●	●
Neighborhood Parks Page 72	●	●	○	○	○	○		○	
Mixed Greens Page 80	●	●	●	○	○	●		○	○

Key

- Helpful Information or Resource
- Important Information or Resource

Contact Information

Local Nonprofit Organizations

Baltimore Community ToolBank

www.baltimore.toolbank.org
1224 Wicomico Street
Baltimore, MD 21230
(410) 244-5565

Baltimore Farm Alliance

www.farmalliancebaltimore.org

Baltimore Green Space

www.baltimoregreenspace.org
1212 N. Wolfe Street
Baltimore, MD 21213
(443) 996-3811

Baltimore Orchard Project

www.baltimoreorchard.org
(410) 695-3445

Baltimore Tree Trust

www.baltimoretreetrust.org
P.O. Box 26202
Baltimore, MD 21210

Blue Water Baltimore

www.bluewaterbaltimore.org
3545 Belair Road
Baltimore, MD 21213
(410) 254-1577

Citizens Planning and Housing Association

www.cphabaltimore.org
3355 Keswick Road, Suite 200
Baltimore, MD 21211
(410) 539-1369

Civic Works

www.civicworks.com
2701 St Lo Dr, Baltimore, MD 21213
(410) 366-8533

Community Law Center

www.communitylaw.org
3355 Keswick Road, Suite 200,
Baltimore, MD 21211
(410) 366-0922

Neighborhood Design Center

www.ndc-md.org
1401 Hollins Street
Baltimore, MD 21223
(410) 233-9686

Parks & People Foundation / Community Greening Resource Network (CGRN)

www.parksandpeople.org
800 Wyman Park Dr, Baltimore, MD
21211
(410) 448-5663

University of Maryland Extension, Baltimore City

www.extension.umd.edu/
baltimore-city
6615 Reisterstown Road, Suite 201
Baltimore, MD 21215
(410) 856-1850

Baltimore City Agencies

Baltimore Office of Sustainability

www.baltimoresustainability.org
417 E. Fayette Street, 8th Floor
Baltimore, MD 21202
(410) 396-4556

Baltimore Housing/Vacants to Value

www.baltimorehousing.org/
vacants_to_value.aspx
417 E Fayette St, Suite 1339
Baltimore, MD 21202
(410) 396-3237

Baltimore Department of Planning

www.baltimorecity.
gov/Government/
AgenciesDepartments/Planning.
aspx
417 E. Fayette Street, 8th Floor
Baltimore, MD 21202
(410) 396-7526

Department of Public Works / Division of Environmental Compliance and Laboratory Services

www.publicworks.baltimorecity.
gov/Bureaus/WaterWastewater/
SurfaceWater.aspx
600 Abel Wolman Municipal
Building
Baltimore, MD 21202
(410) 396-3500

Power in Dirt

www.powerindirt.com
800 Wyman Park Dr, Baltimore,
MD 21211
(410) 448-5663

TreeBaltimore

www.treebaltimore.org
3001 East Dr.
Baltimore, MD 21217
(410) 458-7888

Baltimore Health Department

www.baltimorehealth.org
1001 E. Fayette Street
Baltimore, MD 21202
(410) 396-4398

Resources

Green Space Type	Organization	Information Source	Resource(s)	Who would use
Clean and Green	HCD	Document	Demolition specification	HCD/other City agencies
Clean and Green	Baltimore City	Website	Cityview Mapping <ul style="list-style-type: none"> - Pull-down menu for “Looking for information about... City Services”, “And wanting to know...”Vacant lot proactive mowing schedule”— shows map of sites 	HCD/other City agencies
Urban Agriculture	Baltimore Farm Alliance	Website	Tab “Alliance” <ul style="list-style-type: none"> - Training (includes City laws and codes) - New Farmer How-to (includes Access to Land / Access to Water and description of the process for using a lot that is city-owned, privately owned, and neglected. - Links to CPHA “Vacant Lot Greening” tipsheet, Power in Dirt VISTAs, and HCD Adopt-A-Lot. 	People interested in starting an urban farm - the website makes a distinction between urban farming (commercial) and community gardening
Urban Agriculture	Baltimore Office of Sustainability	Website	Includes information on the various Sustainability Plan goals, including Greening (Urban Agriculture)—description/metrics/ partner organizations, what you can do (minimal links) Tab “Resource Center” <ul style="list-style-type: none"> - Urban Agriculture in Baltimore presentation - Resources for urban farmers 	People interested in starting an urban farm (private/NGO/ community)
Urban Agriculture	Community Law Center	Website	Link to “Urban Agriculture Law Project”	People interested in starting an urban farm (private/NGO/ community)
Urban Agriculture	University of Maryland Extension, Baltimore City	Website	Section on “Urban Agriculture” under construction and has old links	People interested in starting an urban farm (private/NGO/ community)

continued

Green Space Type	Organization	Information Source	Resource(s)	Who would use
Community-Managed Open Space	Baltimore Green Space	Website	Tab “How to Preserve an Open Space” - Includes BGS application forms and guidelines Tab “Resources” - Includes links to other organizations (CGRN, Power in Dirt, Master Gardeners) and documents “Start and Keep a Community Green Space (BGS), “Greening Neighborhoods (P&P), Vacant Lot Greening (CPHA), and guide/ flow chart to transfer CMOS from City ownership to land trusts.	Community members/NGOs/ faith-based
Community-Managed Open Space	Baltimore Green Space	Documents	- “Start and Keep a Community Green Space” - “Preserving Community-Managed Open Spaces: Criteria and Process” (2010)	Community members/NGOs/ faith-based
Community-Managed Open Space	Parks & People Foundation	Website	Tab “Greening” - Vacant Lots (includes images, link to Power in Dirt, neighborhood greening grants, “Guide to Greening Neighborhoods” - Community Greening Resource Network (includes links to various resources) Includes Events and Workshops	Community members/NGOs/ faith-based
Community-Managed Open Space	Parks & People Foundation	Document	A Guide for Greening Neighborhoods (2002) - available on the website	Community members/NGOs/ faith-based
Community-Managed Open Space	Parks & People Foundation	Document	Greening to Improve Water Quality and Quality of Life -Watershed 263 Workshop (2012) - available on the website	Community members / NGOs / faith-based
Community-Managed Open Space	CPHA	Document	“How to Turn a Vacant Lot into a Garden or Pocket Park” (2011) - not currently available on the website	Community members/NGOs/ faith-based
Community-Managed Open Space	CPHA	Website	Includes events / workshops on community greening	Community members/NGOs/ faith-based
Community-Managed Open Space	Community Law Center	Website	Tab “Trainings & Information”—“Information for Neighborhoods” - Description of legal services available to community greeners - Baltimore Adopt-A-Lot program: legal issues - Self-help nuisance abatement to clean up vacant lots (links to guide)	Community members/NGOs/ faith-based

continued

Green Space Type	Organization	Information Source	Resource(s)	Who would use
Community-Managed Open Space	Community Law Center	Documents	“Adopt-A-Lot Agreements: Legal Issues To Consider” - available on the website	Community members/NGOs/faith-based
Community-Managed Open Space	Community Law Center	Documents	“Self-Help Nuisance Abatement in Baltimore, MD” - available on the website	Community members/NGOs/faith-based
Community-Managed Open Space	Baltimore Green Map	Website	- Interactive map includes locations for community gardens and other community spaces; ability to include descriptions + images	Community members/NGOs/faith-based
Community-Managed Open Space	Power in Dirt	Website	Includes step-by-step process for adopting a vacant lot with map of available properties - Online forms for lot adoption - Online forms for water access - Link to Baltimore Green Space - Link to greening grants - Includes images of adopted lots (Does not have a link to HCD’s Adopt-a-Lot website)	Community members/NGOs/faith-based
Community-Managed Open Space	HCD	Website	Vacants to Value - Includes a link to the Adopt-A-Lot program	Community members/NGOs/faith-based
Community-Managed Open Space	HCD	Website	Adopt-A-Lot program Includes list (spreadsheet) of available lots - Online forms for lot adoption - Online forms for water access - Link to resources, including Power in Dirt VISTAs and CPHA, P&P, and BGS docs (Does not have a link to Power in Dirt website)	Community members/NGOs/faith-based
Community-Managed Open Space	Baltimore Office of Sustainability	Website	Includes information on the various Sustainability Plan goals, including Cleanliness (Vacant Lots)—description/metrics/partner organizations, what you can do (minimal links) Tab “Resource Center”—Sustainability Guides - Greening Neighborhoods (P&P) - Guide to Preserving CMOS (BGS) - Vacant Lot Greening (CPHA)	People interested in starting an urban farm (private/NGO/community)

continued

Green Space Type	Organization	Information Source	Resource(s)	Who would use
Stormwater Management	Blue Water Baltimore	Website	Tab “Programs” - Clean Water Communities (targeted neighborhoods) - Community Greening (focus on information and resources for private residential) Includes link to Rain Gardens No external links or downloadable resources (other than Water Audit program)	Community members/NGOs/faith-based
Stormwater Management	Parks & People Foundation	Website	Tab “Greening” - Greening for Water Quality (includes info on WS 263 and WS246 and “Greening to Improve Water Quality” presentation)	Community members/NGOs/faith-based
Stormwater Management	DPW Division of environmental Compliance and Laboratory Services	Document	Stormwater Manual (2003)	DPW/DOT/Developer/Designer
Stormwater Management	DPW Division of Environmental Compliance and Laboratory Services	Document	MOU between DOT and DPW for establishment of Baltimore City stormwater management design guidelines, terms, and conditions.	DPW/DOT
Stormwater Management	DPW	Document	Green Book—includes stormwater management guidelines	DPW/DOT/Developer/Designer
Urban Forest	TreeBaltimore	Website	Tab “Programs” - Free tree giveaway - Tree Neighborhood Program Tab “Partners” (links but not to particular info)	Community members/NGOs/faith-based
Urban Forest	Baltimore Orchard Project	Website	Tab: Orchard Library - Under Baltimore City Resources includes links to Tree Baltimore, Power in Dirt, and Master Gardeners	Community members/NGOs/faith-based
Urban Forest	Blue Water Baltimore	Website	Tab: Community Greening - Includes information on Tree planting Tab: Herring Run Nursery - Includes information for buying trees and links to CGN and Master Gardeners	Community members/NGOs/faith-based

continued

Green Space Type	Organization	Information Source	Resource(s)	Who would use
Urban Forest	Baltimore Tree Trust	Website	Minimal resources for people wanting to plant trees on vacant lots or community spaces	Community members/NGOs/faith-based
Urban Forest	U.S. Forest Service	Website	Includes USFS research themes and key publications	City/NGOs/Community residents
Green Parking	City	Document	Building Code - Permeable paving systems may be utilized in accordance with the regulations of DPW.	Community residents/businesses/NGO/developer/City/designer
Green Parking	DPW	Document	Stormwater Management Manual - Includes specifications for various types of stormwater management	Community residents/businesses/NGO/developer/City/designer
Green Parking	City	Document	Zoning Code - Grasscrete and permeable pavers allowed	Community residents/businesses/NGO/developer/City/designer

Potential Funding Sources

Green Pattern/Funding Source	Clean & Green Page 24	Community-Managed Open Space Page 30	Urban Agriculture Page 40	Stormwater Management Page 48	Green Parking Page 56	Urban Forests and Buffers Page 64	Neighborhood Parks Page 72	Mixed Greens Page 80
Baltimore Community Foundation Neighborhood Grants Program Annual Awards in 3 categories range from \$1,000 to \$5,000	●	●	●	●	●	●	●	●
Parks & People Foundation Community Greening Grants Biannual Up to \$1,000	●	●	●	●	●	●	●	●
Parks & People Foundation Partnerships for Parks Grants Biannual \$500 to \$5,000							●	●
Chesapeake Bay Trust Restoration Grants Annual Awards range from \$5,001 to \$25,000		●	●	●	●	●	●	●
Chesapeake Bay Trust Green Streets - Green Jobs - Green Towns Grants Annual Awards in three categories with maximum of \$250,000		●		●	●	●	●	●
Chesapeake Bay Trust Community Engagement and Restoration Mini-Grant Ongoing until funds are exhausted Up to \$5,000		●		●	●	●	●	●
HCD/Homegrown Baltimore Site Preparation and Water Access for Food Production Sites Ongoing until funds are exhausted Awards vary		●	●					●
The Abell Foundation Grants to support Community Development and Conservation Ongoing Awards vary	●	●	●	●	●	●	●	●

Key

● Potential Funding Source

Plant Resources

What are native plants and why should I use them?

Native plants are those trees, shrubs, perennials and other types of plants that have evolved and occur naturally within the local area or region. Native plants are often better adapted to local conditions, including temperature, rainfall, and soil conditions compared to species that have been brought to the area from other regions or countries, and therefore require less water, fertilizers, and pesticides to maintain. Native plants are also better sources of habitat and food for local wildlife, including birds and pollinators.

Where can I find more information about which plants are native to our area? What factors should I consider when selecting plants?

There are many sources for native plant lists. Some of these lists refer to geographic regions. Species from either the Piedmont or Coastal Plain regions are appropriate for use in Baltimore. The following resources may serve as a starting point for identifying native plants for your project:

- Native Plants for Wildlife Habitat and Conservation Landscaping in Maryland (U.S. Fish and Wildlife Service) - <http://www.nps.gov/plants/pubs/nativesmd/index.htm#pdf>
- Native Plants for Wildlife Habitat and Conservation Landscaping: Chesapeake Bay Watershed (U.S. Fish and Wildlife Service) - <http://www.nps.gov/plants/pubs/chesapeake/>

When selecting plants, consider the conditions of your site (light, soil conditions, access to water) and compare them against the sun and water needs of the plants you are considering. Also consider the mature height and spread of each species and where you plan to locate it, so that you don't use plants that will grow too large for your space or create problems with visibility.

Where can I buy native plants?

The Herring Run Nursery, operated by Blue Water Baltimore, is the only native plant nursery in the City. Herring Run Nursery has weekend plant sales in the spring and the fall. Plant sale schedules and a list of inventory in stock are available here: <http://www.bluewaterbaltimore.org/herring-run-nursery/>

The U.S. Fish and Wildlife Service also maintains a list of native plant nurseries in Maryland and other mid-Atlantic states: <http://www.fws.gov/chesapeakebay/bayscapes/bsresources/bs-nurseries.html>

What are invasive species and why should I avoid using them?

Invasive plant species are plants that have the ability to spread aggressively outside their natural range. Invasive plants can become a problem when they damage or crowd out other plants and compete for resources such as water and light. Some invasive species, such as tree-of-heaven, spread on their own and frequently pop up in alleys and on vacant lots. Other invasive species, such as English ivy and purpleleaf wintercreeper, are planted by gardeners and can be kept in check if well maintained, but can spread and damage other plants if not contained. To minimize maintenance, these and other invasive species should be avoided when greening vacant lots.

The National Park Service and U.S. Fish and Wildlife Service publication *Plant Invaders of Mid-Atlantic Natural Areas* contains information and pictures of many invasive plant species: <http://www.nps.gov/plants/alien/pubs/midatlantic/midatlantic.pdf>

Other Resources

The Baltimore Department of Recreation and Parks Division of Forestry maintains a list of trees appropriate for street tree plantings in Baltimore, as well as a list of trees that should not be planted - http://bcrp.baltimorecity.gov/Portals/Parks/documents/StreetTreeSpeicesList_BaltimoreCity_Final_7-08-2013.pdf

The University of Maryland Extension's website offers resources and information for many types of gardening including conservation landscapes and edible gardens - <http://extension.umd.edu/topics/gardening>

Permits, Approvals, and Agreements

Green Pattern/ Responsible Agency	Clean & Green	Community-Managed Open Space	Urban Agriculture	Stormwater Management	Green Parking	Urban Forests and Buffers	Neighborhood Parks	Mixed Greens
Office of Sustainability Resources for Urban Farmers, Forest Conservation Easements			Urban Agriculture Lease			Forest Conservation Easement		
			Meet with community planners	Meet with community planners	Meet with community planners		Meet with community planners	
Department of Planning Information on Zoning requirements for uses such as CMDS, Urban Agriculture, and Green Parking				Stormwater Management Plan Erosion and Sediment Control Plan MOU for Maintenance	Stormwater Management Plan Erosion and Sediment Control Plan			
DPW/ Water and Wastewater Permits for managing stormwater, stormwater credit for community cleanups								
Baltimore Housing / Vacants to Value Information on lot availability, adoption, lease, and purchase	Adopt-a-lot License	Adopt-a-lot License	Urban Agriculture Lease	Transfer of property (HCD to another responsible agency)	Adopt-a-lot License	Adopt-a-lot License	Transfer of property (HCD to another responsible agency)	Will depend on the mix of green space types
		Water Access Application Building Permits (fences, gazebos, etc)	Water Access Application Building Permits (fences, storage buildings, etc)		Transfer of property (HCD to another responsible agency)	Transfer of property (HCD to another responsible agency)		
Department of General Services Permits for events and right-of-entry		Special Events Permit		Right of Entry Permit (if collecting stormwater from the right of way)	Right of Entry Permit (curb cuts)			
Health Department Permits for beekeeping and animal husbandry		Permit from Bureau of Animal Control to keep chickens or bees	Permit from Bureau of Animal Control to keep chickens or bees					
		Registration for keeping chickens or bees	Registration for keeping chickens or bees					
Maryland Department of Agriculture Registration of animal bee keeping and husbandry activities								
Baltimore Municipal Zoning Conditional use and other zoning approvals			Conditional Use Permit		Conditional Use Permit			

Permit/Agreement/Regulation: Adopt-A-Lot License

Responsible Agency: Housing and Community Development

Key Information:

- No fee required; online application is available
 - Provides initial 1 year agreement for community group or nonprofit to use the lot
 - License is renewable for up to 5 years
 - The City may, at its sole discretion, terminate the agreement on thirty (30) days written notice. However, if the community space is being used as a garden, discretion will be used to ensure that said termination will not take place during the growing season to allow the Licensee time to harvest.
 - Limited permission is granted for the installation of temporary structures ancillary to approved community open space activities.
 - The lot cannot be used for parking or a business.
 - Signed permission must be received from the Department of Housing and Community Development.
-

Permit/Agreement/Regulation: Water Access Program

Responsible Agency: Housing and Community Development

Key Information:

- \$120 fee
 - Inspector will assess your site for water availability. If water is available, the inspector will install a device that you can connect a hose to and will contact you to provide instruction on how to use it.
 - If water access is not available, your original \$120 payment will be returned to you with information for other options.
 - Any nonprofit farm entering into a lease agreement with the City can request financial assistance for water access and irrigation. Contact the Office of Sustainability for details.
-

Permit/Agreement/Regulation: Urban Agriculture Lease

Responsible Agency: Housing and Community Development/Office of Sustainability

Key Information:

- Farmers may apply to be prequalified with the City of Baltimore to negotiate for leases on parcels of city-owned vacant land for the purposes of urban agriculture. Qualified applicants will be eligible to be offered leases for a period of 5 years, with an option to renew.
- The Prequalification Application has a rolling deadline, and applications may be submitted at any time. Applications are available for download at: <http://www.baltimoresustainability.org/homegrown-baltimore-grow-local>

Permits, Approvals, and Agreements

Applicants can include not-for-profit organizations, for-profit organizations, or a partnership between any of these entities. Applicants **MUST** have as a member of their team a person with at least 1 year of experience in agricultural production. In addition, applicants will be asked to provide management, financial, and community engagement plans, as well as other relevant information.

Permit/Agreement/Regulation: Special Events Permit (on a community-managed open space)
Responsible Agency: General Services
Key Information:

- A Special Event is a planned temporary activity (festival, community picnic, etc.), open to the general public
 - Permit fees vary and are listed on the application
 - If food is being sold, a temporary food permit is needed from the Health Department.
-

Permit/Agreement/Regulation: Conditional Use Permit
Responsible Agency: Baltimore Municipal Zoning Appeals
Key Information:

- Urban agriculture is a conditional use in all zoning districts except for industrial zones.
 - Green parking as the principal use on a lot is a conditional use in rowhouse and multi-family residential zoning districts and neighborhood commercial zones.
 - Application for conditional use is required; one-time permit fee between \$200 - \$400.
 - Urban agriculture that involves the following must submit a management plan for approval: animal husbandry, processing of food produced on site, spreading of manure, spraying of agricultural chemicals, and use of heavy equipment such as tractors.
-

Permit/Agreement/Regulation: Animal Husbandry Permits
Responsible Agency: Health Department
Key Information:

- Baltimore's animal husbandry regulations allow for the keeping of bees, chickens, rabbits, and goats.
- Permits must be obtained from the Office of Animal Control.
- Baltimore's "Regulations for Wild, Exotic, and Hybrid Animals" specifies the total number of each type of animal that may be kept, and any conditions that must be met.
- Keeping bees or chickens also requires registration with the Maryland Department of Agriculture.

Permit/Agreement/Regulation: Stormwater Management Plan/Erosion and Sediment Control Plan
Responsible Agency: Department of Public Works/
Division of Environmental Compliance and Laboratory Services

Key Information:

- Any project which involves land disturbance of 5,000 square feet or more or 100 cubic feet of volume requires a stormwater management and sediment and erosion control plans. http://cityservices.baltimorecity.gov/dpw/generalservices/final_swm_manual.pdf
 - Disturbance of less than 5,000 square feet in area, but exceeding 100 cubic yards in disturbance volume (cut plus fill volumes), must still include sediment and erosion control plans.
 - A licensed engineer is required to prepare stormwater management and erosion and sediment control plans.
 - Agriculture may have different requirements; please contact the Department of Public Works and the Office of Compliance & Laboratories. <http://publicworks.baltimorecity.gov/Bureaus/WaterWastewater.aspx>
 - Other permits or approvals, which may be required and are obtained directly from Department of General Services, including right-of-entry permits, easements, curb cuts, street closure permits, and utility agreements and permits. <https://www.baltimorecity.gov/Government/AgenciesDepartments/GeneralServices/PermitForms.aspx>
-

Permit/Agreement/Regulation: Forest Conservation Easement
Responsible Agency: Office of Sustainability/Department of Planning

Key Information:

- Privately-owned forest patches can be put under a protected easement as part of the Forest Conservation Program
- Contact the Department of Planning for more information

Permit/Agreement/Regulation: Memorandum of Understanding/Right-of-Entry (on park property)
Responsible Agency: Department of Recreation and Parks

Key Information:

- The Department of Recreation and Parks may need to enter into a Memorandum of Understanding (MOU) with any group or organization planning to improve or maintain City park land.
 - The Department of Recreation and Parks would need to grant a right-of-entry to any group or organization planning to improve or maintain City park land.
-

Permit/Agreement/Regulation: Grading, Fencing or Paving Permits
Responsible Agency: Department of Housing and Community Development

Key Information:

- Must have written permission from property owner of right-of-entry (original signature required)
- See ePlans website for more information on when to apply online or when to apply over the counter.

Sample Adopt-a-Lot Agreement

For purposes of this license agreement, the community-managed open space must have a strong function in at least one community use, such as active recreation, passive recreation, food production, education, visual relief from the built environment, or gathering space for formal or informal community gatherings. Environmental benefits (such as absorbing rainwater, providing habitat for migratory birds, and reducing “food miles”) and livability benefits (such as elimination of blight or crime reduction) enhance the site’s attractiveness as community managed open space.

An Adopt-A-Lot license CANNOT be used for parking

An Adopt-A-Lot license is a temporary agreement to steward a City-owned lot. While the City may not immediately intend to dispose of the properties included in this agreement, redevelopment opportunities may become available in the future. As such, the City discourages significant investments in the lots by LICENSEEs, encourages LICENSEEs to consider the possibility of lost investment in the event a purchaser of the lot is found, and prohibits a LICENSEE from installing permanent landscaping (ex. orchards, tree farms) without the express, prior, written permission of the City. If the City receives an application to purchase the property, the LICENSEE will be notified and given an opportunity to bid.

The City of Baltimore, by and through the Department of Housing and Community Development (hereinafter referred to as “the City”), as owner of property as listed above, grants this agreement executed on the date indicated on the signature page hereof and covering the use of the unimproved property from [START DATE] to [EXPIRATION DATE] for the purpose of permitting [LICENSEE], its contractors and assigns, (hereinafter referred to as “the LICENSEE”) to enter upon the subject site for use as a community managed open space, which may include installation of an underground hydrant for water access.

The LICENSEE agrees to enter upon the subject site to conduct approved activities under the following terms and conditions:

1. The LICENSEE agrees to return one signed copies of this License Agreement via postal mail, electronic mail or facsimile.
2. The LICENSEE shall install a prominently placed sign identifying the site as an adopted lot.
3. The LICENSEE shall obtain any and all permits or approvals required by the City to perform any and all operations to be performed and shall pay any and all fees and charges due to and collected by the City pursuant to the issuance of any such permits and approvals.
4. The LICENSEE further agrees and understands that the installation of any landscaping may not impede or obstruct pedestrian traffic or create a hazardous condition for vehicular traffic. The City requires a LICENSEE who will be digging on the site to contact Miss Utility at 800-257-7777 to determine if any utility lines exist underground.
5. The LICENSEE agrees to save and hold harmless the City against any and all liability in any way connected with or arising from the activities carried on at the above captioned property (hereinafter the “Property”) or the use of the Property, including the maintenance of sidewalks abutting the Property.
6. The LICENSEE affirmatively states that it has done nothing prior to the execution of this agreement (whether within the period of the agreement or prior thereto), or it has done any act, caused to be done any act, or knows of any act which would give any rise to any claim by it or any third party against the City.
7. The LICENSEE agrees and understands that the unimproved lot that is provided by the CITY on a “where is” and “as is” basis; no representations nor warranties whatsoever, either expressly stated or implied, are given by the CITY to the LICENSEE, and the LICENSEE agrees that during the term of this License agreement it will be responsible for any damages whatsoever which may be caused on the lot.
8. The LICENSEE agrees and understands that the unimproved lot that is provided by the CITY in this Agreement on a temporary basis may have redevelopment potential. In the event of a redevelopment opportunity, LICENSEE agrees and understands that the City will review such applications and the LICENSEE will be given an opportunity to submit a competing offer.
9. The LICENSEE agrees and understands that the installation of any permanent landscaping/design is prohibited without the express, prior, written permission of the City. For purposes of this agreement, permanent landscaping/design includes, but is not limited to orchards, tree farms and murals.
10. The LICENSEE agrees that this License is granted by the CITY on the condition that the LICENSEE assumes full

MAINTENANCE

WHO HAS RESPONSIBILITY?

MAINTENANCE NEEDS / REQUIREMENTS

CITY AGENCIES

CDC / COMMUNITY

CLEAN AND GREEN

- Grass areas require regular mowing during the growing season, and trash collection will be needed throughout the year.
- Creating a clearly defined edge for no-mow areas or meadows will help the site look purposeful and well-maintained.
- Maintenance might be contracted to a nonprofit such as Parks & People Foundation or Civic Works) as part of job training.

CDC / COMMUNITY

NGO / FAITH-BASED

COMMUNITY-MANAGED OPEN SPACE

- Maintenance is the responsibility of the community group that has adopted the site.
- The types of planting (lawn, flowers, vegetable gardens, etc) need to be considered in relation to the community's ability for maintenance.
- Sites connected to an active neighborhood association or local institution such as a house of worship will often have a broader base of volunteers to tap into for care and maintenance.
- Periodic review should take place to check that the site is still functioning as a CMOS.

PRIVATE BUSINESS

NGO / FAITH-BASED

URBAN AGRICULTURE

- Where urban agricultural sites are leased from the City for the purpose of farming, maintenance responsibilities will be that of the individual or group leasing the property, as spelled out in the lease agreement.
- Some farm sites may involve the community in the production and maintenance of the site through community engagement activities, jobs training programs, or by employing local residents.

CITY AGENCIES

NGO / FAITH-BASED

STORMWATER MANAGEMENT

- Regular maintenance is required for stormwater facilities to function as designed. Depending on the project, maintenance may include mulching, weeding, pruning vegetation, and removing trash and debris.
- Maintenance of stormwater management facilities could be undertaken as part of a jobs training program.
- Organizations or communities implementing stormwater projects should not assume that City agencies will perform maintenance activities unless such an agreement has been made in writing.

MAINTENANCE

WHO HAS RESPONSIBILITY?

MAINTENANCE NEEDS / REQUIREMENTS

CITY AGENCIES

GREEN PARKING

- Parking areas created within a right-of-way are maintained by the City.
- Parking areas created on City-owned vacant lots are the responsibility of the group adopting the space and/or implementing the improvements. Maintenance responsibilities are included in the Adopt-A-Lot agreement or lease for the site.
- Pervious pavement surfaces, such as pervious pavers, pervious asphalt, or pervious concrete, require regular maintenance, including twice yearly vacuuming, so they will continue to function as designed. These surfaces are discouraged for parking areas to be maintained by the community. Gravel is a less maintenance-intensive surface for parking.
- Grass areas require regular mowing during the growing season, and trash collection will be needed throughout the year.

PRIVATE BUSINESS

NGO / FAITH-BASED

CDC / COMMUNITY

CDC / COMMUNITY

URBAN FORESTS AND BUFFERS

- How the site will be maintained as well as who would provide maintenance will determine the density of planting, types of trees, and understory / ground cover.
- Tree spacing should be considered (20 feet on center recommended).
- Ground covers that required minimal maintenance, such as clover, is recommended, with “no mow” areas as options in later years.
- Trees will also need maintenance – pruning, limbing-up of the branches, and the removal of any dead trees.
- Access to water is critical – this could be similar to the system developed to provide water access to community gardens. Determine who will water the trees in the early years.

CITY AGENCIES

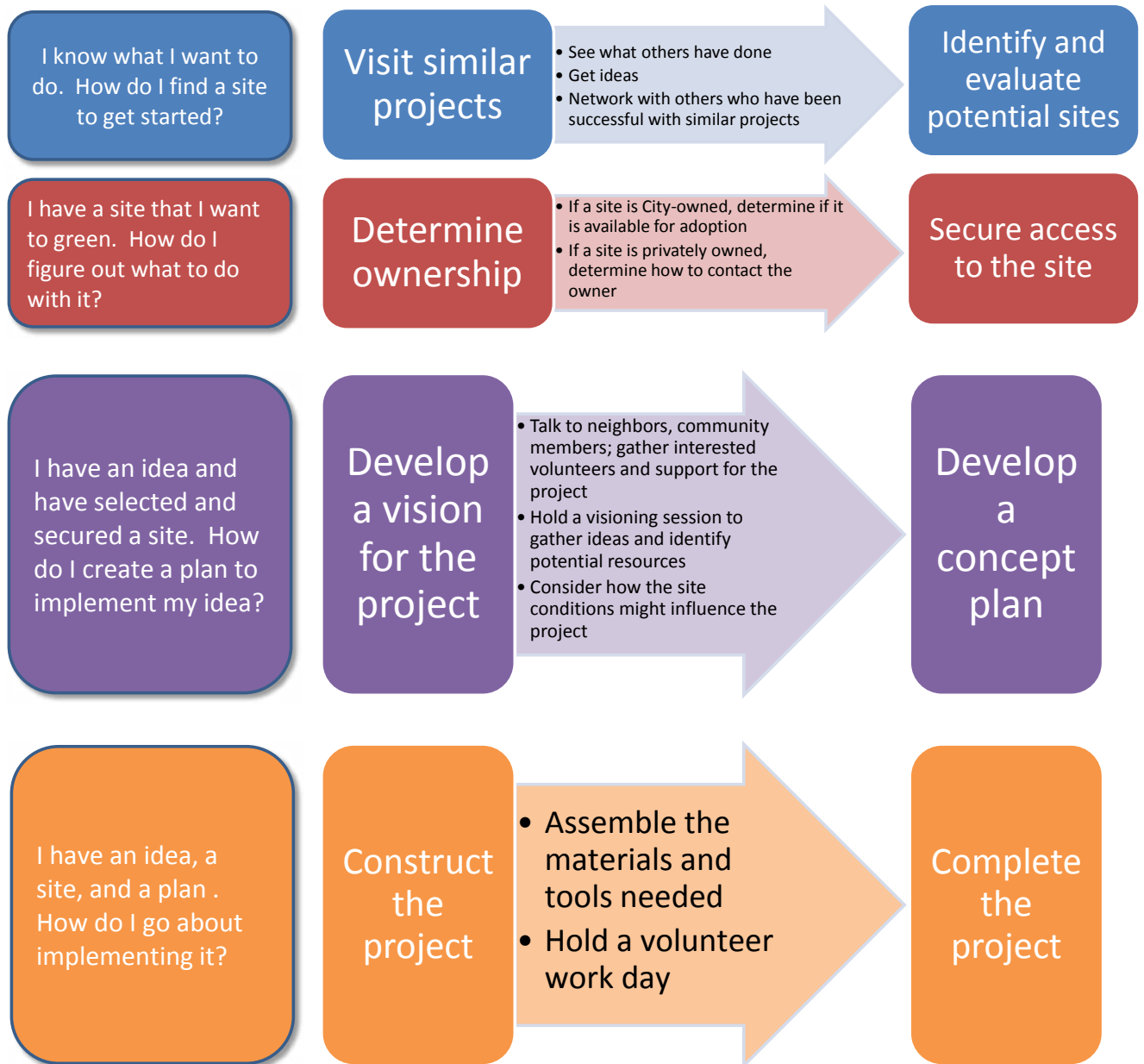
CDC / COMMUNITY

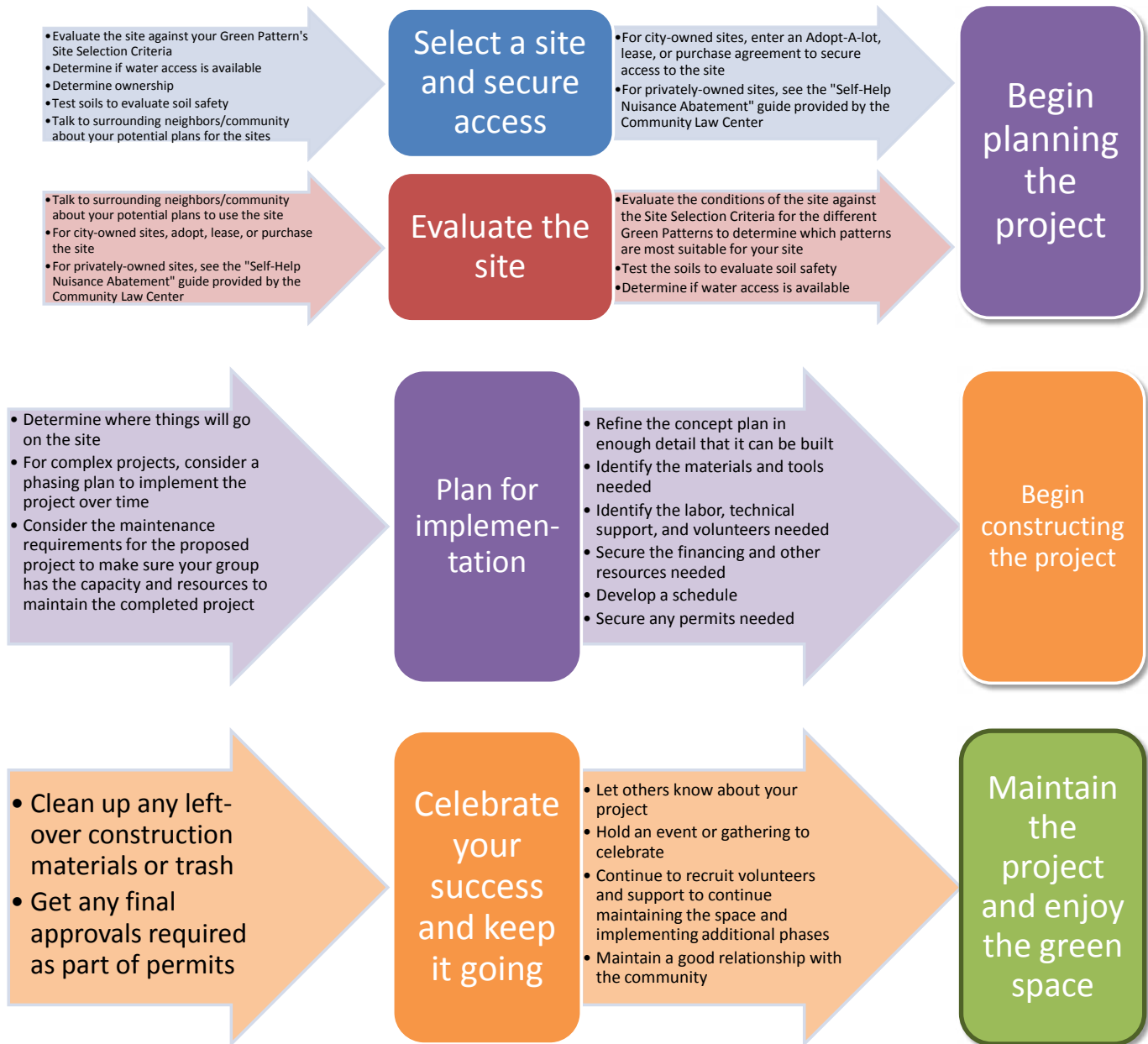
NEIGHBORHOOD PARKS

- Initially, neighborhood park sites may be maintained by DPW as a Clean and Green site.
- While the park is being established, fencing may be needed to deter dumping; consider wrought iron or wood rail fencing.
- Neighborhood park sites transferred to Baltimore City Recreation and Parks will be maintained by the Department of Recreation and Parks
- If the community is interested in assisting with maintenance, partnership agreements or MOUs as a “Friends of Park” group should be considered.

CITY AGENCIES

Steps for getting started





In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.



Printed on Recycled Paper



GROWING GREEN INITIATIVE



GREEN PATTERN BOOK

USING VACANT LAND TO CREATE GREENER
NEIGHBORHOODS IN BALTIMORE